



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

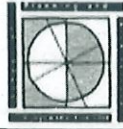
Minutes of the Meeting

25/7/26.

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28/07/2026

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Minutes of the of 24th Meeting of the Senate, SPA Vijayawada
held on 21.07.2026 (in Hybrid mode)

Members present:

S.No.	Name	Designation	Mode of participation
1	Prof. Dr. Ramesh Srikonda	Chairperson	In-Person
2	Sh. S.B. Honnur, ITPI Nominee	Member	Online
3	Ar. Roopal Rahul Deshpande, CoA Nominee	Member	Online
4	Ar. Rajesh Mehta, Nominee of Chair, BoG	Member	Online
5	Dr. Yogesh K Garg, Nominee of Chair, BoG	Member	Online
6	Dr. Vandana Sehgal, Nominee of Chair, BoG	Member	Online
7	Dr. Anamika Nandan, Nominee of Chair, BoG	Member	Online
8	Prof. Dr. Iyer Vijayalakshmi Kasinath, Professor (HAG)- Architecture	Member	In-Person
9	Prof. Dr. Venkata Krishna Kumar Sadhu, Dean Academic & Professor- Architecture	Member	In-Person
10	Dr. Banu Chitra, Dean - Research	Member	In-Person
11	Prof. Dr. Anil Kumar Ch, Dean- Planning and Dev.	Member	In-Person
12	Dr. Rajakumari Muthusamy, Dean Faculty Welfare	Member	In-Person
13	Dr. Uma Sankar Basina, Dean -Student Affairs	Member	In-Person
14	Prof. Dr. G. Shanmuga Priya, Professor- Architecture	Member	In-Person
15	Prof. Dr. Ayon Kuniar Tarafdar, Professor- Planning	Member	In-Person
16	Prof. Dr. D.Srinivas, Professor- Architecture	Member	In-Person
17	Prof. Dr. Amitava Sarkar Professor- Architecture	Member	In-Person
18	Prof. Dr. Adinarayanane Professor- Planning	Member	In-Person
19	Prof. Dr. Lilly Rose A, Professor- Architecture	Member	In-Person
20	Prof. Dr. Janmejy Gupta, Professor- Architecture	Member	In-Person
21	Dr. Prasanth Vardhan, Assoc. Professor- Planning	Member	In-Person
22	Dr. RNS Murthy, Assistant Professor- Architecture	Member	In-Person
23	Dr. Anurag Bagade, Assistant Professor- Planning	Member	In-Person
24	Prof. Dr. K.S Anantha Krishna	Special Invitee	Online
25	Dr. Valliappan A.L, Asst. Professor- Planning	Special Invitees for presenting UG/PG revised Syllabus	In-Person
26	Ar. Ekta, Asst. Professor- Planning		In-Person
27	Dr. Jayesh M Bhagawat, Asst. Professor- Planning,		In-Person
28	Dr. G. Karteek, Asst. Professor- Planning		In-Person
29	Dr. M. Kranti Kumar, Asst. Professor- Planning		In-Person
30	Dr. Faiz Ahmed, Asst. Professor- Planning		In-Person
31	Ar. V. Vijesh Kumar, Asst. Professor- Planning		In-Person
32	Sh. P.V.S. Shyam Kumar, Registrar i/c	Secretary	In-Person

Ar. Sandhya Manjunath, Nominee of Chair, BoG and Dr. Mamatha P Raj, AICTE nominee communicated their inability to attend the meeting due to unavoidable reasons.

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The Chairperson, Senate of SPAV welcomed all the members of the Senate and introduced all the internal Senate members, to the Senate. The Chairperson welcomed Shri S.B. Honnur as ITPI nominee and conveyed his gratitude to the outgoing member Prof. Dr. S.P. Sekar for his valuable suggestions and support. Further, the Secretary of the Senate apprised the Senate about the Agenda for this meeting.

The details of the discussions, proceedings and deliberations are as follows:

1	To present the Action Taken Report on the Minutes of the 23 rd Senate meeting of SPA Vijayawada held on 09th January 2026 through circulation.			
Item No.	Agenda	Minutes	Action Taken	Status of the item
23.1	To consider and approve the proposed seat matrix for Postgraduate (PG) programmes for the Academic Year (A.Y.) 2026–27 under the Unified Post Graduate Admission Process (JAAP PG 2026) for all Schools of Planning and Architecture (SPAs)	Members of the Senate communicated their consent for the proposed seat matrix for Postgraduate (PG) programmes for the Academic Year (A.Y.) 2026–27 under the Unified Post Graduate Admission Process (JAAP PG 2026)	The proposal as presented and approved, was sent to the JAAP-PG 2026 for implementation. Admission process was conducted by JAAP PG 2026 as per the same.	The Senate closed the item
Proceedings	The number of seats (Seat Matrix) for each postgraduate Programme has been decreased based on the demand and number of students admitted in the previous academic year 2025-26 (placed as Annexure – I in the 23 rd Senate meeting) In view of the deliberations with the Deans & HoDs and after approval of the Competent Authority, the total no. of seats was reduced from 321 in 2025-26 to 248 proposed for 2026-27 A.Y. The proposed seat matrix for the Academic Year 2026–27 was placed as Annexure II in the 23 rd Senate meeting. The proposal was placed for consideration and approval of the Senate. The Members accorded approval by circulation.			
Decision	<i>Thus, the Senate confirmed the said outcome of the 23rd Senate meeting held on 09th January 2026 through circulation.</i>			
2	To confirm the Minutes of the 22nd Senate meeting of SPA Vijayawada held on 3rd September 2025 at SPA Vijayawada.			Annexure - I
	The Minutes of the 22nd Senate meeting of SPA Vijayawada held on 3rd September 2025 as approved by the competent authority were circulated to all the Members of the Senate via email dt. 06-10-2025. The Minutes were also uploaded on SPAV website on 28-10-2025. No objections were received till date on the same. The approved Minutes were placed as Annexure – I to the Agenda Notes of the 24th Senate meeting.			

	The Senate was requested to confirm the Minutes of the 22nd Senate meeting of SPA Vijayawada held on 3rd September 2025 at SPA Vijayawada is presented before the Senate for confirmation of the same.
Decision	<i>The Senate confirmed the Minutes of the 22nd Senate meeting of SPA Vijayawada held on 3rd September 2025 at SPA Vijayawada, as presented in Annexure - I to the Agenda Notes of the 24th Senate meeting.</i>

3	To present the Action Taken Report on the Minutes of the 22 nd Senate meeting of SPA Vijayawada held on 09th January 2026 through circulation.
	The Action Taken Report was presented on the Table as follows, for consideration by the Senate.

Item No.	Agenda	Minutes / Decision (Excerpt)	Action Taken	Status of the item
	<u>Items for Approval</u>			
22.1	To consider and approve the list of Graduands who graduated in the Academic Year 2024-2025, for the conferment of degrees in the 9th Convocation to be held in October 2025.	The Senate approved the list of Graduands for the 9th Convocation to be held on 10th October 2025	The 9th Convocation was held as scheduled and all the Graduands were conferred their respective UG/PG/PhD Degree.	The Senate closed the item.
22.2	To consider and approve the addition of Ph.D Re-registration under Clause 5 (Section 5.3) of the Academic Ordinance for Doctoral (PhD) Programmes (Rules and Regulations) 2023 & other regulations as an amendment.	The Senate approved the addition of PhD Re-registration under Clause 5 (Section 5.3) of the Academic Ordinance for Doctoral (PhD) Programmes	The following PhD. Research Scholars of the Department of Planning were granted additional time to complete their research work after completion of 7 years of their maximum limit. 1.Ms. Mrunmayi Dhawad(2160300008) – Part Time 2.Ms. Praveena (2180300009)- Part Time Based on the decision of Senate, the above Research Scholar's Re- Registration has been carried out annually and submitted their thesis within 6 months after fulfilling the minimum	The Senate closed the item.

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Item No.	Agenda	Minutes / Decision (Excerpt)	Action Taken	Status of the item
			requirement and procedural formalities.	
22.3	To consider and approve the award of Bachelor of Building Science to Mr. Akhil Kandagiri (Reg. No. 1180100800) admitted into B. Arch during A.Y. 2018-23.	The Senate approved the award of Bachelor of Building Science to Mr. Akhil Kandagiri (Reg. No. 1180100800).	Mr. Akhil Kandagiri (Reg. No. 1180100800) was awarded the Bachelor of Building Science degree in the 9th Convocation held on 10th October 2025.	The Senate closed the item.
22.4	To consider and approve the conversion of three theory-based courses to jury-based evaluation mode in the Department of Architecture	The Senate approved the conversion of three theory-based courses to jury-based courses.	The courses were accordingly conducted as jury-based courses.	The Senate closed the item.
22.5	To consider and approve the proposed revision of B.Plan syllabus (UG Programme, 4 year) to align with emerging professional needs, industry demands, and model curriculum as per AICTE and ITPI	The Senate approved the revised Course outline for the B.Plan programme.	Based on the approval of revised Course Outline for B.Plan Programme, the Course Structure and Detailed Syllabus have been prepared, by incorporating Alumni feedback, industry interactions, and sectoral trends to address emerging technological advancements, theoretical foundations, and knowledge expansion. The revised Course Structure and Detailed Syllabus (CS and DS) of B. Planning program is placed as Agenda item 24.2 (Annexure – III) for consideration and approval of the Senate.	The Senate closed the item.
	<u>Items for Ratification</u>			
22.6	To consider and ratify the Admission Selection committee for Ph.D scholars in the A.Y 2025-26.	The Senate ratified the Sub-Committee constituted by the DRC Chairperson for the rolling PhD admissions conducted during April-May 2025. Also,	In pursuance of the decision of the Senate, the Sub-Committee constituted by the DRC Chairperson for the rolling PhD admissions conducted during	The Senate closed the item.

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Item No.	Agenda	Minutes / Decision (Excerpt)	Action Taken	Status of the item
		Senate approved the following as an amendment to Clause 4.2 "However, in case of emergency situations, the Senate Chairperson shall be authorized to constitute a DRC Sub-committee comprising internal Faculty members to conduct the interviews and publish the results.	April-May 2025 has been ratified. Further, the approved amendment to Clause 4.2 has been incorporated into the Academic Ordinance for Doctoral Program. Accordingly, in cases of emergency, the Senate Chairperson is authorized to constitute a DRC Sub-Committee comprising internal faculty members to conduct interviews and publish the results.	
	Items for Reporting			
22.7	Student Academic Requests	The Senate noted the item.	-N.A-	-N.A-
22.8	Academic Updates	The Senate noted the item and appreciated the efforts taken by SPAV to increase the percentage of Student Intake in Higher Education.	-N.A-	The Senate closed the item.
22.9	Activities and Achievements of Department of Architecture	The Senate appreciated the achievements of faculty and students of Department of Architecture.	-N.A-	The Senate closed the item.
22.10	Activities and Achievements of Department of Planning	The Senate appreciated the achievements of faculty and students of Department of Architecture.	Inadvertently, the Minutes were noted as "Department of Architecture", instead of noting it as "Department of Planning", due to typographical error. The said error in this regard may be considered as rectified and read hereafter as follows: <i>The Senate appreciated the achievements of faculty and students of Department of Planning.</i>	The Senate noted the correction and closed the item. <i>25/7/26</i>

Item No.	Agenda	Minutes / Decision (Excerpt)	Action Taken	Status of the item
	<u>Any other item with the permission of the Chair</u>			
22.11	To consider and approve the request of Mr. Faraz Khan (Roll No: 2240600114), a II-year M.Plan (Transport Planning) student for Grant of Zero Year	The Senate approved the proposed Zero Year to Mr. Faraz Khan (Roll No: 2240600114), a II-year M.Plan (Transport Planning) student	Based on the approval of the Senate Zero Year to Mr. Faraz Khan (Roll 2240600114), a student of II-year M.Plan (Transport Planning) has been granted and the student has to report for the current semester after expiry of the Zero Year.	The Senate closed the item.
22.12	To consider and approve the request of Ms. K. Praveena (Reg. No. 2180300009), Part-time Ph.D. Scholar, for Extension of Ph.D. Registration	The Senate approved the Extension of Ph.D. Registration through Re-registration in line with item #22.2	The Ph.D. Research Scholar Ms.Praveena (2180300009)- Part-Time has been re-registered annually in line with agenda 22.2 and successfully submitted the thesis after fulfilling the minimum requirement and procedural formalities.	The Senate closed the item.
22.13	To consider and approve the Amendment in Provision for Replacement of Supervisor and appointment of Co-Supervisor for Special Cases	The Senate approved the above item as amendments clause 7.8 & 7.9 in the Academic Ordinance for Doctoral Programmes (Rules and Regulations) 2023 of SPAV. Also, the Senate suggested to develop SoP for appointment of Co-supervisors for special cases and place it in the forthcoming Senate.	The Draft Standard Operating Procedure (SoP) for appointment of Co-Supervisor for the special cases has been prepared and submitted to Director through Dean Academic. Final SoP will be submitted in the forthcoming Senate after due approval of the Competent Authority.	The Senate closed the item.
22.14	Introduction of optional language courses for first-year students as non-CGPA credit courses, effective from the Academic Year 2025-26.	The Senate noted the item.	The optional Language courses Hindi & Sanskrit for first-year students as non-CGPA credit courses was introduced for the A.Y: 2025-26 and the same is being continued for the	The Senate closed the item.

Item No.	Agenda	Minutes / Decision (Excerpt)	Action Taken	Status of the item
			subsequent academic year.	
22.15	To consider and approve the award of PG Diploma in Sustainable Architecture to Mr. Mukesh Kumar P (Reg. No. 1240500197) admitted into M.Arch Sustainable Arch. during A.Y 2024-5.	The Senate approved the award of PG Diploma in Sustainable Architecture to Mr. Mukesh Kumar P (Reg. No. 1240500197).	PG Diploma in Sustainable Architecture was awarded to Mr. Mukesh Kumar P (Reg. No. 1240500197) in the in the 9th Convocation held on 10th October 2025.	The Senate closed the item.
22.16	To consider and approve the introduction of Post Doctoral programme at SPAV.	The Senate considered and approved the proposal for the introduction of the Post Doctoral programme at SPAV and recommended placing the above item before the FC and BoG for approval.	This was placed as Item 2 under Any Other Item with the permission of the Chair in the 27 th FC meeting held on 4 th September, 2025. <u>The FC recommended the same</u> to BoG for its consideration and approval. Subsequently, this item was placed as Item No. 44.02 in the 44 th BoG meeting held on 24 th November, 2025. <u>The Board approved the Minutes of 27th FC.</u>	The Senate closed the item.
	ATR on 21st Senate meeting Minutes, presented as part of ATR on 22nd Senate meeting Minutes			
21.3	To consider and approve the proposal to offer Scholarships to Top ten meritorious students in each Postgraduate programme	After detailed deliberations, the Senate approved the proposed scholarships for meritorious students in PG programmes admitted through JAPP -PG-2025. However, the Senate suggested to seek the approval from FC and BoG	This item was placed as Item No. 42.04 in the 42 nd BoG meeting held on 21 st May 2025. While the Board approved the Minutes of 21 st Senate meeting, in case of the proposal for awarding Scholarship to the Top Ten Meritorious students in each Post Graduate Program, the Board decided that this is to be placed as agenda in the next FC Meeting for consideration and recommendations	The Senate noted the status of the item.

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Item No.	Agenda	Minutes / Decision (Excerpt)	Action Taken	Status of the item
			after taking into consideration the actual financial implication.	
	ATR on 17th Senate meeting Minutes, presented as part of ATR on 22nd Senate meeting Minutes			
17.4	Proposal of two new PG Programmes in Planning to be initiated within next five Academic years	The Senate considered, approved and recommended the following nomenclatures of 2-Years full-time Masters programme in Dept of Planning to be introduced within the next 5 years: a) 'Masters in Planning' with specialization in 'Data Analytics in planning' (02 Years full- time) b) 'Masters in Planning' with specialization in 'Housing and Real estate Planning' (02 Years full- Time) The senate also asked the Department to prepare the course structure and detailed syllabus for each of the same and put up to senate for approval in subsequent meetings.	The draft Course Structure prepared by the committees constituted for this purpose. Further, the preparation of detailed syllabus is in progress. It is proposed to conduct workshop for obtaining subject experts' opinion and the Course structure and detailed syllabus will be placed before the upcoming Senate after incorporating the suggestions / opinions. <u>The status of this is placed as Agenda Item 24.6 in the meeting.</u>	The Senate noted the ongoing status and closed the item.
17.5	Proposal of two new PG Programmes in Architecture to be initiated within next five Academic years	The Senate considered, approved and recommended the following nomenclatures of 2-years full-time Masters programme in Dept of Architecture to be introduced within the next 5 years: a) Masters in Interior Design	Committees have been constituted to develop Course Structure and Detailed Syllabus (CS and DS) for the proposed programmes. Upon completion of the work, the proposed CS and DS shall be placed before the Senate for consideration and	The Senate noted the status of the item.

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Item No.	Agenda	Minutes / Decision (Excerpt)	Action Taken	Status of the item
		b) Masters in Digital Architecture (02 Years Full-time) c) Masters in Techno-Traditional Architecture (02 Years Full-time) The Senate also asked the Department to prepare the Course Structure and Detailed Syllabus for each of the same and put up to Senate for approval in subsequent meetings.	approval as deemed fit.	
17.15	Engagement of Adjunct/Emeritus/ Visiting Professor at the department of Architecture and Planning	The Senate considered, approved and recommended to initiate the process of re-advertising and selecting Adjunct/Emeritus/ Visiting Professor at the department of Architecture and Planning, with due approval of FC and BoG.	Subsequently, this item was placed as Item No. 45.08 in the 45th BoG meeting held on 16th February, 2026. The Board deliberated on the proposal and approved the engagement of Emeritus Professor (honorarium of ₹1,20,000/- per month with a contingency grant of ₹50,000/- per annum), Adjunct Faculty (honorarium up to ₹1,20,000/- per month, as approved), and Visiting Professor (honorarium of ₹80,000/- per month with a contingency grant of ₹50,000/- per annum), for a tenure ranging from 6 months to 2 years, as recommended by the Senate. The Institute is authorized to issue the notification and proceed with the appointments in accordance with the	The Senate noted the status of the item.

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Item No.	Agenda	Minutes / Decision (Excerpt)	Action Taken	Status of the item
			approved terms and applicable rules. The specialization & domain of interest required for the engagement of Adjunct / Emeritus/Visiting Professors by the Department have been communicated and the advertisement will be released shortly by the administration.	

AGENDA NOTES

Items for Approval

Item # 24.1	To consider and approve the list of Graduands who graduated in the Academic Year 2025-2026, for the conferment of degrees in the 10th Convocation to be held on 29th July 2026	Annexure - II
Agenda Notes / Proceedings	The 10th Convocation for SPA Vijayawada is scheduled to be held on 29.07.2026 at SPA Vijayawada. List of 259 eligible Graduands (including 11 Students who may be attaining the required eligibility in about a week's time) for the award of Degrees, Gold Medals and Best Thesis Certificates for UG, PG and PhD programs in the 10th Convocation of SPA Vijayawada was placed as Annexure – II. The item was placed before the Senate for consideration and approval so that the Graduands will be conferred the respective degree in the 10th Convocation scheduled on 29th July 2026. Dean Academic apprised the Senate that all Graduands who may attain the required academic eligibility before the Convocation date may be considered as eligible Graduands for the respective UG/PG/PG Diploma/PhD degree in the 10th Convocation to be held on 29th July 2026.	
Decision	<i>The Senate approved the list of Graduands for the 10th Convocation to be held on 29th July 2026.</i>	
Note:	<i>The list of a total of 262 Graduands (including 14 Students - 11 Students as stated in the proceedings and 3 more Students, who attained the required eligibility) is attached herewith as Revised Annexure II to the Minutes. Details of the 3 Students and the respective Degree are as follows:</i> 1) Ms. Sharon Charita. G (Reg. No. 11240500201) – <i>PG Diploma in Sustainable Architecture</i> (as recommended by the Dept. of Architecture on 24-07-2025; Zero year requested by the Student upon completion of I year M.Arch. Sust.Arch in 2024-25 A.Y for taking up a Govt. job in Tamil Nadu and the	

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	same was granted; withdrawal request submitted by the Student during 2025-26 A.Y) 2) Ms. Rebeka Chandappa Lamni (Reg. No. 21230101255) – <i>Bachelor of Building Science</i> (as recommended by the Dept. of Architecture on 24-07-2025) 3) Ms. Gayatri Bimal (Reg. No. 1180100733) – <i>Bachelor of Architecture</i>	
Item # 24.2	To consider and approve the proposed revision of B.Plan syllabus (UG Programme, 4 year – 8 semester) to align with emerging professional needs, industry demand, and model curriculum	Annexure - III
Agenda Notes / Proceedings	Prof. Dr. Adinarayanane, Head of the Department apprised that based on the decision of the 22nd Senate, to align with emerging professional needs, industry demand, and model curriculum, revised the syllabus of B. Planning (4 year – 8 Semester full time UG Program in Planning) by the Dept. of Planning, SPAV through brainstorming sessions and based on interaction with field experts, feedback of students and of the Alumni from time to time were considered/incorporated in the revised syllabus, methodology and process undertaken in the process of preparing were explained. Further, Dr. Anurag Bagade, Asst. Professor of Planning representing the team of Faculty involved in Syllabus' revision, explained the detailed syllabus including Course Structure and Detailed Syllabus (CS and DS). Also, Prof. Dr. Adinarayanane, Head of the Department apprised that the inputs of Dr. K.S Anantha Krishna were duly included in the revised CS and DS. The revised Course Structure and Detailed Syllabus of B. Planning program, to be followed w.e.f 2026-27 A.Y onwards, was placed as Annexure – III for consideration and approval of the Senate.	
Decision	<i>The Senate appreciated the revised curriculum and further advised that the inputs may be duly incorporated wherever relevant in the proposed revised Course Structure and Detailed Syllabus of B. Planning program (4 year – 8 Semester full time UG Program in Planning) to be made effective from 2026-27 A.Y and may thus be considered as approved.</i> <i>Accordingly, the final version of proposed revised CS and DS of the B. Planning program (4 year – 8 Semester full time UG Program in Planning) to be effective from Academic year 2026-27 is attached herewith as Revised Annexure – III.</i>	Revised Annexure - III
Item # 24.3	To consider and approve the proposed revised Course Structure of B.Arch (UG Programme, 5 year – 10 Semester) to align with emerging Schools of thought and enhance the Classroom-Technology-Industry interface	Annexure - IV
Agenda Notes / Proceedings	To align with emerging schools of thought to be technologically relevant, local relevance and global competence, it is proposed to revise the syllabus of B. Architecture (5 year – 10 Semester full time UG Program in Architecture) as prepared by the Dept. of Architecture, SPAV through a series of discussions, on interaction with the field experts and feedback of students from time to time. Dr. Faiz Ahmed, Asst. Professor of Architecture representing the team of Faculty involved in Syllabus' revision, explained the methodology and process undertaken in the process of preparing the revised Course Structure and Detailed Syllabus (CS and DS). Also, Prof. Dr. Amitava Sarkar, Head of the Department apprised that the inputs of	

	Dr. K.S Anantha Krishna were duly included in the revised CS and DS. Dr. K.S Anantha Krishna, Special Invitee for this meeting, summarised his inputs during the meeting and the said inputs are attached as "Revised" Annexure IV to the Minutes. The revised Course Structure for all 10 semesters along with the Detailed Syllabus for the first 2 semesters of B. Architecture program was placed as Annexure – IV for consideration and approval of the Senate for the way forward. If approved, the Detailed Syllabus shall be prepared for the entire program and shall be placed in the Senate for final deliberations and comprehensive approval, upon completion of the entire process. The Senate appreciated the methodology, approach and School of Thought and gave suggestions regarding additional Electives and nomenclature of a few Subjects in the 5th, 6th Semester.	
Decision	<i>The Senate appreciated the proposed revised Course Structure for all the 10 semesters along with the Detailed Syllabus for the first 2 semesters of B. Architecture program. The Senate advised that the inputs may be duly incorporated wherever relevant and SPAV may prepare and present the complete Course Structure and Detailed Syllabus (CS and DS). Upon completion of the same, the CS and DS may be put up for consideration and final approval of the Senate.</i>	Revised Annexure - IV
Item # 24.4	To consider and approve the proposed revised Course Structure and Detailed Syllabus of M.UD (PG Programme, 2 year – 4 Semester) in line with the industry requirement and emulating the best academic practices	Annexure - V
Agenda Notes / Proceedings	It is proposed to revise the syllabus of the Master of Urban Design (2 year – 4 semester PG Program in the Department of Architecture) in line with various advancements on-field and industry demand. The proposed revised syllabus was prepared through thought-provoking discussions amongst the Faculty, external experts and Alumni/Students. Prof. Dr. Amitava Sarkar, Head of the Department apprised the Senate about the process and nominated Dr. G. Karteek, Asst. Professor of Architecture & M.UD Program Coordinator involved in Syllabus' revision, to present the methodology and process undertaken in the process of preparing the revised Course Structure and Detailed Syllabus (CS and DS). Dr. G. Karteek mentioned that a workshop was conducted inviting Ar. Ujan Ghosh (Urban Design Expert), Partner, M/s. Upal Ghosh Associates, New Delhi and Visiting Professor, SPA Delhi (for more than 30 years) on 17-07-2026. He added that the expert appreciated and validated the overall structure of the programme. The key suggestions/outcomes of the said workshop were: 1. To align some of the Theory subjects with the Studio outline and objectives. 2. To have Summer Internship for a duration of 8 weeks, considering employability of students was felt essential and hence retained the revision. 3. The Faculty to conduct a Workshop to discuss the wide range of issues emerging in the Urban Design and related practices as the nature of work is varying among the stakeholders of Urban development. 4. To rename Theory of Urban Design as "Introduction to Urban Design" with emphasis on Types and Procedures of Urban Design interventions.	SL 25/7/26

	5. To consider Implementation strategy of projects - Implementation of urban design plans, policies and concepts. Government project implementation vs private projects implementation methods and strategies. This was included in "Urban Policy and Management" subject. 6. To reduce the number of exams and juries. Some of the subjects (tutorial and skill based) were made as Internal Assessment only subjects. All the above suggestions were incorporated in the syllabus based on Workshop deliberations and discussions. Accordingly, a presentation containing revised M.UD Course Structure and Detailed Syllabus was presented in the Senate meeting and the same was appreciated by the members of the Senate. One of the Senate members Prof. Rajesh Mehta urged and appreciated the fine line distinction maintained between Urban Design and Urban Planning and advised that the same may be ensured while finalising the content of the proposed revised M.UD curriculum. He advised that the number of Credits may be maintained uniformly across all the 4 semesters as far as possible.	
Decision	<i>The Senate advised that the inputs may be duly incorporated wherever relevant in the proposed revised Course Structure and Detailed Syllabus of M.UD PG program (2 year – 4 Semester full time PG Program in Architecture) to be made effective from 2026-27 A.Y and the same may thus be considered as approved.</i> <i>Accordingly, the final version of proposed revised CS and DS of the Master of Urban Design PG program to be effective from Academic year 2026-27 is attached herewith as Revised Annexure - V to the Minutes.</i>	Revised Annexure - V
Item # 24.5	To consider and approve the proposed revised Course Structure and Detailed Syllabus of MBEM (PG Programme, 2 year – 4 Semester)	Annexure - VI
Agenda Notes / Proceedings	It is proposed to revise the syllabus of the Master of Building Engineering and Management (2 year – 4 semester PG Program in the Department of Architecture) in line with various advancements on-field and industry demand. The proposed revised syllabus was prepared through discussions amongst the Faculty, external experts and Alumni/Students. Prof. Dr. Amitava Sarkar, Head of the Department apprised the Senate about the process and nominated Dr. M. Kranti Kumar, Asst. Professor of Architecture & MBEM Program Coordinator involved in Syllabus' revision, to present the methodology and process undertaken in the process of preparing the revised Course Structure and Detailed Syllabus (CS and DS). The revised Course Structure and Detailed Syllabus (CS and DS) of M.Building Engineering and Management program was placed as Annexure – VI for consideration and approval of the Senate. It is proposed to revise the syllabus of the Master of Building Engineering and Management (2 year – 4 semester PG Program in the Department of Architecture) in line with various advancements on-field and industry demand. The proposed revised syllabus was prepared through thought-provoking discussions amongst the Faculty, external experts and Alumni/Students. Prof. Dr. Amitava Sarkar, Head of the Department apprised the Senate about the process and nominated Dr. M. Kranti Kumar, Asst. Professor of Architecture & MBEM Program Coordinator involved in	

	Syllabus' revision, to present the methodology and process undertaken while preparing the revised Course Structure and Detailed Syllabus (CS and DS). Dr. M. Kranti Kumar mentioned that a workshop was conducted on 17-07-2026 inviting Ar. D. Chakrapani (Construction Management Expert), Managing Partner, M/s. Aurum Engineers and Consultants, Hyderabad, India. The expert has appreciated and validated the overall structure of the programme. The key suggestions/outcomes of the workshop were: 1. To consider integrating the common topics on planning, scheduling, project management principles, monitoring and control into a single streamlined course. 2. To introduce Python, Excel Solver and Power BI for construction analytics 3. To expand coverage to autonomous equipment, drones, robotics, telematics and predictive maintenance. 4. To encourage certification courses in BIM, AI, Digital Twins, Sustainability and Real Estate Management. 5. To introduce AI-enabled cost forecasting, escalation modelling and digital cost dashboards. 6. To include ISO 45001, wearable safety devices, drones, AI-enabled safety monitoring and ESG reporting. All the above suggestions were incorporated in the syllabus based on Workshop deliberations and discussions. Final outcome of the Revised MBEM Course Structure and Detailed Syllabus. Accordingly, a presentation containing revised MBEM Course Structure and Detailed Syllabus was presented in the Senate meeting and the same was appreciated by the members of the Senate. The overall syllabus was appreciated and few suggestions were given as below: 1. To quote the Software by their typology instead of specific name so that there is a broader scope for utilising the most relevant software. 2. One of the members noted that the course work is open for interaction with foreign universities where the student can opt courses from any other universities online or offline. The overall Revised Course structure and Detailed Syllabus of MBEM was appreciated by the members of the Senate.	
Decision	<i>The Senate advised that the inputs may be duly incorporated wherever relevant in the proposed revised Course Structure and Detailed Syllabus of MBEM (2 year – 4 Semester full time PG Program in Architecture) to be made effective from 2026-27 A.Y, and the same may thus be considered as approved. Accordingly, the final version of proposed revised CS and DS of the Master of Building Engineering and Management PG program to be effective from Academic year 2026-27 is attached herewith as Revised Annexure - VI to the Minutes.</i>	Revised Annexure - VI
Item # 24.6	To update the status of new PG programs in Planning, namely M.Plan (Housing and Real Estate) & M.Plan (Data Analytics)	Annexure -
Agenda Notes / Proceedings	The Department of Planning envisaged to introduce two new PG programs in Planning, namely, M.Plan (Housing and Real Estate) & M.Plan (Data Analytics). As on date, and in continuation of discussions with various stakeholders in the industry	

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	and academic, work on the Course Structure and Detailed Syllabus (CS and DS) of the two proposed programs is underway. Prof. Dr. Adinarayanane, Head of the Department apprised that the CS and DS shall be placed for consideration and approval of the Senate, upon completion of the said process.	
Decision	<i>The Senate noted the status as presented by the Head, Department of Planning.</i>	Annexure -

Items for Ratification

Item # 24.7	To consider and ratify the Special One-Time relaxation given to the following Students: Ms. Moturi Likhitha (M.UD), Ms. Tejashwini Dasari (B.Arch) and Mr. Mohammed Baiju Adil (leading to B.BSc)	Annexure -
Agenda Notes / Proceedings	Dean Academic apprised the following 3 cases requiring ratification: a) <u>The case of Ms. Moturu Likhitha (M.UD)</u> Ms. Moturu Likhitha submitted a request letter stating that, due to health issues, she was unable to perform satisfactorily in the Urban Design thesis. Consequently, she failed in the internal thesis review and revised internal thesis for the even semester of A.Y. 2025-26, thereby becoming ineligible to appear for the external thesis jury. In support of her request, the student submitted relevant medical reports to the Head of the Department. The matter was placed before the Board of Studies (Architecture), which recommended that the student be permitted to appear for a Special Examination/Re-Jury as a one-time exception in view of the circumstances. The recommendation was forwarded to the Competent Authority and approval has been accorded. The Senate was requested to ratify the approval granted for permitting Ms. Moturu Likhitha to appear for the Special Examination/Re-Jury as a one-time exception for the Academic Year 2025-26, and to authorize the award of the Master of Urban Design Degree upon successful completion of all academic requirements. b) <u>The case of Ms. Tejashwini Dasari (B.Arch)</u> Ms. Tejashwini Dasari was admitted to the five-year Bachelor of Architecture (B.Arch.) programme in July 2017. During the course of her study, she had a break in the First Semester due to shortage of attendance and rejoined the programme in 2018 after completing the prescribed requirements. Subsequently, she took another break during the Second Semester owing to personal circumstances and rejoined with the 2019 B.Arch. batch during the Academic Year 2019-2020. The student completed the regular duration of the programme in May 2024; however, she has not yet become eligible for the award of the degree due to pending courses, namely Computer Applications (II Year, IV Semester), Working Drawings (III Year, V Semester), and Architectural Conservation (V Year, IX Semester). The student had therefore requested permission to attend the Summer Classes and appear for the supplementary examinations in the above-mentioned courses. The Board of Studies (Architecture), after considering her academic record and the merits of the case, recommended that she be permitted to attend the Summer Classes and appear for the supplementary examinations as a special case by granting a one-time relaxation under Clause 5.5.2 of Academic Ordinance-2019. The recommendation was placed before the Competent Authority, which has accorded its approval. Accordingly, subject to fulfilling the prescribed attendance requirements, securing eligibility through internal assessment, and successfully passing the supplementary examinations in the above-mentioned courses, Ms. Tejashwini Dasari shall become eligible for the award of the (B.Arch.) degree. The Senate was requested to ratify the approval granted for attending Summer Classes and appearing in the supplementary examinations as a special case and to authorize the award	

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	of the Bachelor of Architecture Degree upon successful completion of all academic requirements. c) <u>The case of Mr. Mohammed Baiju Adil</u> Mr. Mohamed Baiju Adil (Registration No. 1170100688) was admitted to the Bachelor of Architecture (B.Arch) Programme during the Academic Year 2017-18. He pursued the programme up to the III Year but was unable to continue his studies thereafter due to severe financial hardships faced by his family during the COVID-19 pandemic. The student has submitted a representation requesting permission to attend Summer Classes and appear for the supplementary examinations in the following pending courses: 1. Building Materials and Construction - II (I Year, II Semester) 2. Design Communication (III Year, VI Semester). The request was placed before the Board of Studies in Architecture, which, after due consideration of the exceptional circumstances, recommended that the request be considered as a special case by granting a one-time relaxation under Clause 5.5.2 of the Academic Ordinance-2019. The recommendation was subsequently forwarded to the Competent Authority, and approval has been accorded. In accordance with the provisions of the NEP-enabled Academic Ordinance-2023, and the aforementioned approval the student was permitted to attend the Summer Classes and appear for the supplementary examinations in the above-mentioned courses. The Senate was requested to ratify the approval granted for attending Summer Classes and appearing in the supplementary examinations as a special case and to authorize the award of the Bachelor of Building Science (BBSc) Degree upon successful completion of all prescribed requirements.	
Decision	a) The Senate ratified the approval granted for permitting Ms. Moturu Likhitha to appear for the Special Examination/Re-Jury as a one-time exception for the Academic Year 2025-26, and to authorize the award of the Master of Urban Design Degree upon successful completion of all academic requirements. b) The Senate ratified the approval granted to Ms. Tejashwini Dasari (B.Arch) for attending Summer Classes and appearing in the supplementary examinations as a special case and for the award of the Bachelor of Architecture Degree upon successful completion of all academic requirements. c) The Senate ratified the approval granted to Mr. Mohamed Baiju Adil (Registration No. 1170100688) for attending Summer Classes and appearing in the supplementary examinations as a special case and for the award of the Bachelor of Building Science (BBSc) Degree upon successful completion of all prescribed requirements.	Annexure -
Item # 24.8	To consider and ratify the time extension granted to Part - time PhD Scholar Ar. Mr. Krishna Kasi	Annexure -
Agenda Notes / Proceedings	Dean Academic apprised the Senate that Mr. Krishna Kasi, Reg. No. 1180300014, a Part-Time Ph.D. Scholar of the 2019-20 SRC batch, has submitted a request seeking an extension of six months to complete the remaining requirements and formalities of the Ph.D. programme, as per the applicable Academic Ordinance. The request was considered and recommended by the Student Research Committee (SRC) and the Dean Academic. Subsequently, the Competent Authority approved the extension from July to December 2026.	

	The Senate was requested to note that as per the PG & Ph.D. Ordinance 2019, Clause 5.9.3 (Extension of Programme): "No student who has completed the prescribed maximum duration of the programme shall be allowed to register in the subsequent semester unless he/she has been granted an extension of the programme by the Senate on the recommendations of the DPGC and SPGC as a special case". Accordingly, approval has been accorded for granting a six-month extension in the first instance to the scholar to complete the modalities of the Ph.D. Programme. The Senate was requested to ratify the approval granted in the first instance for the six-month extension of the Ph.D. programme to Mr. Krishna Kasi (Reg. No. 1180300014), Part-Time Ph.D. Scholar, 2019-20 SRC Batch, with effect from July to December 2026.	
Decision	<i>The Senate ratified the approval granted in the first instance for the six-month extension of the Ph.D. programme to Mr. Krishna Kasi (Reg. No. 1180300014), Part-Time Ph.D. Scholar, 2019-20 SRC Batch, with effect from July to December 2026.</i>	Annexure -
Item # 24.9	Student Affairs - Structure, Role and Responsibilities of the Students Council of SPA Vijayawada	Annexure - VII
Agenda Notes / Proceedings	Dean Academic apprised the Senate that the Students Council of SPA Vijayawada was reinstated in the year 2024 after a gap of about 6 years. In the said context, the process of electing/forming a Students Council was undertaken by formulating Structure, Role and Responsibilities of Students Council, comprising of 15 Positions. The said document was prepared by the Students through discussion with various Faculty members including Senior Professors, Deans, Heads of Departments, etc. and was approved by the Director on the recommendation of the Dean Student Affairs in the year 2024. Accordingly, Student Council was formed in the year 2024 (Short Term), 2025 (1 year full term) and 2026 (1 year full term) as on date with the term of office of an existing Council ending on January 31 or by the date of SPAV Annual Cultural Fest (INYAN) and the new Council to take-over. Dean Student Affairs presented the Structure, Role and Responsibilities of Students Council, comprising of 15 Positions of the Student Council of SPA Vijayawada was placed as Annexure VII on table for consideration and ratification by the Senate.	
Decision	<i>The Senate noted and ratified reinstatement of SPAV Students Council w.e.f 2024 as well as the Structure, Role and Responsibilities of Students Council, comprising of 15 Positions of the Student Council of SPA Vijayawada, placed as Annexure VII to the Minutes.</i>	Annexure -

Items for Reporting

Item # 24.10	UG/PG Admissions Updates	Annexure -
Agenda Notes / Proceedings	UG admissions for B.Arch and B.Plan as on date are under process by JoSAA/CSAB/DASA 2026 authorities. PG Admissions are made through JAAP PG 2026. Out of the total 248 Seats in the 9 existing PG programs (3 in Planning and 6 in Architecture) including 35 Supernumerary seats, JAAP PG 2026 was conducted for 213 Seats including Kashmiri Migrants and Defence Personnel. Out of the said 213 seats, 130 Seats were allotted	

	to aspirants/candidates through JAAP PG 2026. Physical reporting and document verification of students who have been allotted seat through JAAP PG 2026 were conducted on 15th,16th July 2026. By the end of the reporting date, 115 Students have completed the verification process and confirmed the allotted seats. The remaining vacant seats shall be filled through SPAV Spot Round (Direct Admissions) for which Advertisement has been issued in all leading News Papers and detailed Notification has been placed on SPAV Website. The Senate was requested to note the status of admissions as reported above.	
Decision	The Senate noted the status of UG PG 2026 admissions as reported.	Annexure -
Item # 24.11	Faculty and Students achievements	Annexure - VIII
Agenda Notes / Proceedings	Dean Academic apprised the Senate that the Ministry of Education vide its email dt. 09-07-2026 requested SPAs to submit information regarding the key achievements of SPAs since the implementation of NEP 2020, along with any relevant highlights, for dissemination on Ministry's social media platforms. Following is an excerpt of the report dt. 10-07-2026 submitted by SPAV to the MoE: a) The Faculty and Students of SPA Vijayawada have published over 250 Research papers at International and National Conferences during the last five years. The papers may comprise of outcomes from the ongoing academic activities as well as from the areas of research interest of the Faculty members from time to time. This is in addition to publication of research papers in refereed journals and of chapters in books by reputed publication houses. These activities are often partnered between faculty and Students across different institutions as well. b) Several students have participated in national and international competitions and conferences, bringing various laurels and awards c) The National Association of Students of Architecture (NASA, India) is the largest architectural student body in the world with over 400 colleges imparting architectural education. School of Planning and Architecture, Vijayawada, has secured 2nd Place in the overall NASA ranking among 300+ recognised institutions nationally. d) The National Organisation of Students of Planning (NOSPLAN) is the pivotal body for Planning students in India. School of Planning and Architecture, Vijayawada participated in the 26th Annual NOSPLAN Convention and secured 1st place, keeping up its best performance year-on-year. e) Prof. Dr. Iyer Vijayalaxmi Kasinath received the prestigious National Award for Teachers in 2025 (in the Higher Education Institutions category), which was presented by the Honourable President of India. This is in recognition for her work as a Senior Professor of Architecture at the School of Planning and Architecture, Vijayawada. f) Over 600 special lectures and industry expert interactions facilitated in SPAV campus in the last five years semester. g) Institute Innovation Council initiated over 50 events and competitions that are oriented towards innovation and entrepreneurship. h) Faculty have been invited in over 100 instances to various prestigious juries, committees, advisories and selections across India. i) Over 100 workshops and seminars in niche areas have been conducted.	

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	j) Design and Innovation Centre (DIC) at SPA Vijayawada is a hub of developing, encouraging and showcasing the academic, research and consultancy works undertaken toward recognition of the stakeholders and institute at large. Several IPRs published and many are under examination, which signify Interdisciplinary innovation across domains, fuelled by Strong Faculty:Student' collaboration k) Key milestones achieved (and are continuing) are: ▪ 44 Patents (leading to 100 contributions as a team) Published across diverse engineering and technology domains, demonstrating strong research output. The 44 published patents are spread across varied fields of innovation with 4 in Biomedical Engineering; 9 in Mechanical Engineering ;16 in Computer Science; 10 in Physics; 2 in Electronics; 2 in Civil Engineering; and 1 in Electrical Engineering ▪ 5 Designs Creative and industrial design innovations formally registered for legal protection. ▪ 1 Copyright Original creative work protected under copyright law, completing the IPR spectrum. The detailed report as submitted to the MoE was placed as Annexure – VIII for consideration and acknowledgement by the Senate.	
Decision	<i>The Senate acknowledged and appreciated the Director for the achievements of Faculty and Students achievements, as presented.</i> <i>Additionally, the Senate applauded the following Faculty members:</i> ▪ <i>Prof. Dr. Iyer Vijayalaxmi Kasinath for receiving the prestigious National Award for Teachers in 2025 (in the Higher Education Institutions category), was presented by the Honourable President of India. This is in recognition for her work as a Senior Professor of Architecture at the School of Planning and Architecture, Vijayawada.</i> ▪ <i>Director SPAV for ensuring the functioning of AMRUT ACUPCB of SPAV from time to time and Prof. Dr. Ayon K Tarafdar, Centre Head for the good work.</i> ▪ <i>Prof. Dr. Anil Kumar Ch, Faculty Incharge of DIC SPAV for facilitating the publication of Patents and IPRs.</i>	Annexure -
Item # 24.12	Internship of 8 weeks to PG students in place of the existing 6 weeks on need-basis	Annexure -
Agenda Notes / Proceedings	Dean Academic apprised the Senate that the Summer Internship to be undertaken in some of the PG programs at the end of 2nd Semester was required to be enhanced from the existing 6 week duration, to 6-8 week duration, owing to the requirements of many firms who prefer a minimum period of 2 months to enable a fruitful learning-training. Accordingly, the Summer Internship duration of the existing Students of M.UD and M.Des has been increased from the existing 6 weeks duration to 8 weeks duration on need-basis. This has also been duly considered and accordingly, Summer Internship has been proposed as 8 weeks / 6-8 weeks in the revised Syllabus of PG programs (proposed in this 24th Senate). The Senate was requested to note the reporting of this item as above.	
Decision	<i>The Senate noted the item as reported above.</i>	Annexure -

Item # 24.13	Student Exchange Programmes of SPAV (existing and proposed)	Annexure -
Agenda Notes / Proceedings	Director apprised the Senate as follows: - In order to operationalise the MoU between SPAV and the Ecole Blueu University France, a roadmap has been worked out with Ecole Blueu for student exchange at UG level (B.Arch/B.Planning) in the first semester of every academic year. - In the academic year 2025-26, two Students for Global School of Design of this University will be undergoing one full Semester to pursue chosen courses of PG program in Architecture. - The visiting IV and V Year students shall undertake 18 European credits at Ecole Bleue between October - Mid January as part of the Exchange programme while completing the rest of the 12 credits of theory at SPAV. - The Senate has already approved that the courses taken at Ecole Bleue will be deemed as equivalent to Studio and Dissertation of SPAV, after careful deliberations. This is aimed at International Exposure and the additional credits earned (if any) at Ecole Bleue would be reflected in the marksheets. The Senate was requested to note the reporting of this item as above.	
Decision	The Senate noted the Student Exchange Programmes of SPAV (existing and proposed) as presented.	Annexure -
Item # 24.14	Status of successful implementation of Swayam online courses	Annexure - VIII
	The list of Students of SPA Vijayawada who have pursued Swamyam online courses was presented as part of the Annexure – VIII for consideration and acknowledgement by the Senate.	
Decision	The Senate noted the information as presented in Annexure – VIII.	

	Any other item with the permission of the Chair.	
24A-1	To consider and approve for the Student Exchange Program 2026-27 between SPA Vijayawada, India, and the University of Lille, France.	Annexure -
Agenda Notes / Proceedings	Prof. Dr. Adinarayanan R, Head, Department of Planning presented about the Student exchange collaboration between SPA Vijayawada (SPAV) and the University of Lille, France. He explained that this initiative builds upon the Memorandum of Understanding (MoU) established between the two institutions in late 2018/early 2019, which facilitates exchange opportunities for Master's and Doctoral students. He has also apprised about Student Exchange Program 2026-27 between SPA Vijayawada, India, and the University of Lille, France. In continuation to the approval of Competent Authority on 27/05/2026, the University of Lille formally extended an invitation to host two Postgraduate students from the School of Planning and Architecture, Vijayawada (SPAV) for the upcoming autumn semester (September to December 2026 @ University of Lille). The Selection Committee constituted for this purpose, following the internal selection process reviewed students for academic alignment and readiness. Two (2) students were recommended for the Student exchange:	

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	In view of the above, STUDENT EXCHANGE PROGRAMME- Course Equivalence (Annexures – A1) as per the mutual consent between University of Lille-France and SPA Vijayawada has also been explained for obtaining approval of the Senate.	
Decision	The Senate approved the item.	Annexure - 24A1
24A-2	Establishment of Artificial Intelligence (AI) Labs for Architecture, Planning and procurement of Wind Tunnel for Climatology Laboratory.	Annexure -
Agenda Notes / Proceedings	Director, SPAV apprised the Senate that it is essential to establish AI Lab for Architecture and AI Lab for Planning at an estimated expenditure of INR 21.0 Lakh. And it is also proposed to procure Wind Tunnel for Climatology Laboratory at an estimated expenditure of INR 10.3 Lakh so as to enrich the teaching learning process, research and consultancy and to be on par with the technological advancements from time to time. The Senate was requested to recommend the aforementioned initiatives for onward submission to the Finance Committee and to the Board of Governors.	
Decision	The Senate noted and recommended the establishment of Artificial Intelligence (AI) Labs for Architecture, Planning and procurement of Wind Tunnel for Climatology Laboratory	-
24A-3	To appoint Mr. Siva Narla as SPAV Honorary Resource person / SPAV Point of Contact to propagate awareness in and around the United Kingdom regarding admissions in SPAV	Annexure -
	Director, SPAV expressed that additional efforts must be put in, to attract more Foreign students to SPAV. In the said regard, he proposed to appoint Mr. Siva Narla (Sivah C Narla, National President & Co-founder, The Indian Student UK) as SPAV Honorary Resource person / SPAV Point of Contact who shall propagate awareness in and around the United Kingdom, regarding academics and admissions in SPAV, without any financial implication on SPAV. Mr. Sivah C Narla is a graduate of the University of Law, London, with experience in international higher education, university engagement, stakeholder relations, and UK-India academic collaboration, He is keen to contribute voluntarily towards strengthening SPAV's international presence and global partnerships. Through his leadership roles in higher education and student organisations, he has understandably developed networks with universities, academic institutions, policymakers, and professional organisations across the United Kingdom, which can support SPAV's internationalisation objectives.	
Decision	The Senate approved the item.	-

The meeting ended with Thanks to the Chair.

Sivah C Narla
25/7/26.



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

Annexure – I:
Minutes of 22nd Senate meeting held on 3-9-25



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

22nd Meeting of the Senate

03 September 2025 11:00 AM
through Hybrid Mode

Held at Board Room, 1st Floor, Academic Block, SPAV Campus

*Noted by
12/9/25*

Minutes of the Meeting

*SPAV/Div/Gen-17324
06/10/25*



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

Minutes of the 22nd Meeting of the Senate of SPAV
held on 03 September 2025 at 11:00 AM, through Hybrid Mode

Members Present:

S.No.	Name	Designation
1	Prof. Dr. Ramesh Srikonda, Director, SPAV	Chairperson
2	Prof. Dr. Mamatha P Raj (AICTE Nominee) online	Member
3	Prof. Dr. S.P.Sekar (ITPI Nominee)	Member
4	Ar. Roopal Rahul Deshpande (CoA Nominee) online	Member
5	Ar. Rajesh Meheta (Nominee of Chair, BoG)	Member
6	Ar. Sandhya Manjunath (Nominee of Chair, BoG)	Member
7	Dr. Yogesh K Garg (Nominee of Chair, BoG)	Member
8	Dr. Vandana Sehgal (Nominee of Chair, BoG) online	Member
9	Dr. Anamika Nandan (Nominee of Chair, BoG) online	Member
10	Dr. Shanmuga Priya G, Associate Professor, Department of Architecture, SPAV	Member
11	Dr. Ranga Naga Satyanarayana Murthy, Assistant Professor, Department of Architecture, SPAV	Member
12	Dr. Anurag Bagade, Assistant Professor, Department of Planning, SPAV	Member
13	Dr. Lilly Rose A, Dean Academic, SPAV	Member
14	Dr.M.Banu Chitra, Dean Research, SPAV	Member
15	Dr. Uma Sankar Basina, Dean Student Affairs, SPAV	Member
16	Dr Rajakumari Muthusamy, Dean Faculty Welfare, SPAV	Member
17	Dr.Ch.Anil Kumar, Dean P & D, SPAV	Member
18	Dr. Prasanth Vardhan P, Head, Dept of Planning, SPAV	Member
19	Dr. Srinivas Daketi, Head, Dept of Architecture, SPAV	Member
20	Prof. Dr. Iyer Vijayalaxmi Kasinath, Professor, Dept of Architecture, SPAV	Member
21	Prof. Ayon Kumar Tarafdar, Professor, Dept of Planning, SPAV	Member
22	Shri K.V Uma Maheswara Rao, Registrar, SPAV	Secretary

Minutes of the Meeting of 22nd Senate, SPAV held on 03 September 2025

The Chairperson, Senate extended a warm welcome to all the members present and introduced the new member Prof. Dr. Mamatha P Raj (AICTE Nominee), to the Senate. He also conveyed his gratitude to the outgoing member Prof. Dr. Rajeev Shringi of the Senate for his valuable suggestions and support. Further, the Member Secretary of the Senate apprised the Senate about various agenda items.

The details of discussions/deliberations are as below:

1	To confirm the Minutes of the 21 st Meeting of Senate of SPA Vijayawada held through on 19.03.2025.
	The Minutes of 21 st meeting of SPA Vijayawada held through hybrid mode on 19.03.2025 placed as Annexure I, were presented to the members The Senate confirmed the minutes of the 21st Meeting of Senate of SPA Vijayawada.
2	To present the Action Taken Report on the Minutes of the 21 st Senate meeting of SPA Vijayawada held through hybrid mode on 19.03.2025.

Item #	Agenda	Minutes	Action Taken	Observation / resolution
17.4	Proposal of two new PG programmes in Planning to be initiated within next five academic years	The Senate considered, approved and recommended the following nomenclatures of 2-years full-time Masters programme in Dept of Planning to be introduced within the next 5 years: a) 'Masters in Planning' with Specialization in 'Data Analytics in Planning' (02 Years Full-time) b) 'Masters in Planning' with Specialization in 'Housing and Real Estate Planning' (02 Years Full-time) The Senate also asked the Department to prepare the Course Structure and Detailed Syllabus for each of the same and put up to Senate for approval in subsequent meetings.	The Committees have been constituted for preparation of Course Structure & Detailed Syllabus for the new courses. The work is in progress and the brainstorming sessions will be conducted in the coming semester with experts from industry and academics. The course structure will be placed in the upcoming senate.	The course structures will be placed in the upcoming senate.

17.5	Proposal of three new PG programmes in Architecture to be initiated within next five academic years	The Head of Department of Architecture, after detailed deliberation and introspection with all faculty of the Department and Advisory Board of Studies-Planning, and in line with industry demand and developments of state-of-the-art in the field of Architecture have envisaged the start of three new PG programmes in the Department within the next 05 years. This is also related to the preparations for the revised DPR of SPAV for next five years, for which, work is in progress. The nomenclatures of the proposed 2-year PG programmes in Architecture were presented by HoD-Architecture along with details of programme outcome and eligibility for admissions. a) Masters in Interior Design b) Masters in Digital Architecture (02 Years Full-time) c) Masters in Traditional-Techno Architecture (02 Years Full-time)	Committees have been constituted to develop the Course Structure and the detailed syllabus for the proposed programmes. The Committees are working on the proposed syllabus and the Course Structure and shall be presented in next senate meeting.	The course structures will be placed in the upcoming senate
17.9	Approval for extension of maximum duration of PhD candidate Ms. Mrunmayi D. in Dept of Planning, as a one-time measure	The Senate accorded an approval and recommended extension of one year for PhD candidate Ms. Mrunmayi D. from the date of JCDRC minutes (26.02.2024), as a one-time measure, without setting any precedence for future.	The Candidate has been granted one year extension. Hence, the Senate is requested to close the item.	The Senate Closed the item
17.13	Credit Exchange Elective Courses with SPA Delhi and SPA Bhopal	The Senate accords it approval to and recommended, the process of exchange of subjects as collaboration between the three SPAs and encourages the Departments to initiate	The students from Department of planning have undertaken summer internship programs at SPA Delhi & SPA	The Senate Closed the item

		more such efforts and activities with other universities.	Bhopal. The students have been given preference to work on the live projects and research projects. Also, the Programme Coordinators from department of Architecture are working to collaborate with SPA Delhi and SPA Bhopal in the odd semester. Hence, the Senate is requested to close the item.	
17.14	Revision of Remuneration/Honorarium of Jury members, Visiting Faculty, and External Experts for Special Lectures	The Senate considered, approved and recommended the Revised Rates of Remuneration/Honorarium to be effective from next Academic Year (as per Annexure VIII to this Minutes) for further approval of FC and BoG.	The item has been approved in the FC &BoG and an O.O has been issued with Ref.No. 10/SPAv/Estt./O.O/2025 dated 13th Augsut 2025 for implementation. Hence, the Senate is requested to close the item.	The Senate Closed the item
17.15	Engagement of Adjunct / Emeritus / Visiting Professor at the Department of Architecture and Planning	The Senate noted and recommended to initiate the process of re-advertising and selecting Adjunct / Emeritus / Visiting Professor at the Department of Architecture and Planning, with due approval of FC and BoG.	Action is being initiated to place it in the forthcoming BoG.	
21.1	To consider and approve the revised nomenclature, eligibility criteria, and seat matrix for Postgraduate programmes to have parity among	To bring parity among all SPAs, as MoE approved common admission of PG programmes the nomenclature, eligibility criteria, and seat matrix have been revised with minor changes for the Postgraduate programmes offered at SPAV for the A.Y. 2025-26. The proposed changes are also in line with NEP-2020 encouraging multidisciplinary education system at SPAV. The proposed revisions are	Admissions for the PG courses for the A.Y 2025-26 was done through JAAP-PG-2025 and through SPOT rounds. A special drive for reserved categories was also conducted in Guwahati and Vijayawada. Hence, the Senate is requested to close the item.	The Senate Closed the item

	SPAs as MoE approved common admission of PG programmes for the A.Y. 2025-26	placed in Annexure – II, for consideration and approval of Senate. If approved, the proposed minor modifications will be implemented from the A.Y. 2025-2026 onwards and the same will be ratified in FC and BoG.		
21.2	To consider and approve the revised eligibility for Ph.D in Architecture and addition of Ph.D in Design in the Department of Architecture at SPAV	The Rolling Ph.D Advertisement for the A.Y. 2025-26 was notified on 21.02.2025 for Ph.D in Architecture, Planning and Building Engineering and Management. It is proposed to include Master Degree in Design under academic eligibility for Ph.D in Architecture in addition to the existing eligibility criteria. It is also proposed to offer Ph.D in Design from the A.Y. 2025-26 as SPAV is offering Master of Design. The above proposal is placed for consideration and approval of Senate. If approved, the modified eligibility for Ph.D programme and new Ph.D in Design will be implemented from the A.Y. 2025-2026 onwards and it will be ratified in BoG.	The Rolling Ph.D Advertisement for the A.Y. 2025-26 was notified with the revised eligibility for Ph.D in Architecture and addition of Ph.D in Design. Second round of Ph.D Admissions for the odd semester of A.Y are being done from 19th – 23rd August 2025. Hence, the Senate is requested to close the item.	The Senate Closed the item
21.3	To consider and approve the proposal to offer Scholarships to Top ten meritorious students in each Postgraduate programme	SPAV has been providing scholarships to students who have qualified in GATE / CEED as per the rules of the Govt. of India. It is proposed to offer scholarships to top ten meritorious students based on the ranking of JAAP-PG 2025, regardless of qualifying in GATE/CEED scores, to encourage admissions to the postgraduate programmes and recognize meritorious students. The proposed scholarships for meritorious students in PG programmes are placed for consideration and approval of Senate. If approved, the scholarships will be offered	The recommendations of Senate will be placed in the forthcoming BoG.	

		from the A.Y. 2025-2026 onwards after obtaining the approval of the FC and BoG.		
21.4	To consider and approve the addition of subject categories to the approved detailed syllabus of the M.Arch (AC) programme for each semester	During the syllabus revision process prior to the 17th Senate meeting, the subject categories were inadvertently omitted from the course structure. This oversight has now been rectified, and the revised syllabus clearly specifies the category for each subject, i.e., Studio Courses, Theory Courses, and Jury Courses. In the earlier version, all subjects were mistakenly categorized as Theory Courses. The revised Course Structure for the M.Arch (Architectural Conservation) Programme is placed for consideration and approval of the Senate.	The subject categories were included in the Detailed syllabus of the M.Arch (AC) programme and the same has been uploaded on SPAV website. Hence, the Senate is requested to close the item.	The Senate Closed the item
21.5	To consider and approve the request of students with respect to the working hours of the institute in view of the increasing temperatures during summer.	It has been observed in the past few years that the temperatures during summers increase beyond 40° in the afternoons. The students find it difficult to work in the afternoons in the studios during summer months. Representation from the student council has been received, requesting for change in working hours during summer months considering the heat. Based on the representation, the departments have proposed to modify the working hour schedule as placed in annexure IV which is recommended by the ABoS of both the departments. The proposed change in working hours for students without deviating from the number of periods / hours per day as stipulated in the course structure, is placed for consideration and approval of the senate.	The revised working hours were implemented during summer 2025. Hence, the Senate is requested to close the item.	The Senate Closed the item

21.7	To consider offering of AI based courses for urban planning at SPAV	Dr.S.P.Sekar (ITPI nominee) stressed the importance of AI based urban planning and offering skill based professional courses at SPAV. Such courses can be introduced as an elective initially, and later it can offered as a mainstream course / certificate course / online course The Senate suggested to conduct conferences, brainstorming sessions to identify resources and enrich the faculty knowledge in this domain.	Sector Experts were invited to take special lectures and were part of workshops organised for the students of UG & PG Programmes. Hence, the Senate is requested to close the item.	The Senate Closed the item
21.8	To introduce live projects from local bodies as studio project in planning	It was proposed to introduce live projects from involving local authorities / bodies to enable inputs from and involvement of local authorities / bodies and develop implementable outcomes which can be submitted to the local bodies. The Senate suggested the department of planning to introduce projects from local authorities and encourage involvement of local bodies in the studio project.	Three studio programmes in the Department of Planning involve live projects. Hence, the Senate is requested to close the item.	The Senate Closed the item

AGENDA

Items for Approval

 Item # 22.1	To consider and approve the list of Graduands who graduated in the Academic Year 2024-2025, for the conferment of degrees in the 9th Convocation to be held in October 2025
Proceedings	The 9 th Convocation for SPA Vijayawada is scheduled to be held in the first week of October 2025. The Senate is requested to accord approval for the award of degrees, gold medals and best thesis merit certificates to the eligible candidates in the upcoming 9 th Convocation of SPA Vijayawada, scheduled to be held in the first week of October 2025. The item is placed as Annexure II before the Senate for consideration and approval.

Decision	The Senate approved the list of Graduands for the 9 th Convocation to be held on 10 th October 2025.
Item # 22.2	To consider and approve the addition of Ph.D Re-registration under Clause 5 (Section 5.3) of the Academic Ordinance for Doctoral (PhD) Programmes (Rules and Regulations) 2023 & other regulations as an amendment
Proceedings	In order to support the PhD candidates in achieving their research objectives, it is proposed that research scholars requiring additional time to complete their research work after completing the 7 years of maximum limit (mentioned in PhD Ordinance 2023) can re-register into PhD program under the same category by paying the requisite admission and tuition fee (as per the fee structure) as recommended in the JCDRC meeting held on 28.03.2025. Such candidates shall continue to work under the same supervisor and on recommendation of the DRC/SRC/JCDRC/Dean-A, can submit their thesis after fulfilling minimum requirements with a minimum gap of 6 months after Re-Registration. And re-registration needs to be done annually. However, it is made mandatory for the research scholars to re-register only after the recommendation of their respective supervisor. The above item is placed before the Senate as Annexure III for consideration and approval.
Decision	The Senate approved the addition of Ph.D Re-registration under Clause 5 (Section 5.3) of the Academic Ordinance for Doctoral (PhD) Programmes.
Item # 22.3	To consider and approve the Award of Bachelor of Building Science to Mr. Akhil Kandagiri (Reg. No. 1180100800) admitted into B. Arch during A.Y. 2018-23
Proceedings	As per the approved minutes of the Third Senate vide Item# 3.9(b), the exit option of degree for students who have completed the third year of Architecture and who have not completed the final year of Architecture, it has been recommended for the award of "Bachelor of Building Science". Hence it is recommended to Award the degree of Bachelor of Building Science to Mr. Akhil Kandagiri (1180100800) who has completed all subjects up to the 6 th semester. As per the minimum academic requirements of Bachelor of Building Science, Mr. Akhil Kandagiri (1180100800) is recommended by the ABoS of the department of Architecture for the award of Bachelor of Building Science, under Clause 7.7 of the NEP-enabled Academic Ordinance 2023. The above item is placed before the Senate as Annexure IV for consideration and approval.

Decision	The Senate approved the award of Bachelor of Building Science to Mr. Akhil Kandagiri (Reg. No. 1180100800).
Item # 22.4	To consider and approve the conversion of three theory-based courses to jury-based evaluation mode in the Department of Architecture
Proceedings	The courses Decarbonizing Buildings: Embodied and Operational Carbon (MSAR212- offered in the MSA II Year, III Semester), Interior Architecture and Space Programming, (ARC5120 - offered in B.Arch V Year, IX Semester) and Digital Art (ARC4210 - offered in B.Arch IV Year, VII Semester) were conceived initially as theory courses and the same was approved in the 8 th and 17 th meeting of the Senate. However, when the above courses were being offered to the students for the first time in the A.Y.2025-26, the subject experts and the ABoS of the Department of Architecture felt that the course be offered as a Jury course. In view of the above, the ABoS of the Department of Architecture, recommended the conversion of the above three theory-based courses to jury-based evaluation mode. Hence, the above item is placed before the Senate as Annexure V for consideration and approval.
Decision	The Senate approved the Conversion of three theory-based subjects to jury-based courses.
Item # 22.5	To consider and approve the proposed revision of B.Plan syllabus (UG Programme, 4 year) to align with emerging professional needs, industry demands, and model curriculum as per AICTE and ITPI
Proceedings	It is proposed to revise the B.Plan syllabus (UG Programme, 4 year) to align with emerging professional needs, industry demands, and guidelines provided by key national frameworks, including the National Education Policy (NEP) 2020, the Model Curriculum (2020) issued by AICTE, and the report "Orienting Planning Education in Line with NEP 2020" published by ITPI. <u>Proposed Changes to the Course Structure</u> Addressing Professional Needs Incorporating alumni feedback, industry interactions, and sectoral trends to address emerging technological advancements, theoretical foundations, and knowledge expansion. Tailoring updates to meet evolving professional demands in planning.

	Eliminating Redundancy Streamlining content across the four-year syllabus to avoid overlap and improve coherence. Incorporating Audit Courses and Electives Broadening knowledge and enhancing skills through audit courses and electives to support preparation for competitive examinations like Civil Services. <u>Specific Additions to the Syllabus</u> Audit Courses Introduction of courses such as Indian Economy, Human Rights and Constitutional Duties, and Technical Communication, in alignment with NEP 2020. Elective Subjects Offering electives such as Approaches to Spatial Area Plan, Urban Underground Spaces, Inclusive Cities, Resilient and Sustainable Cities, etc., across semesters to provide wider choices and address emerging market demands. The above item is placed before the Senate for consideration and approval.
Decision	The Senate approved the revised course outline for the B.Plan programme.

Items for Ratification

Item # 22.6	To consider and ratify the Admission Selection committee for Ph.D scholars in the A.Y 2025-26.
Proceedings	As per clause 4.2 of the Academic Ordinance for Doctoral (PhD) Programmes (Rules and Regulations) 2023, the candidates who qualify the Stage-I shall appear for interview and deliver a presentation before the Departmental Research Committee (DRC) or sub-committees constituted by the DRC. However, during the Rolling Ph.D Admissions conducted in April-May 2025, the shortlisted candidates who qualified in Stage-I appeared for the interview before a sub-committee constituted by the DRC chairperson with the approval of the Senate chairperson instead of the DRC or sub-committees constituted by the DRC. Hence, the item is placed before the Senate for ratification.

	Also, it is proposed to include the following as an amendment to Clause 4.2 considering the administrative procedures: "However, in case of emergency situations, the Senate Chairperson shall be authorized to constitute a DRC Sub-Committee comprising internal faculty members to conduct the Interviews and publish the Results". The above amendment in the ordinances is placed before the Senate for consideration and approval.
Decision	The Senate ratified the Sub-committee constituted by DRC chairperson for the rolling PhD admissions conducted during April-May 2025. Also, the Senate approved the following as an amendment to clause 4.2 "However, in case of emergency situations, the Senate Chairperson shall be authorized to constitute a DRC Sub-Committee comprising internal faculty members to conduct the Interviews and publish the Results".

Items for Reporting

Item # 22.7	Student Academic Requests
Proceedings	The Part-time research scholar Ar. Shreeleha C (Reg. No. 1240000045), had requested for a one semester break during the Odd Semester of Academic Year 2025–26 due to personal reasons. The ABoS of Architecture department recommended the semester break in accordance with Clause 9.3 of the Academic Ordinance 2023 and the same was recommended by Dean -A and approved by the Senate Chairperson. Ms. Sharon Charita G (Reg. No. 1240500201), enrolled in M.Arch (SA) Programme in the A.Y.2024-25. She had requested for one year break in accordance with Clause 7.7(e) of PG Ordinance 2023 as she has secured a job in the Public Works Department in Tamil Nadu. In line with NEP on multiple entry and exit, the above request was recommended by ABoS, Dean Academic and approved by the Senate Chairperson.
Decision	The Senate noted the item.
Item # 22.8	Academic Updates
Proceedings	The admissions process for the Academic Year 2025–26 has been successfully concluded. Undergraduate Admissions: Conducted through JoSAA/CSAB/DASA

	counselling mechanisms. • Postgraduate Admissions: Completed through JAAP-PG 2025 counselling, followed by Spot Rounds and a Special Drive for Reserved Categories organized at Guwahati to facilitate candidates from the North Eastern region. • Doctoral (Ph.D.) Admissions: Carried out in two cycles under the Rolling Ph.D. Notification, the first during April–May 2025 and the second in August 2025.
Decision	The Senate noted the item and appreciated the efforts taken by SPAV to increase the percentage of student intake in Higher Education.
Item # 22.9	Activities and Achievements of Department of Architecture
Proceedings	The Department of Architecture has actively engaged in academic, research, and outreach activities during the academic year 2024-25. Faculty and students have contributed significantly through publications, conference presentations, design competitions, collaborative projects, and community-oriented initiatives. These achievements reflect the department's commitment to academic excellence, innovation, and societal relevance. A detailed statement of activities and accomplishments were presented before the Senate as Annexure VI.
Decision	The Senate appreciated the achievements of faculty and students of Department of Architecture.
Item # 22.10	Activities and Achievements of Department of Planning
Proceedings	The Department of Planning has undertaken a wide range of academic, research, and professional activities during the academic year 2024-25. Faculty and students have made notable contributions through consultancy assignments, research publications, participation in planning competitions, policy-oriented projects, and community engagement initiatives. These efforts highlight the department's role in advancing sustainable urban and regional planning practices. A detailed statement of activities and accomplishments were presented before the Senate as Annexure VII.
Decision	The Senate appreciated the achievements of faculty and students of Department of Architecture.

	Any other item with the permission of the Chair.
Item # 22.11	To consider and approve the request of Mr. Faraz Khan (Roll No: 2240600114), a II-year M.Plan (Transport Planning) student for Grant of Zero Year
Proceedings	Mr. Faraz Khan (Roll No: 2240600114), a II-year M.Plan (Transport Planning) student, has requested the grant of Zero Year under Clauses 27.1 to 27.5 of the Academic Regulations based on medical and compassionate grounds as he is the sole caregiver to his aunt undergoing treatment for mouth cancer and, in addition, has suffered a serious leg fracture requiring extended rest. The ABoS, after deliberation, has recommended his request for approval of Zero Year to enable him to repeat the semester in the next academic year. Hence, the above item is placed before the Senate as Annexure VIII for consideration and approval.
Decision	The Senate approved the proposed Zero Year to Mr. Faraz Khan (Roll No: 2240600114), a II-year M.Plan (Transport Planning)
Item # 22.12	To consider and approve the request of Ms. K. Praveena (Reg. No. 2180300009), Part-time Ph.D. Scholar, for Extension of Ph.D. Registration
Proceedings	Ms. K. Praveena (Reg. No. 2180300009), Part-time Ph.D. Scholar, completed the maximum permissible duration of 6 years of her registration by 31/07/2025. She has sought an extension to complete the requirements of her thesis submission (report and research publications). Her request has been submitted through her supervisor, along with the recommendations of the SRC and the DRC-Planning recommended that her request for extension be considered as per due procedure. The proposal for extension is placed before the senate as Annexure IX for consideration and approval.
Decision	The Senate approved the Extension of Ph.D. Registration through Re-registration in line with item #22.2
22.13	To consider and approve the Amendment in Provision for Replacement of Supervisor and appointment of Co-Supervisor for Special Cases
Proceedings	As per the PhD Ordinance 2023 of SPAV, Clause 7.9 states that in the event a Supervisor becomes unavailable to guide due to resignation, retirement, leaving service, or demise, the Chairperson of the DRC shall arrange for a replacement

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	within six (6) weeks with the recommendation of the JCDRC so as to finally approved by the Chairperson, Senate. However, it is proposed that the Director of the Institute may continue to guide existing students or undertake supervision of new students in the capacity of a resourceful supervisor. Also, in special cases or for multi-disciplinary topics, upon the request from the Supervisor, DRC may recommend appointment of up to 2 Co-Supervisors, who may be subject experts from industry or from another educational institutes or from other Departments of the School. However, the selected co-supervisors shall attend the DRCs as and when conducted without fail. The co-supervisors should not miss two consecutive DRCs. The proposal for amendment of clause 7.8 & 7.9 is placed before the senate for consideration and approval.
Decision	The Senate approved the above item as amendments clause 7.8 & 7.9 in the Academic Ordinance for Doctoral Programmes (Rules and Regulations) 2023 of SPAV. Also, the Senate suggested to develop SoP for appointment of Co-supervisors for special cases and place it in the forthcoming Senate.
22.14	Introduction of optional language courses for first-year students as non-CGPA credit courses, effective from the Academic Year 2025-26.
Proceedings	In line with the objectives of the National Education Policy (NEP) 2020 and to provide students with opportunities for multidisciplinary learning, the 17th Senate approved the proposal of introducing additional courses in selected Indian and foreign languages (e.g., Hindi, Sanskrit, Telugu, German, French, Spanish, Japanese, etc.) for first-year students. These courses will be offered as optional credit courses, and the credits earned will be reflected in the student's grade sheet as Additional Credits. However, these credits will not be counted towards the calculation of CGPA. The initiative will help students gain cultural exposure, enhance communication skills, and strengthen their global employability without affecting their academic performance metrics. The above item is placed before the Senate for kind information.
Decision	The Senate noted the item.
22.15	To consider and approve the Award of PG Diploma in Sustainable Architecture to Mr. Mukesh Kumar P (Reg. No. 1240500197) admitted into M.

	Arch Sustainable Architecture during A.Y. 2024-25
Proceedings	As per clause 7.7 of Academic ordinance for UG and PG Programmes (Rules and Regulations) 2023, multiple entry and exit options in academic programmes are being practiced at SPAV, in line with the objectives of the National Education Policy (NEP) 2020. According to clause 7.7, Mr. Mukesh Kumar P (Reg. No. 1240500197) admitted into M. Arch Sustainable Architecture programme during A.Y. 2024-25, has successfully completed one year of M.Arch Sustainable Architecture programme and has earned 30 credits. As per the minimum academic requirements of Postgraduate Diploma in PG Programmes, Mr. Mukesh Kumar P (Reg. No. 1240500197), is recommended by the ABoS of the department of Architecture for the award of Postgraduate Diploma in Sustainable Architecture, under Clause 7.7 of the NEP-enabled Academic Ordinance 2023. The above item is placed before the Senate as Annexure X for consideration and approval.
Decision	The Senate approved the award of Postgraduate Diploma in Sustainable Architecture to Mr. Mukesh Kumar P (Reg. No. 1240500197).
22.16	To consider and approve the Introduction of Postdoctoral Programme at SPAV
Proceedings	The School of Planning and Architecture, Vijayawada (SPAV), proposes the introduction of a Postdoctoral Research Programme as part of its academic and research expansion. The programme is designed to encourage high-quality research and publications by scholars in the fields of architecture and planning. • Programme Structure ○ Full-Time: Duration of 2 semesters. ○ Part-Time: Duration of 3 semesters. • Fee Structure and Regulations: ○ To be aligned with the Academic Ordinances of the Ph.D. Programme at SPAV. • Stipend: ○ Full-time scholars will be provided with a stipend. ○ The Board of Governors (BoG) has already approved 10 Ph.D. scholar stipends, of which 3 positions may be allocated to Postdoctoral Fellows.

	• Publication Requirements: ○ Full-Time Scholars: Minimum of 2 publications – one in a Scopus Q1 journal and one in any other Scopus/peer-reviewed journal. ○ Part-Time Scholars: Minimum of 3 publications – one in a Scopus Q1 journal and two in any other Scopus/peer-reviewed journals. Patents can also be considered as one of the requirement for publication. This initiative is expected to strengthen SPAV's academic research profile, enhance collaborations, and contribute to global knowledge production. The above item is placed before the Senate as Annexure XI for consideration and approval.
Decision	The Senate considered and approved the proposal for the introduction of the Postdoctoral Research Programme at SPAV and recommended placing the above item before the FC and Board of Governors (BoG) for approval.

Intesha
12/09/25



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

Revised Annexure – II:
List of Graduands 2025-26

List of PhD Scholars

2025-2026

List of Graduands awarded PhD Degrees in the 10th Convocation on 29.07.2026

S. No	Registration No.	Name of the Graduand	Hindi Name
1	1180300013	Hema Sree Rallapalli	हेमा श्री रल्लापल्ली
2	1220300023	Tanaya Paul	तनया पॉल



List of Gold Medalists

2025-2026

List of Graduands securing Highest CGPA for Gold Medal in AY 2025-26

S. No.	Registration No.	Name of the Graduand	Course
1	2240300186	Neeraja R	Master of Planning (Environmental Planning and Management)
2	2240400236	Vuppuluri Sri Surya Himabindu	Master of Planning (Urban and Regional Planning)
3	2240600110	Ankit	Master of Planning (Transport Planning)
4	1240500186	Aagney Alex Robin	Master of Architecture (Sustainable Architecture)
5	1240700113	Hanna Sara Jose	Master of Architecture (Landscape Architecture)
6	1240800057	Vaishnavi Dachepalli	Master of Architecture (Architectural Conservation)
7	1240900107	Ashifa Sayed Furkhan Ali	Master of Building Engineering and Management
8	1241000038	Aswathi A	Master of Urban Design
9	1241000048	Rida Jesil	
10	1241100004	R Sri Lakshmi Priyaa	Master of Design
11	2220200374	Sajan S	Bachelor of Planning
12	1210101026	Husna Afsar	Bachelor of Architecture

List of Thesis Toppers

2025-2026

List of Graduands for Thesis Awards in AY 2025-26

S. No.	Registration No.	Name of the Graduand	Course
1	2240300186	Neeraja R	Master of Planning (Environmental Planning and Management)
2	2240400225	Muhsin M C	Master of Planning (Urban and Regional Planning)
3	2240600109	Anjali R	Master of Planning (Transport Planning)
4	1240500203	Sripathi Panditharadyula Sharanya	Master of Architecture (Sustainable Architecture)
5	1240500205	Vijaya Shanthini S	
6	1240700113	Hanna Sara Jose	Master of Architecture (Landscape Architecture)
7	1240800052	Adithyalakshmi Suresh	Master of Architecture (Architectural Conservation)
8	1240900107	Ashifa Sayed Furkhan Ali	Master of Building Engineering and Management
9	1241000042	Jatin Kumar	Master of Urban Design
10	1241100002	Lakshmi Akshaya Maddi	Master of Design
11	2220200374	Sajan S	Bachelor of Planning
12	1210101053	Neha Kulakarni	Bachelor of Architecture

MASTER OF PLANNING (ENVIRONMENTAL PLANNING AND MANAGEMENT)

List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	2240300179	Debasmita Bhowmik	देबस्मिता भौमिक
2	2240300180	Divyashree Gurung	दिव्यश्री गुरुंग
3	2240300181	Kare Ajit Krishnakumar	करे अजीत कृष्णकुमार
4	2240300182	Kunta Goutami	कुंटा गौतमी
5	2240300183	L.B.Sougandhika	एल बी सौगन्धिका
6	2240300184	Muskan Varshney	मुस्कान वार्ष्णेय
7	2240300185	Nalam Sai Venkata Ishwarya	नालम साई वेंकट ऐश्वर्या
8	2240300186	Neeraja R	नीराजा आर
9	2240300187	Prajwal Kulkarni	प्रज्वल कुलकर्णी
10	2240300188	Pratyusha Chowdhury	प्रत्युषा चौधरी
11	2240300189	Singara Jugal Nilesh	जुगल
12	2240300190	V Ramya	वी. रम्या
13	2240300191	Y Divyamshi	वाई दिव्यम्शी

MASTER OF PLANNING (URBAN AND REGIONAL PLANNING)

List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	2240400216	Angela Jasil S	ऐंजेला जासिल
2	2240400217	Athira Suresh	आतिरा सुरेश
3	2240400218	Banoth Kalyani	बानोथ कल्याणी
4	2240400219	Bavish S	भाविश एस
5	2240400220	Chandu Sindhu	सिंधु चंदू
6	2240400221	Darsi Neha	दार्सी नेहा
7	2240400222	Deshpande Apoorva Chandrashekhar	देशपांडे अपूर्वा चंद्रशेखर
8	2240400223	Gaganpreet Kour	गगनप्रीत कौर
9	2240400224	Jaiswar Vishal Bikramajit	जैसवार विशाल बिक्रमाजीत
10	2240400225	Muhsin M C	मुहसिन एम सी
11	2240400226	Pallampati Hari Venkata Pavan Kowshik	पल्लंपाटी हरि वेंकट पवन कौशिक
12	2240400227	Prithvi N	पृथ्वी एन
13	2240400229	Reshmi Rufus	रेशमी रूफस
14	2240400230	Ritu Pundhir	रितु पुंडीर
15	2240400231	Sathapathi Harish	सथापथि हरीश
16	2240400232	Sawant Anagha Sadanand	सावंत अनघा सदानंद
17	2240400233	Sirra Sravani	सिर्रा श्रावणी
18	2240400234	Thandingpuui	थान्दिंगपुईई
19	2240400235	Thaneesha Nagalakshmi K B	थनीषा नागलक्ष्मी .के. बी
20	2240400236	Vuppuluri Sri Surya Himabindu	वुप्पुलुरी श्री सूर्य हिमाबिंदु
21	2240400237	Vydadi Siri	वैदाडी सिरी

MASTER OF PLANNING (TRANSPORT PLANNING)
List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	2240600109	Anjali R	अंजलि आर
2	2240600110	Ankit	अंकित
3	2240600111	Ansuman Panda	अंशुमान पंडा
4	2240600112	Bakhamkor Massar	बखमकोर मस्सार
5	2240600113	Eraboina Snigdha	एराबोयिना स्निग्धा
6	2240600115	Gaurav Jaiswal	गौरव जैसवाल
7	2240600116	Jammalamadaka Durga Sasank	जम्मलमडका दुर्गा शशांक
8	2240600117	Karthik Raja K K	कार्तिक राजा केके
9	2240600118	Kasina Murali Manohar Gopi Chand	कासिना मुरली मनोहर गोपी चंद
10	2240600119	Manan M Nirmal	मनन एम निर्मल
11	2240600120	Nakka Harinandan	नक्का हरिनंदन
12	2240600121	Naman Khosla	नमन खोसला
13	2240600122	Rachapudi Yeswanth	राचापुडी यशवंत
14	2240600123	Sai Sabari M	साई सबरी एम
15	2240600124	Selvaganesh M	सेल्वगणेश
16	2240600125	Sudharsan R S	सुधार्सन
17	2240600126	Vishwanath N	विश्वनाथ एन

MASTER OF ARCHITECTURE (SUSTAINABLE ARCHITECTURE)

List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	1240500186	Aagney Alex Robin	आग्नेय अलेक्स रोबिन
2	1240500187	Adabala Prithvi Raj	अडबाला पृथ्वी राज
3	1240500188	Batchala Srihari Surya Vamsi	बचाला श्रीहरि सूर्य वंशी
4	1240500189	Divya Shri B	बी दिव्या श्री
5	1240500190	Dudgikar Sharvi Harish	दुदगीकर शार्वी हरीश
6	1240500191	Fathima Liyana	फ़ातिमा लियाना
7	1240500192	Hareesh P	हरीश
8	1240500193	Inumarty Deepika	इनुमार्टी दीपिका
9	1240500194	Kotha Bhupendra Kumar Ayyappa	के. भूपेंद्र कुमार अय्यप्पा
10	1240500195	Krati Srivastava	कृति श्रीवास्तव
11	1240500196	Maalavika S L	मालविका एस. एल.
12	1240500198	Ponmani G	पोनमणि जी
13	1240500199	Priyadarshini R	प्रियदर्शनी आर
14	1240500200	Rishika Vuppalapati	ऋषिका वुप्पलापाटि
15	1240500202	Simon Elias	साइमन एलियास
16	1240500203	Sripathi Panditharadyula Sharanya	श्रीपति पंडिताराधुला शरण्या
17	1240500204	Sweta S Mohanty	श्वेता एस मोहांती
18	1240500205	Vijaya Shanthini S	विजया शान्तिनी एस
19	1240500206	Vrinda Kamath	वृंदा कामत

MASTER OF ARCHITECTURE (LANDSCAPE ARCHITECTURE)
List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026
Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	1240700107	Abhirami C P K	अभिरामी सी पी के
2	1240700108	Arigela Raghava	अरिगेला राघव
3	1240700109	Arun Unnikrishnan	अरुण उन्नीकृष्णन
4	1240700110	Fida Henna U	फिदा हेन्ना यु
5	1240700111	Gouri P	गौरी पी
6	1240700113	Hanna Sara Jose	हन्ना सारा जोस
7	1240700114	Naveen Palani S	नवीन पलानी एस
8	1240700115	Ommi Lokeshwararao	ओम्मी लोकेश्वर राव
9	1240700116	Podapati Harshitha	पोडपाटी हर्षित
10	1240700117	Preethi M A	प्रीति एम ए
11	1240700118	Rakshenda Sajeeven	रक्षेन्दा सजीवन
12	1240700119	Sonali Suchismita Moharana	सोनाली सुचिस्मिता महाराणा

MASTER OF ARCHITECTURE (ARCHITECTURAL CONSERVATION)
List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026
Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	1240800052	Adithyalakshmi Suresh	आदित्यालक्ष्मी सुरेश
2	1240800055	K V Shanmukhi Ramya Sri	के वी शन्मुखी रम्या श्री
3	1240800056	Katnapally Pranathi	के. प्राणति
4	1240800057	Vaishnavi Dachepalli	वैष्णवी दाचेपल्ली

MASTER OF BUILDING ENGINEERING AND MANAGEMENT
List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026
Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	1240900106	Anish Ghosh	अनीश घोष
2	1240900107	Ashifa Sayed Furkhan Ali	आशिफ़ा सैयद फुरक़ान अली
3	1240900108	Awale Sharayu Vishwanath	आवाळे शरयू विश्वनाथ
4	1240900109	Challakonda Jagath Ratna	चल्लाकोंडा जगत रत्न
5	1240900110	Chetanaya Langde	चेतन्य लांगडे
6	1240900111	Dhananjay Sood	धनंजय सूद
7	1240900112	Errolla Vamshi Krishna	एरोला वामशी कृष्ण
8	1240900113	Jangam Dev Ashish Raju	जंगम देव आशीष राजू
9	1240900114	Krishna Sahani	कृष्णा साहनी
10	1240900115	Madhan Kumar J	मदन कुमार जे
11	1240900116	Mohd Adil Mahboob	मो. आदिल महबूब
12	1240900117	Sadique Nayyer	सादिक नय्यर
13	1240900118	Shahbaz Ahmad	शाहबाज़ अहमद
14	1240900119	Sherly Christilda D	शेर्ली क्रिस्टिल्डा डे
15	1240900120	Simran Mishra	सिमरन मिश्रा
16	1240900121	Subhadhra M D	सुभाध्रा एम डी
17	1240900122	Talluri Rajasekhar	तल्लूरी राजशेखर
18	1240900123	Tirona Jayashree G	तिरोना जयश्री जी
19	1240900124	Tirumala Sunayana	तिरुमला सुनयना
20	1240900125	Tushar Roy	तुषार रॉय
21	1240900126	Varsha P	वर्षा पी

MASTER OF URBAN DESIGN

List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	1241000037	Abrar A Karim	अबरार ए करीम
2	1241000038	Aswathi A	अश्वथी
3	1241000039	D Prathyusha Reddy	डी प्रत्यूषा रेड्डी
4	1241000040	Fathima Nishana	फातिमा निशाना
5	1241000041	Iswarya Lakshmi S	ऐश्वर्या लक्ष्मी एस
6	1241000042	Jatin Kumar	जतिन कुमार
7	1241000043	Kummara Rithish	कुम्मर रितीश
8	1241000045	Monesha S P	मोनिशा एस पी
9	1241000046	Moturu Likhitha	मोटूरु लिखिता
10	1241000047	Nargund Rucha Sunilrao	ऋचा सुनिलराव नरगुंद
11	1241000048	Rida Jesil	रिदा जेसिल
12	1241000049	S B Sanjeevan	एस. बी. संजीवन्
13	1241000050	Sanjai Stafon K	संजय स्टैफन के
14	1241000051	Sreetama Pal	श्रीतमा पाल
15	1241000052	Sripathi Jayasree	श्रीपति जयश्री
16	1241000053	Tanuku Dheeraj Kishan	धीरज किशन तनुकु
17	1241000054	Todkar Kalyani Malla	कल्याणी मल्ला तोडकर

MASTER OF DESIGN

List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	1241100001	B Tejaswini	बी तेजस्विनी
2	1241100002	Lakshmi Akshaya Maddi	लक्ष्मी अक्षय मड्डी
3	1241100004	R Sri Lakshmi Priyaa	आर. श्री लक्ष्मी प्रिया
4	1241100005	Rachabattuni Hrudaya Mahalakshmi	राचाबथुनी हृदय महालक्ष्मी
5	1241100006	Sairam Rednam	साईराम रेडनम
6	1241100007	Sakshi Chopde	साक्षी चोपडे
7	1241100008	Shaik Mohammad Muddassir	शेख मोहम्मद मुदस्सिर
8	1241100009	Shaik Mohammed Raashid	शेख मोहम्मद राशिद

BACHELOR OF PLANNING

List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	2220200357	Akankshya Meher	आकांक्षा मेहर
2	2220200358	Akash K	आकाश
3	2220200359	Bharat Oraon	भारत उरांव
4	2220200361	Borra Madhusudhana	बोरा मधुसूधना
5	2220200362	Dhanusshree N V	धनुश्री एन वी
6	2220200364	Ivin John	इविन जॉन
7	2220200365	Maha Chowbarnika J K	महा चौबर्निका ज का
8	2220200366	Likhitha Shree S R	लिखिता श्री एस आर
9	2220200367	Lingapuram Yashaswi	लिंगापुरम यशस्वि
10	2220200368	Naman Agrawal	नमन अग्रवाल
11	2220200369	Nikitha S	निकिता एस
12	2220200370	Nunabarthi Sedhakshi	नूनाबर्थी सेधाक्षी
13	2220200371	Pujari Kista Lakshmi Ganesh	पूजारी किस्ता लक्ष्मी गणेश
14	2220200372	Prajayaa G	प्रजया गु
15	2220200373	Premnath R	प्रेमनाथ
16	2220200374	Sajan S	साजन एस
17	2220200375	Kanchumarthy Samuel Jason	सैमुअल जेसन कांचुमर्थी
18	2220200376	Shahda	शहदा
19	2220200379	Tharun Mothi A	तरुण मोती ए
20	2220200380	Udangshree Rani Basumatary	उडांगश्री रानी बसुमातारी
21	2220200381	Vasanthapriya R	वसंतप्रिया आर
22	2220200382	Yalala Sai Sri Manish	यालाला साई श्री मनीष
23	2220200383	Yudhveer Singh	युद्धवीर सिंह

BACHELOR OF ARCHITECTURE

List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2026

S. No.	Registration No.	Name of the Graduand	Hindi Name
1	1210100990	Aabha Sanjay Kanade	आभा संजय कानडे
2	1210100991	Aadarsh Thekkethara Suresh Babu	आदर्श तेवकेतरा सुरेशबाबु
3	1210100992	Aarya Makarand Gholba	आर्या मकरंद घोलबा
4	1210100993	Aashish Santosh Bembade	आशिष संतोष बेंबडे
5	1210100994	Abhignaa H Yogi	अभिज्ञा एच योगी
6	1210100995	Abhishek M	अभिषेक एम
7	1210100996	Aditya Nilesh Khairnar	आदित्य नीलेश खैरनार
8	1210100997	Aibanmer Nongkhlaw	ऐबानमेर नोंगख्लॉ
9	1210100998	Ajita Bhattacharya	अजिता भट्टाचार्य
10	1210100999	Akshita Thakur	अक्षिता ठाकुर
11	1210101000	Alotwala Mohammed Huzefa	मोहम्मद आलोटवाला
12	1210101001	Amalzia P. H	अमल्लिया पी एच
13	1210101002	Amulya Nagraj Kotera	अमूल्या नागराज कोटेरा
14	1210101003	Anushka Pandey	अनुष्का पांडे
15	1210101004	Aparna Mathur	अपर्णा माथुर
16	1210101005	Ashwin Karthik L	अश्विन कार्तिक एल
17	1210101006	Atharva Chavan	अथर्व चव्हाण
18	1210101007	B Krishnapriya	बी कृष्णप्रिया
19	1210101008	Battini Sagar	बत्तिनी सागर
20	1210101009	Bobbilapati Sushma Ranjitha	बोब्बिलापाटी सुषमा रंजीता
21	1210101010	Bodhai Sandip Pramod	संदीप प्रमोद बोधाई
22	1210101011	Busa Sai Lalithya	बूसा साई लालित्या
23	1210101012	Chandreyee Rana	चंद्रयी राणा
24	1210101013	Chetansingh Byali	चेतनसिंह ब्याली
25	1210101014	Chethana Adloori	चेतना अडलूरी
26	1210101015	Deepan A	दीपन
27	1210101016	Deshpande Akshara Anand	अक्षरा आनंद देशपांडे
28	1210101017	Drishti Agarwal	दृष्टि अग्रवाल

S. No.	Registration No.	Name of the Graduand	Hindi Name
29	1210101018	Fadil.M.T	फादिल एम.टी.
30	1210101019	Fiza Anise N	फिज़ा अनीस एन
31	1210101020	G Sri Saila Mallikarjun	जी श्री शैल मल्लिकार्जुन
32	1210101021	Gaikwad Akash Baban	गायकवाड आकाश बबन
33	1210101023	Gouri S	गौरी एस
34	1210101024	Hansika Bahl	हंसिका बहल
35	1210101025	Hrithwik Parambath	ऋत्विक् परमपथ
36	1210101026	Husna Afsar	हुस्ना अफ़्सार
37	1210101027	J S Kaviya Dharshine	जे एस कविया धर्शिनी
38	1210101028	Jadhav Sharyu Rajendra	शरयू
39	1210101029	Jonnagadla Sunilkumar Tanushri	जोन्नगडुला सुनील कुमार तनुश्री
40	1210101030	Josna Elsa Abraham	जोस्ना एल्सा अब्राहम
41	1210101031	Kalur Gayatri	कालुर गायत्री
42	1210101032	Kamalekaa R S	कमलिका रा शा
43	1210101033	Kanchan Sonawane	कंचन सोनवणे
44	1210101034	Kaushik Kabra	कौशिक काबरा
45	1210101035	Kerpa Meida Dkhar	केरपा मेइदा डखार
46	1210101036	Kethavathu Jaipal	केथावथु जैपाल
47	1210101037	Kezia Alin Shaji	केज़िया अलिन शाजी
48	1210101038	Khandelwal Diya Jugalkishore	दिया जुगलकिशोर खंडेलवाल
49	1210101039	Khushi Prashant Gadewar	खुशी प्रशांत गादेवार
50	1210101040	Lad Umesh Santosh	लाड उमेश संतोष
51	1210101041	Madhura Pandurang Patil	मधूरा पाटिल
52	1210101042	Mali Parth Ranjit	माळी पार्थ रणजित
53	1210101043	Mamidi V N S A Abhishek	मामिडि वेंकटा नागा शिवा अय्यप्पा अभिषेक
54	1210101044	Mandaogade Vedant Ajay	मांडवगडे वेदांत अजय
55	1210101045	Mariat Binu	मैरियट बिनु
56	1210101046	Mathura Trichy Anbazhagan	मथुरा त्रिची अनबलगन
57	1210101047	Mudita Rajesh Gaikwad	मुदिता राजेश गायकवाड
58	1210101048	Muhsina Shams	मुहसिना शम्स

S. No.	Registration No.	Name of the Graduand	Hindi Name
59	1210101049	Mutyala Namratha	नम्रता मुत्याला
60	1210101051	Nasih Ameen K	नासिह अमीन के
61	1210101053	Neha Kulkarni	नेहा कुलकर्णी
62	1210101054	Padalkar Srushti Girish	सृष्टी गिरीश पाडळकर
63	1210101055	Padmavathi Induri	पद्मावती इंदुरी
64	1210101056	Pandiri Rohini	पंदिरी रोहिणी
65	1210101057	Parag Chavhan	पराग श्रीराम चव्हाण
66	1210101058	Parth Galgate	पार्थ गळगटे
67	1210101059	Patidar Tanish Swapnil	पाटीदार तनिष स्वप्निल
68	1210101060	Patil Gayatri Sushil	गायत्री सुशील पाटील
69	1210101061	Penke Rakesh Chandra	पेन्के राकेश चंद्र
70	1210101062	Pilli Blessi	पिल्ली ब्लेसी
71	1210101063	Pratik Choudhury	प्रतीक चौधरी
72	1210101064	Priyanjali Das	प्रियांजली दास
73	1210101066	R Sanjay Ganapathi	संजय गणपति
74	1210101067	Revathi Nanicheri Veettil	रेवती नानीचेरी वीत्तिल
75	1210101068	Ridah Imtiaz Shaik	रिदा इम्तियाज शेख
76	1210101069	Rithika Vidhu	रितिका विधु
77	1210101070	Sakshi Pathak	साक्षी पाठक
78	1210101071	Samhitha Swarna Indukuri	संहिता स्वर्ण इंदुकुरी
79	1210101072	Samruddhi Kamble	समृद्धी सुशिल कांबळे
80	1210101073	Sangbedan Madhu	संगभेदन मधु
81	1210101074	Sanjeevi Krishnan S	संजीवि कृष्णन स
82	1210101075	Saumyajit Biswas	सौम्यजीत बिस्वास
83	1210101076	Shashang S J	शाशांग
84	1210101077	Shine Prakash.D	शाइन प्रकाश डी
85	1210101078	Shravani Vinayak Mhatre	श्रावणी विनायक म्हात्रे
86	1210101079	Siddharth Suresh	सिद्धार्थ सुरेश
87	1210101080	Simar Singh	सिंमर सिंह
88	1210101081	Snehitha Chavakula	स्नेहिता चावकुला
89	1210101082	Snigdha Manoj Puthiyedathveettil	स्निग्धा मनोज पुथियेदथ वीट्टिल

S. No.	Registration No.	Name of the Graduand	Hindi Name
90	1210101083	Tubati Venkata Ananya Apuroopa	तूबाटि वेंकट अनन्या अपूर्वा
91	1210101084	Vandanapu Sai Latha Rani	वंदनपु साई लता रानी
92	1210101085	Vidhi Ankur Desai	विधि अंकुर देसाई
93	1210101086	Vikas Verma	विकास वर्मा
94	1210101087	Vinnakota Sai Poojitha	साई पूजिता विन्नाकोटा
95	1210101088	Vividh Dhurwey	विविध धुर्वे
96	1210101089	Zoya Ali	ज़ोया अली
97	1200100908	Danish Mohammed	दानिश मोहम्मद
98	1200100930	Kamble Koustubh Nagsen	काम्बल कौस्तुभ नागसेन
99	1190100829	Elovito Ayemi	इलोविटो अयमी
100	1200100922	Indugubilli Sandeep	इंदुगुबिली संदीप
101	1180100733	Gayatri Bimal	गायत्री बिमल
102	1170100660	Dasari Tejashwini	दसारी तेजस्विनी

Bachelor of Building Science

List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2026

S. No	Reg No	Name of the Graduand	Hindi Name
1	1170100688	Mohamed Baiju Adil	मोहम्मद बैजू आदिल
2	1230101255	Rebeka Chandappa Lamani	रेबेका चंदअप्पा लमानी

PG Diploma in Sustainable Architecture

List of Graduands awarded Degrees in the 10th Convocation on 29.07.2026

Year of Passing: 2025

S. No	Reg No	Name of the Graduand	Hindi Name
1	1240500201	Sharon Charita G	शेरोन चरिता जी



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

***Revised Annexure – III:
Revised Course Structure and Detailed Syllabus
2026 of B.Planning***

Suggestions/Inputs - B. Planning - Course Structure

By

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S.No	<u>Suggestions/Inputs</u>	<u>Copmliance/Justifications.</u>
1	Overall , the course structure is in tune with the latest developments and trends in the planning field.	-
2	In the present day, rapid expansion of Indian cities includes not only new developments on the outskirts but also the renewal of existing areas, which are decaying. Renewal is a much more complex task than new development. Therefore, one of the studios may be dedicated to Urban Renewal. The studio needs to be at the 6th/7th semester level.	Urban Renewal components have already been taught extensively and explored as a part of the Area Development Planning studio (BPL311) in the 5 th Semester Studio exercise.
3	The subject BPL 124 – Planning Project Estimation at the second semester level is too rudimentary and does not consider the complexities of urban infrastructure. It is suggested that it may be shifted to a senior level to include the components of modern infrastructure, such as flyovers, tunnel roads, metro systems, etc.	The subject content is very basic at this level and it allows the exposure of various types of physical Infrastructure and its vital elements which plays pivotal role in physical planning. Planning Project Estimation introduced at the 2 nd semester for having basic understanding about the estimation of physical infrastructure at this level.
4	There is no mention of Internship, which, in my opinion, is critical today considering the expansion of planning jobs in the private sector. The internship can be planned in between semesters, either in one continuous stretch (preferable) or in two stretches.	Summer Internship has already been reflected in the Course- structure syllabus, i.e., there is a 4 – 6 weeks internship after completion of 2 nd year and 6 – 8 weeks after the completion of 3 rd year, in two stretches.
5	In the fourth semester, BPL 221 is Transportation Planning Studio and BPL 222 is Traffic and Transportation Planning. To provide better clarity, BPL 222 may be titled Traffic and Transportation Planning (Theory).	Noted for the compliance and the same has been incorporated in the course structure
6	Electives are offered from other departments at the 6th and 8th semester levels only. There is a strong case for extending this to the 5th and 7th semesters as well. The spirit of the National Education Policy (NEP) is to provide interdepartmental connections and offer more choices to students.	Electives from other departments have already been included in the 5 th , 6 th , 7 th and 8 th semesters. However, the word "Elective from other department", is missing – typo error and the same has been introduced.

7	On Page 105 (of 112), BPL 422 is written as Planning Legislation and Professional Practice in Planning. Please remove the last two words, "in Planning". It appears to be a typographical error.	Incorporated the change.
8	India has a number of global cities, including New Delhi, Mumbai, Bengaluru, Chennai, and Kolkata. These cities face severe problems related to infrastructure, pollution, governance, etc. Therefore, it is suggested that an elective on Global Cities may be introduced.	As suggested, the additional Elective titled "Global Cities" has now been incorporated in 8 th semester.
9	The concept of the 15-Minute City, proposed by Carlos Moreno, may be included under the subject BPL 223 – Contemporary Planning Theory.	As suggested the concept of 15-minute city has been incorporated in the Contemporary Planning Theory (BPL223) subject.

Bachelor of Planning

Course Structure

for

Four Year Under Graduate Degree Programme in Planning

*(To be effective from Batch admitted in A.Y. 2026-27 onwards. As approved by
Senate of SPA Vijayawada in its 24th Senate Meeting held on 21.07.2026)*



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education, Govt. of India

Course Structure for Bachelor of Planning

FIRST SEMESTER

S.N O	SUBJECT CODE ¹	NEP CODE ²	SUBJECT TITLE	Distribution of Periods per week			Total Periods per week	CREDITS
				L	T	S/P		
1	BPL111	FP	Graphics Studio	3	0	12	15	15
2	BPL112	DTS	Computer Applications and Programming	2	1	0	3	3
3	BPL113	IC	Introduction to Urban and Regional Planning	2	1	0	3	3
4	BPL114	FC	Evolution of Human Settlements	2	1	0	3	3
5	BPL115	FC	Quantitative and Qualitative Methods for Planners	2	1	0	3	3
6	BPL116	VAC	Surveying	1	2	0	3	3
TOTAL				12	6	12	30	30
1	BPL11AU1	PBOC	Technical Communication	1	0	0	1	0
2	BPL11AU1	PBOC	Hindi/Sanskrit	1	0	0	1	0

Note: S= Studio; L = Lecture Periods; T = Tutorial; P = Practical's/ Lab/ Workshop Periods; TP = Total Periods

SECOND SEMESTER

S.NO	SUBJECT CODE ¹	NEP CODE ²	SUBJECT TITLE	Distribution of Periods per week			Total Periods per week	CREDITS
				L	T	S/P		
1	BPL121	FP	Planning and Mapping Studio	3	0	12	15	15
2	BPL122	VAC	Introduction to Geoinformatics	1	2	0	3	3
3	BPL123	IC	Population and Settlement Geography	2	1	0	3	3
4	BPL124	FC	Planning Project Estimation	2	1	0	3	3
5	BPL125	FC	Elements of Economics for Planning	2	1	0	3	3
6	BPL126	FC	Elements of Sociology for Planning	2	1	0	3	3
TOTAL				12	6	12	30	30
1	BPL12AU1	PBOC	Human Rights and Constitutional Duties	1	0	0	1	0

Note: S= Studio; L = Lecture Periods; T = Tutorial; P = Practical's/ Lab/ Workshop Periods; TP = Total Periods

¹ Subject codes shall be read as: programme prefix + year + semester + subject number. For example, in BPL112, BPL stands for Bachelor of Planning, and the digits 1-1-2 indicate the 1st year, 1st semester, and 2nd subject. This pattern applies to all subject codes.

² Foundations Courses- FC; Professional Courses- PC; Interdisciplinary Courses- IC; Environment Education Courses- EEC; Value Added Courses- VAC; Community Engagement and Service- CES; Digital and Technological skills- DTS; Field Practice- FP; Programme Based Open-Audited Courses - PBOC (Non Graded)

Course Structure for Bachelor of Planning

THIRD SEMESTER

S.NO	SUBJECT CODE ¹	NEP CODE ²	SUBJECT TITLE	Distribution of Periods per week			Total Periods per week	CREDITS
				L	T	S/P		
1	BPL211	FP	Built Environment and Site Planning Studio	3	0	12	15	15
2	BPL212	FC	Planning Techniques	2	1	0	3	3
3	BPL213	FC	Planning Theory	2	1	0	3	3
4	BPL214	IC	Infrastructure Planning	2	1	0	3	3
5	BPL215	DTS	Advanced Geoinformatics	2	1	0	3	3
6	BPL216	FC	Spatial Data Infrastructure in Planning	2	1	0	3	3
TOTAL				13	5	12	30	30
1	BPL21AU1	PBOC	Community Welfare and Participatory Planning	1	0	0	1	0

Note: S= Studio; L = Lecture Periods; T = Tutorial; P = Practical's/ Lab/ Workshop Periods; TP = Total Periods

FOURTH SEMESTER

S.NO	SUBJECT CODE ¹	NEP CODE ²	SUBJECT TITLE	Distribution of Periods per week			Total Periods per week	CREDITS
				L	T	S/P		
1	BPL221	FP	Transportation Planning Studio	3	0	12	15	15
2	BPL222	FC	Traffic and Transportation Planning (Theory)	2	1	0	3	3
3	BPL223	FC	Contemporary Planning Theory	2	1	0	3	3
4	BPL224	EEC	Environmental Planning and Management	2	1	0	3	3
5	BPL225	IC	Urban Design and Renewal	2	1	0	3	3
6	BPL226	FC	Housing and Habitat Planning	2	1	0	3	3
TOTAL				13	5	12	30	30
1	BPL22AU1	PBOC	Reading and Comprehending Spaces	1	0	0	1	0

Note: S= Studio; L = Lecture Periods; T = Tutorial; P = Practical's/ Lab/ Workshop Periods; TP = Total Periods; Compulsory Summer Professional training/ internship (of four to six weeks) after fourth semester is to be undertaken by each student.

The compulsory internship shall be deemed as completed only when the Department of Planning examines the work of each student in the subsequent semester and declares it to be "Satisfactorily Completed".

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² Foundation Courses- FC; Professional Courses- PC; Interdisciplinary Courses- IC; Environment Education Courses- EEC; Value Added Courses- VAC; Community Engagement and Service- CES; Digital and Technological skills- DTS; Field Practice- FP; Programme Based Open-Audited Courses - PBOC (Non Graded)

FIFTH SEMESTER

S.NO	SUBJECT CODE ¹	NEP CODE ²	SUBJECT TITLE	Distribution of Periods per week			Total Periods per week	CREDITS
				L	T	S/P		
1	BPL311	FP	Area Development Planning Studio	3	0	12	15	15
2	BPL312	EEC	Real Estate Planning and Development	2	1	0	3	3
3	BPL313	IC	Integrated Planning for Informal Sector	2	1	0	2	3
4	BPL314	FC	Development Planning and Management	2	1	0	3	3
6	BPL315	FC	Rural Planning and Development	2	1	0	3	3
ANY ONE ELECTIVE:								
1	BPL3111	EEC	Planning and Management of Blue and Green Spaces	2	1	0	3	3
2	BPL3112	IC	Inclusive cities	2	1	0	3	3
3		—	Elective from other Dept. **	2	1	0	3	3
TOTAL				13	5	12	30	30
1	BPL31AU1	PBOC	Indian Economy -Module 1	1	0	0	1	0

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SIXTH SEMESTER

S.NO	SUBJECT CODE ¹	NEP CODE ²	SUBJECT TITLE	Distribution of Periods per week			Total Periods per week	CREDITS
				L	T	S/P		
1	BPL321	FP	Master Plan Studio	3	0	12	15	15
2	BPL322	FC	Regional Planning	2	1	0	3	3
4	BPL323	IC	Project Formulation and Appraisal	2	1	0	3	3
5	BPL324	DTS	Data Analytics and Programming in Planning	1	1	1	3	3
ANY TWO ELECTIVE:								
1	BPL3211	VAC	Freight Transport and Logistics	2	1	0	3	3
2	BPL3212	IC	Resilient and Sustainable Cities	2	1	0	3	3
3	BPL3213	IC	Approaches to Special Area Plan	2	1	0	3	3
4		—	Elective from other Dept. **	2	1	0	3	3
TOTAL				13	5	12	30	30
1	BPL32AU1	PBOC	Indian Economy Module -2	1	0	0	0	0

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The compulsory internship shall be deemed as completed only when the Department of Planning examines the work of each student in the subsequent semester and declares it to be "Satisfactorily Completed".

1 Subject codes shall be read as: programme prefix + year + semester + subject number. For example, in BPL112, BPL stands for Bachelor of Planning, and the digits 1-1-2 indicate the 1st year, 1st semester, and 2nd subject. This pattern applies to all subject codes.

Course Structure for Bachelor of Planning

² Foundation Courses- FC; Professional Courses- PC; Interdisciplinary Courses- IC; Environment Education Courses- EEC; Value Added Courses- VAC; Community Engagement and Service- CES; Digital and Technological skills- DTS; Field Practice- FP; Programme Based Open-Audited Courses - PBOC (Non Graded)

SEVENTH SEMESTER

S.NO	SUBJECT CODE	NEW CODE	SUBJECT TITLE	Distribution of Periods per week			Total Periods per week	CREDITS
				L	T	S/P		
1	BPL411	FP	Regional Planning & Development Studio	3	0	12	15	15
2	BPL412	FC	Dissertation – Formulation of Research Proposal	2	1	0	3	3
3	BPL413	IC	Urban Finance	2	1	0	3	3
4	BPL414	FC	Metropolitan Planning	2	1	0	3	3
5	BPL415	IC	Governance and Management	2	1	0	3	3
ANY ONE ELECTIVE:								
1	BPL4110	EEC	Environmental Impact Assessment	2	1	0	3	3
2	BPL4111	IC	Planning for Disaster Management	2	1	0	3	3
3		-	Elective from other Dept. **	2	1	0	3	3
TOTAL				13	5	12	30	30

Note: S= Studio; L = Lecture Periods; T = Tutorial; P = Practical's/ Lab/ Workshop Periods; TP = Total Periods

EIGHT SEMESTER

S.NO	SUBJECT CODE	NEW CODE	SUBJECT TITLE	Distribution of Periods per week			Total Periods per week	CREDITS
				L	T	S/P		
1	BPL421	FP	Dissertation	0	0	21	21	21
2	BPL422	FC	Planning Legislation and Professional Practice	2	1	0	3	3
3	BPL423	IC	Climate Change and Cities	2	1	0	3	3
ANY ONE ELECTIVE:								
4	BPL4211	VAC	Water Sensitive Urban Development	2	1	0	3	3
5	BPL4212	IC	Tourism Planning	2	1	0	3	3
6	BPL4213	IC	Global Cities	2	1	0	3	3
7		-	Elective from other Dept.	2	1	0	3	3
TOTAL				6	3	21	30	30

Note: S= Studio; L = Lecture Periods; T = Tutorial; P = Practical's/ Lab/ Workshop Periods; TP = Total Periods

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² Foundation Courses- FC; Professional Courses- PC; Interdisciplinary Courses- IC; Environment Education Courses- EEC; Value Added Courses- VAC; Community Engagement and Service- CES; Digital and Technological skills- DTS; Field Practice- FP; Programme Based Open-Audited Courses - PBOC (Non Graded)

Course Structure for Bachelor of Planning

Subject Categories: Marks and mode of evaluation

S. No	Subject Category	Credit	Internal		External		Total Marks
			Marks	Mode	Marks	Mode	
1	Theory (TC)	3	50	written test/ presentations	50	Written Exam	100
2	Studio	15	50	Jury (individual/ group presentations)	50	Jury	100
3	Lab based	3	50	Viva voce/ presentation/ written test	50	Viva voce/ presentation / written test	100
4	Dissertation	15	50	Jury (individual)	50	Jury	100
5	Audit (Theory)	0	50	Viva voce/ presentation/ written test	0	-	50

Semester Summary table: Courses, Credits and marks

S. No	Semester	Subjects	No.	Credits	Total Internal Marks	External Marks	Total Marks
1	1	Studio	1	15	50	50	100
		Theory	4	12	200	200	400
		Lab	1	3	50	50	100
		Audit (Theory)	1	0	50*	0	50
	Total		7	30	300	300	600
2	2	Studio	1	15	50	50	100
		Theory	5	15	250	250	500
		Lab	0	0	00	00	00
		Audit (Theory)	1	0	50*	0	50
	Total		7	30	300	300	600
3	3	Studio	1	15	50	50	100
		Theory	4	12	200	200	400
		Lab	1	3	50	50	100
		Audit (Theory)	1	0	50*	0	50
	Total		7	32	300	300	600
4	4	Studio	1	15	50	50	100
		Theory	5	15	250	250	500
		Lab	0	0	00	00	00

Course Structure for Bachelor of Planning

		Audit (Theory)	1	0	50*	0	50
	Total		7	30	300	300	600
5	5	Studio	1	15	50	50	100
		Theory	4	12	200	200	400
		Elective	1	3	50	50	100
		Audit (Theory)	1	0	50*	0	50
	Total		7	30	300	300	600
6	6	Studio	1	15	50	50	100
		Theory	3	9	100	100	200
		Lab	0	0	00	00	000
		Elective	2	6	100	100	200
		Audit (Theory)	1	0	300	300	600
	Total		7	30	300	300	600
7	7	Studio	1	15	50	50	100
		Theory	4	12	200	200	400
		Elective	1	3	50	50	100
	Total		7	30	300	300	600
8	8	Studio	1	21	50	50	100
		Theory	3	09	150	150	300
		Lab	0	0	00	00	00
		Audit (Theory)	0	0	00*	0	00
	Total		7	30	200	200	400

*Ungarded

Bachelor of Planning

Detailed Syllabus

for

Four Year Under Graduate Degree Programme in
Planning

*(To be effective from Batch admitted in A.Y. 2026-27 onwards. As approved by
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FIRST SEMESTER

BPL111 Graphics Studio	Subject Category	Studio
	Number of Credits	15
	Lecture Periods per Week	3
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	12
	Total Periods per Week	15

Subject Objective:

To inculcate the knowledge of basic technical drawing skills, visualization, presentation and representation techniques.

Unit I: Drawing Materials and Equipment

Introduction to drawing equipment - drawing boards, set squares, types of pencils, drawing pens, T-square, pro circles, French curves, parallel squares, types of brushes, water colours, crayons; paper - sizes, types, card boards, etc.; Folding of drawing sheets; Importance of graphics and visual presentations – manual and digital modes.

Unit II: Fundamental Elements of Drawing

Principles of composition; points, lines - types of lines, line thicknesses, line styles and intensities; polygons; dimensioning, lettering, standard symbols, colour-coding, legend, drawing formats, colour wheel, types and mixing of colours, tints, tones, etc.; Representation of human figures, trees, hedges, vehicles, etc.

Unit III: Geometric Shapes and Forms

Geometric patterns; Shapes and forms: Concept of positive and negative spaces; Principles of planar geometry, sections of solids; Simple and complex solids; Sketching of geometric built forms.

Unit IV: 3D Views and Projections

Orthographic projections, isometric, axonometric, oblique and perspective views – one point, two point and three points.

Unit V: Scale and Measured Drawing

Scale (numeric and graphic) and proportion in drawings; Measured drawing: Site plan indicating the footprint of building, open spaces, roads and other related objects; Plans, elevations and sections.

Note: All the tasks/drawings to be undertaken manually.

Total: 225 periods

Outcomes:

- Knowledge of drawing skills, visualisation, representation and presentation techniques, drawings materials and equipment's.
- Knowledge of 2D, 3D, Colour composition, geometric shapes and forms, scale, proportions and measured drawings.

References:

1)Bally, M., Neli (2007), Graphics for Urban Design,Thomas Telford Publishing Parkyn and David, London.

2)Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.

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3)Guptill, A.L (2014), Rendering in Pen and Ink: The Classic Book on Pen and Ink Techniques for Artists, Illustrators, Architects, and Designers, Potter/TenSpeed/Harmony.

4)Survey of India (2005), Working with Maps, Government of India. Dehradun.

5)TCPO (2004), Guide To Preliminary Planning Surveys of Urban Areas Including Land Use Classification, Ministry of Urban Development & Poverty Alleviation Government of India, New Delhi.

BPL112 Computer Applications and Programming	Subject Category	Jury
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To develop proficiency in the use of basic software and application in physical planning.

Unit I: Working with Word and Spread Sheet Packages (9 Periods)

Basics of word, working on layouts, document elements, tables, charts, referencing, index, referencing and standards; Preparation of reports; Working on digital presentations, slide designs and sequence; Spread sheets, tables, import and export of graphics, working on charts, analysis, tools and formulas, pivot and macros, advanced analysis in spread sheets.

Unit II: Data Base Management (9 Periods)

Introduction to data base management systems; Information systems in planning discipline, NIUS, National Spatial Data Management Systems, National Urban Information Systems, ENVIS, NIC, etc. DBMS, C++, JAVA, Python etc.

Unit III: Introduction to Computer Aided Drafting & Design (CADD) Software (9 Periods)

Need for automated design and drafting, tools for automated designs and drafting, elements of spatial data in CADD, basic commands in CADD - lines, rectangles, polylines, points, circles, donuts, layers, grids, snaps and object snaps, etc.

Unit IV: Editing and Controlling Display in CADD (9 Periods)

Move, scale, copy, offset, change, trim, extend, mirror, divide, measure, array, break, hatch, block, zoom, regen, view, pan, fonts, etc.; Common errors in scaling, printing and exporting and importing drawings; Creating non-printed output, exporting to dwf, pdf, jpeg, sending electronic transmittal sets, exporting a model to a 3D dwf; Print and plot concepts.

Unit V: Application of Software in Planning Discipline (9 Periods)

Introduction to CAD drawings, photo editing, audio and visual editing software and statistical tools; Application of these tools in planning discipline and e-governance.

Total: 45 periods

Outcomes:

- Knowledge on basic software's: CADD, word, spreadsheet, PowerPoint, preparing presentation and report.
- Knowledge of various drafting tools to prepare digital drawings, photo editing, audio and visual editing software's.
- Knowledge of presentation of data using charts and tables.

References:

1) Douglas, Seidler R (2007), Digital Drawing for Designers – A Visual Guide to AutoCAD, Firchild Publications, Inc., New York.

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- 2)Lillesand, T., Kiefer, W (2015), Remote Sensing and Image Interpretation, John Wiley & Sons Inc. New York.
- 3)Ministry of Housing and Urban Poverty Alleviation (2010), Guidelines for GIS Mapping, MIS Development and Integration of GIS with MIS, Government of India, New Delhi.
- 4)TCPO, MOUD (2006), National Urban Information System – Design and Standards, Gol, New Delhi.
- 5)TCPO, MOUD (2016), Formulation of GIS Based Master Plan for Amrut Cities Design & Standards, Gol.

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BPL113 Introduction to Urban and Regional Planning	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

An introduction to basic concepts and processes related to spatial planning.

Unit I: Planning Terminologies (9 Periods)

Definition of Urban and Rural; Basic definitions and frequently used terminology in planning – landuse, demography, physical infrastructure, social infrastructure and housing.

Unit II: Nature of Planning (9 Periods)

Introduction to the interdisciplinary nature of planning; Understanding development and the concept of 'effective change'; Resources and resource optimization.

Unit III: Levels of Planning (9 Periods)

An introduction to the Constitution of India; Nature of the Indian federal structure; Hierarchy of administrative boundaries in India; Various levels of planning; Reasoning and its various forms in planning - space, place and location.

Unit IV: Sourcing Information in Planning (9 Periods)

An introduction to Census of India, National Sample Survey Organisation etc., as sources of information; Introducing web based information portals and datasets as raw information sources.

Unit V: Planning Process (9 Periods)

Classical approaches to planning; Comparative understanding of the process, objectives and strategies; Sustainability and rationality in planning; planning knowledge – scope, sources and forms; Art of visioning; Forecasting and back-casting approaches; Definition of development plan; Types of development plans: master plan, structure plan, district plan, action area plan, subject plan, town planning scheme, regional plan, sub-regional plan; Planning advisory group report and URDPFI guidelines; Sector plans and spatial plans.

Total: 45 periods

Outcomes:

- Knowledge of Planning terminologies, fundamentals of Interdisciplinary nature of spatial planning, various levels of spatial planning and sources of secondary data for planning.

References:

- 1) Administrative Atlas of India (2011). <http://censusindia.gov.in/2011census/maps/maps2011.html>
- 2) Basu D.D (2011), Introduction to the Constitution of India, Nagpur, LexisNexis Butterworths Wadhwa.
- 3) Ebert, J.E.J. Et al. (2009), Forecasting and Backcasting: Predicting the Impact of Events on the Future, Journal of Consumer Research, Inc. Vol. 36.

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- 4) MOUD (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.
- 5) Peter, H., Mark, T.J. (2011), Urban and Regional Planning, Fifth Edition, Routledge, New York.

Syllabus for Bachelor of Planning

BPL114 Evolution of Human Settlements	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To gain insights into the evolution of human settlements from ancient to modern towns/ cities in relation to cultural, socio-economic aspects and human values.

Unit I: Introduction (9 Periods)

History of human settlements through civilizations – prehistoric, Indus valley, Mohenjo-Daro, Harappa, Sumerian, Egyptian, Greek, Roman and Chinese settlements, Inca Civilization.

Unit II: Ancient Settlement Planning of Towns and Cities (9 Periods)

Ancient planning principles from Manasara: case-studies of Hindu planned towns like Srirangam, Thanjavur, Varanasi, Chidambaram and Madurai; planning of Islamic towns; European medieval towns and cities; Euclidean zoning of cities; Vitruvius and Andrea Palladio views on towns and cities.

Unit III: Space, Time and Urban Structure (9 Periods)

City Beautiful Movement by Daniel Burnham, F.L. Wright's broad-acre city, Clarence Perry's neighbourhood unit formula; Ebenezer Howard's Garden City, contemporary city of Le Corbusier; Lewis Mumford's views on new social order, Dynapolis concept of Doxiadis; Radburn planning principles; Patrick Geddes and British town planning contributions in India.

Unit IV: Contemporary Towns and Cities (9 Periods)

Case studies in India and abroad: smart cities, technology-oriented towns, eco-towns, compact cities, global cities, and network cities.

Unit V: Contemporary Concept of Planning Region (9 Periods)

Concept of ring towns, satellite towns, counter magnets, urban sprawl, National Capital Region (NCR); Special Economic Zones (SEZ), Capital City Region, Investment regions, economic corridors, smart growth, transit-oriented development.

Total: 45 periods

Outcomes:

- Knowledge of evolution of planning of cities and towns during ancient, contemporary and modern times.
- The impact of cultural, socio – economic aspects with respect to planning.

References:

- 1) Binode, B. D (2009), Town Planning in Ancient India, Thacker Spink and Co., Calcutta.
- 2) Gallion, A (1963), The Urban Pattern; City Planning and Design, D.V. Nostrand Company Inc, New York.
- 3) Hudson, F.S (2017), Geography of Settlements, Macdonald and Evans Ltd. Estover, Plymouth, PZ Uk.
- 4) Srivastava, S. B (2010), Profession, Ethics and Human Values, Scitech Publications, Chennai.
- 5) William, M.B., Robert, E.G (2018), The Evolution of Human Settlements: From Pleistocene Origins to Anthropocene Prospects, Palgrave Macmillan, Springer International Publishing, Cham, Switzerland

BPL115 Quantitative and Qualitative Methods for Planners	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To acquire basic proficiency in statistical techniques.

Unit I: Statistical Data (9 Periods)

Statistics - its uses and limitations, statistical data and sources of data, universe and sampling; Methods and tools of data collection; Formulation of tools of data collection; Classification and tabulation of data; Presentation of data (diagrammatic, tabular, graphical); Sampling, data coding and validation, design of survey formats.

Unit II: Statistical Methods (9 Periods)

Frequency distribution; Measures of central tendency and dispersion; Correlation - simple correlation, karl pearson's and spearman's correlation, linear regression analysis.

Unit III: Probability and Theoretical Distributions (9 Periods)

Introduction to probability; Discrete random variables and probability distribution; Continuous random variables and probability distribution, probability density function. Binomial distribution; Poisson distribution; Normal distribution; Relation between binomial, normal distributions, poisson and normal distributions.

Unit IV: Index Numbers and Regression Analysis (9 Periods)

Types and methods of construction of index numbers; Test of consistency of index number formulae; Chain base index numbers and cost of living index numbers; Regression - Least Square Method, two stage regression analysis, confidence limits, tests of significance.

Unit V: Qualitative Methods (9 Periods)

Dimensions of qualitative research; Designing qualitative research; Terms and principles in qualitative data analysis; Content analysis; Narrative analysis; Discourse analysis for planning.

Note: Examples from urban planning may be applied in each unit.

Total: 45 periods

Outcomes:

- Knowledge of statistical methods, tools and techniques for application in planning.

References:

- 1) Giri P K. & Banerjee J (2013), *Introduction to Statistics*, Academic Publishers, Delhi.
- 2) Gupta, S.C (2009), *Fundamentals of Statistics*, Himalaya Publishing House, Mumbai.
- 3) Hastie, T., Tibshirani, R. and Friedman, J (2009), *The Elements of Statistical Learning*, Springer, USA.
- 4) Rochefort, D.A (2006), *Quantitative Methods in Practice*, CQ Press, USA.
- 5) Gupta, S.P., Gupta, M.P (2005), *Business Statistics*, Sultan Chand & Sons, New Delhi.

BPL116 Surveying	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To acquire proficiency in basics of Geoinformatics covering the topics related to surveying, remote sensing, photography, photogrammetry and GPS technologies.

Unit I: Fundamentals of Surveying (9 Periods)

Definitions, classifications, use, objectives and basic principles of surveying; Classifications of measurements and units, concepts of scales, maps and plan and use of conventional symbols; Chain surveying and compass surveying, plane table surveying and computations of areas, levelling and contouring.

Unit II: Fundamentals of Conventional Surveying (9 Periods)

Definition, principles, applications, advantages, and limitations of conventional surveying, Introduction to chain surveying and its uses, Instruments used in chain surveying, Survey framework: survey stations, survey lines, base line, tie line, and check line, Steps involved in a chain survey.

Unit III: Chain Surveying and Plan Preparation (9 Periods)

Selection of survey stations and survey layout, Ranging and chaining of survey lines, Measurement of offsets and field recording, Use of tie lines and check lines for accuracy, Plotting chain survey data and preparation of survey plans.

Unit IV: Contemporary Surveying Methods (9 Periods)

Digital planimeter, total station, Global Positioning System, Differential Global Positioning System.

Unit V: Applications (9 Periods)

Applications in urban and regional planning; Laboratory exercises.

Total: 45 periods

Outcomes:

- Knowledge of fundamentals of surveying, conventional and contemporary surveying methods and its application in urban and regional planning.

References:

- 1) Duggal, S.K (2017), Surveying, McGraw Hill Education (India) Private Limited, New Delhi.
- 2) Paul, R. Wolf (2013), Elements of Photogrammetry, McGraw Hill Education, CBS Publishers, New Delhi.
- 3) [Wilfried Linder](#) (2009), Digital Photogrammetry: A Practical Course, Springer Science & Business Media.
- 4) Charles, D.G., Paul, R.W (2011), Elementary Surveying: An Introduction to Geomatics, thirteen edition, Prentice Hall, New Delhi.
- 5) Kanetkar T.P (1994), Surveying and Levelling, Vols. I and II, United Book Corporation. Pune.

BPL11AU1 Technical Communication	Subject Category	Theory
	Number of Credits	0
	Lecture Periods per Week	1
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	1

Subject Objective:

To equip the students to present their work through reports and learn how to critically examine literature review for the purposes of developing an understanding about a particular topic.

Unit I: Written communication (3 Periods)

Language and communication, differences between speech and writing, distinct features of speech, distinct features of writing, Reading Skills to find out particular information and get the gist through notes, letters, articles, reports. English comprehension, paraphrasing, summarising and editing.

Unit II: Undertaking Literature Review (3 Periods)

Identification of credible journals, books, reports, etc.; How to read literature; Styles of referencing such as Harvard Style of Referencing, APA, etc., Understanding an argument, developing your own interpretations What is an argument, validity and strength of arguments, common fallacies of reasoning, use and abuse of language in reasoning.

Unit III: Format and Elements of Reports (3 Periods)

Types of reports, difference between technical, scientific, legal and other types of communication; specific characteristics of writing technical reports. Preliminaries: contents, preface, acknowledgements, list of tables and figures; Key words and indexing, Body: introduction, sections and sub-sections, or chapters, conclusions and recommendations; Appendices; References; knowledge of indexing and available reference materials.

Unit IV: Writing a Report (3 Periods)

Developing a coherent structure for a term paper and report; Introductory, developmental, transitional and concluding paragraphs, linguistic unity, coherence and cohesion, descriptive, narrative, expository and argumentative writing. Report writing.

Unit V: Review of Reports (3 Periods)

Students can review the reports of World Bank, UN, ADB, and other international organizations related to urban and regional planning.

Total: 15 periods

Outcomes:

- To demonstrate the ability to undertake literature review.
- To demonstrate written communication skills in English.
- To show knowledge about the elements of a report and correct ways of citing sources.
- To show knowledge and ability of structuring a report.

Syllabus for Bachelor of Planning

References:

- 1) Machi A.L., McEvoy B.T. (2016) Literature Review: Six Steps to Success, Corwin (Sage), New Delhi.
- 2) Kousoulas, C.A. (2019) Writing for Planners: Handbook for Students and Professionals in Writing, Editing, and Document Production, CRC Press, New York.
- 3) Macris, N. (2002) Writing in Planning English: Writing Tips for Urban and Environmental Planners, Routledge, New York.

SECOND SEMESTER

BPL121 Planning and Mapping Studio	Subject Category	Studio
	Number of Credits	15
	Lecture Periods per Week	3
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	12
	Total Periods per Week	15

Subject Objective:

- To develop proficiency in the preparation of base maps and thematic maps.
- To develop observation and mapping skills

Unit I: Introduction to Maps

Types and contents of maps – topographic, cadastral, land use, administrative maps, etc.

Unit II: Base Mapping Protocols

Choice of appropriate scale (graphic and numeric); orientation of maps; Title of sheet and lettering; Techniques of reducing and enlarging maps, legends items, notations, use of monochrome and colour.

Unit III: Techniques of Base Map Preparation

Tracing the topographic sheets manually by identifying the regional/district boundaries, city and municipal ward boundaries, existing settlement boundaries, major water bodies, reserve forests, rocky formations, ecologically sensitive areas, major roads, major electric power lines, historical monuments of national importance, and protected defense establishments; Using of appropriate legend items, standard patterns, symbols and notations.

Unit IV: Map Analysis

Superimposition of the cadastral map to identify the revenue boundaries; Ground verification of the region/area for up-dation and modification; Land suitability analysis; Layering exercises; Techniques and application.

Unit V: Preparation of Thematic Maps

Appreciation studies of land use classification of residential, commercial, institutional, transportation, recreation areas in small urban and/ or rural settlements; Tabulation and graphic presentation of statistical data; Use of monochrome and colour coding, black and white as presentation techniques by using internationally accepted hatching patterns. Field Measurement Book (FMB), Categorization of Land; Administrative Divisions, Land use calculations

Total: 225 periods

Outcomes:

- Knowledge on various types of maps, mapping protocols and techniques on base maps and thematic maps preparation.
- To develop an understanding of the key components of a city and show familiarity with the basic planning terminologies.

Syllabus for Bachelor of Planning

References:

- 1) Government of India (Ministry of Urban Development and Town and Country Planning Organization) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.
- 2) Peterson, G.N (2009), GIS Cartography: A Guide to Effective Map Design, Taylor & Francis, USA.
- 3) TCPO (2004), Guide To Preliminary Planning Surveys of Urban Areas Including Land Use Classification, Ministry of Urban Development & Poverty Alleviation Government of India, New Delhi.
- 4) [Brownill](#), S. (ed.) (2017) Localism and Neighbourhood Planning, Policy Press, Bristol.
- 5) [Parker](#), G., [Salter](#), K. and [Wargent](#), M. (2019) Neighbourhood Planning in Practice, Lund Humphries Publishers, London.

BPL122 Introduction to Geoinformatics	Subject Category	Jury
	Number of Credits	2
	Lecture Periods per Week	1
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To introduce the concepts of geo-informatics (remote sensing in particular) and to familiarize with the associated scientific tools, their relevance and applicability in urban planning.

Unit I: Introduction (9 Periods)

Planning Information Systems (PIS) – Components, data needs; PIS in India – NNRMS, NUIS, NSDI, National Urban Observatory, etc.; Spatial Data Infrastructure (SDI) - Framework of geo-spatial data, Users and tools, Agreements on geo-spatial standards, Policies for geo-spatial data, Institutional arrangements, use of SDI for urban and regional planning.

Unit II: Concepts of Remote Sensing (9 Periods)

Definitions, types of remote sensing – passive and active (LiDAR and RADAR); Concepts: electro-magnetic spectrum, energy interaction with surface features- spectral reflectance and emittance; multi concept in remote sensing.

Unit III: Data Acquisition (9 Periods)

Image data capture: types of platforms – satellite borne (sun synchronous and geo synchronous satellites), air borne and ground borne; Resource satellites – LANDSAT, IRS, CARTHOSAT, IKONOS, QUICKBIRD, etc.; Image resolutions – spatial, temporal, spectral and radiometric; Stereo satellite data.

Unit IV: Digital Image Processing, Photogrammetry and Analysis (9 Periods)

Geo-rectification - Earth shape, Earth surface projections and geoids, coordinates, geo- referencing; Digital image processing - interpretation enhancement, distortions, radiometric correction; Overlay of images, image data classification – supervised and unsupervised classification, image sub-setting and mosaicking; Photogrammetric methods - integration, application, stereo data analysis, stereoscopy, triangulation, terrain modelling, contour extraction, digital elevation model; Photogrammetry as an alternative tool for surveying; Introduction to aerial remote sensing and aerial photographs, classification; Principles of stereoscopic vision; Basic instruments - stereo-pair, pocket and mirror stereoscopes, parallax bars; Principles of photogrammetry, Measurement of heights and depths; Introduction to digital photogrammetry.

Unit V: Applications in Urban Planning (9 Periods)

Remote sensing for land management, land-use monitoring, municipal applications, cadastral purposes, environmental monitoring, utility mapping, etc.

Total: 45 Periods

Outcomes:

- To learn the concept of remote sensing, data acquisition, digital image processing and its application in urban planning

References:

Syllabus for Bachelor of Planning

- 1) Jensen, J.R (2000), Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice-Hall, New Jersey.
- 2) Joseph, G (2003), Fundamentals of Remote Sensing, University Press, Hyderabad.
- 3) Lillesand, T. and Kiefer, R.W (1987), Remote Sensing and Image Interpretation, Wiley.
- 4) Mario A. Gomasca (2009), Basics of Geomatics, Springer, Dordrecht.
- 5) Peter M Atkinson, (2009), Geoinformatics, Eolss publishers, Oxford.
- 6) Srivastava, G.S (2014), An Introduction to Geoinformatics, McGraw Hill Education (India) Pvt. Ltd, New Delhi.

BPL123 Population and Settlement Geography	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To understand the relationships of various attributes of demography, urbanization and settlement geography.

Unit I: Nature and Scope of Demography (9 Periods)

Definition of demography, need for demographic studies in Planning; Evolution of population study; Contribution of Malthus; Demographic variables - fertility, mortality; Types, trends, biological and social factors, measures of fertility, crude birth rate; Migration - types, trends, causes and consequences of migration, theories of migration, demographic transition.

Unit II: Demographic Analysis Studies (9 Periods)

Basics of population studies, source of demographic data, population structure and composition – age sex composition, sex ratio, dependency ratio, child-woman ratio; Measures of age–sex structure, age–sex pyramid.

Unit III: Population Projection Models (9 Periods)

Population projection methods; Population composition, marital status, caste, religion, educational background and occupation; Life table techniques; Basic Cohorts survival model, inter regional Cohorts survival model.

Unit IV: Study of Settlement Geography (9 Periods)

Need for the study of settlement geography; Definition of settlement; Settlement morphology, theories of settlement systems, ranking of towns; Settlements in regional context; Spatial models of location, size and spacing of settlements; gravity model.

Unit V: Regional and Urban Settlements (9 Periods)

Types of regions, delineation of regions, city region, structure of city region, area of influence and dominance, shadow regions, trickledown effect, rural-urban fringe and its structure and growth; City structure, theories of urban structure, classification of land uses in an urban area; Analysis of location, structure and models of growth patterns of CBD, industrial areas and residential areas; Intra-urban and inter-urban inequalities.

Total: 45 Periods

Outcomes:

- Knowledge of basics of demography, demographic analysis and population projection models.
- Knowledge of various types of urban, regional settlements and their growth pattern

Syllabus for Bachelor of Planning

References:

- 1) Carmichael, G. A. (2016) [Fundamentals of Demographic Analysis: Concepts, Measures and Methods](#), Springer International Publishing Switzerland.
- 2) Newbold, K.B (2013), Population Geography: Tools and Issues, Rowman & Littlefield Publishers. Lanham.
- 3) Population Geography: Tools and Issues, Rowman & Littlefield Publishers. Lanham.
- 4) Preston, S., Heuvaline, P (2000), Demography: Measuring and Modelling population processes, Blackwell Publisher Limited, UK.
- 5) Singh R.Y (2002), Geography of Settlement, Rawat publications. New Delhi.
- 6) Zelinsky W, A Prologue to Population Geography, Prentice-Hall Publications. New Jersey.

BPL124 Planning Project Estimation	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To understand the methods of estimating planning project costs.

Unit I: Introduction to Specifications (9 Periods)

What is specification and why it is needed for planners; Definition and contents; Different types of specifications; Elements and attributes of specifications; Standard units.

Unit II: Specification Writing (9 Periods)

Significance and methods of writing specifications; Issues related to housing, infrastructure, pumping, etc; general specifications for housing, city level infrastructure like water supply network, pumping stations, sewerage network, power supply, road network, street lighting, etc.

Unit III: Quantity Surveying (9 Periods)

Measurement of different quantities – buildings, roads, earth, water supply, sewer systems, etc.

Unit IV: Estimation (9 Periods)

Purpose of estimation, methods of estimation, types of estimates – approximate estimates, detailed estimate, levels of detailed estimate; Determination of rates of works involved in the infrastructure services (roads, water supply, sewer systems, etc).

Unit V: Planning Project Estimation (9 Periods)

Project case-study - land development cost; How to estimate development fees; Costing procedure; Raw land for different land use categories, development works, interest on investment, and phasing; Preparation of detailed development costs of a planning scheme for an approximate population of 5,000 as per norms and standards considering one element of infrastructure; Building management software like BIM may be introduced in the project.

Note: Course to be conducted through case studies.

Total: 45 Periods

Outcomes:

- Knowledge to write the specification and estimate the quantities required for various types of planning projects.

References:

- 1) Dutta, B.N (2003), Estimating and Costing in Civil Engineering, UBS Publishers & Distributors Pvt. Ltd., New Delhi.
- 2) Government of India (2003), CPWD Work Manual, CPWD, New Delhi.
- 3) Haroon, Mohammed (2012), A Book for Building Estimation, Rizwan Publisher, Hyderabad.
- 4) Kohli, D.D and Kohli, R.C (2004), A Text Book of Estimating and Costing (Civil), S.Chand & Company Ltd., New Delhi.
- 5) Patil, B.S(2015), Civil Engineering Contracts and Estimates, Orient Blackswan Private Ltd, New Delhi.

BPL125 Elements of Economics for Planning	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To provide essential knowledge of economics required for planners

Unit I: Definition and Scope of Economics

(9 Periods)

Definition of economics; Terms used in economics related to urban development; Central problems of economics; Basics of micro and macro-economics; use of economics in planning; Definition, nature, and scope of urban economics, concepts and theories of urban economics, economies of scale; Theory of rent, land use, welfare aspect of land rent;

Measurement of poverty.

Unit II: Theory of Demand and Supply

(9 Periods)

Definition of need, demand, and supply; Law of demand and supply, types of demand; Theory of demand and utility; Elasticity of demand and supply, its use in planning; Application of supply and demand in relation to housing and infrastructure services; Perfect and imperfect market types, market demand and supply; Pricing under different market conditions and the market mechanism, applications of theory in provisions of urban services.

Unit III: Production and Consumption

(9 Periods)

Labour, division of labour, labour market; Theory of production - factors of production, costs, scale of production and economies of scale; Consumption - theories of consumption; Urbanization in the context of economic system in urban area; Housing and economic importance including capital, and market; Urban Economic model related to land; Variations in rent, wage and density; Economic performance and efficiency in urban context.

Unit IV: Distribution and Employment

(9 Periods)

Theory of income, money and employment - types of unemployment, national income (GNP and NNP), fiscal policy and inflation; Types of inflation; multipliers, Indian financial institutions; Urbanization and urbanism – Social aspect of rural-urban migration and its impact on land use planning; Social planning and programs to reduce the poverty; Role of NGO's and community in physical planning in India abroad; Economic dynamic of urban areas; Economic planning and programs to reduce urban poverty; Role of bank and other economic institutions in physical planning in India abroad.

Unit V: Development and Investment

(9 Periods)

Classical and modern approaches, growth and development indicators; Defining development and under development; Imperfection of competition and economic role of government; Investment demand; Policies on investment (FDI and free trade), budgetary aspects and deficit; Housing investments.

Total: 45 periods

Outcomes:

- Knowledge of basic idea of economics, demand and supply, production and consumption, theory of income and employment and investment and their relevance with development.

References:

- 1) Benjamin S (2008), Occupancy Urbanism: Radicalizing Politics and Economy beyond Policy and Programs, International Journal of Urban and Regional Research, Vol. 32.3, September, 719-729.
- 2) Brenner N and Theodor N (2002), Cities and Geographies of “Actually Existing Neoliberalism”, Antipode, Volume 34, Issue 3, 349-379.
- 3) Curwen P(2017), Principles of Micro economics, Routledge.
- 4) De Souza M (2010), Which Right to Which City? In Défense of Political- Strategic Clarity, Interface, Vol 2(1), May, 315-333.
- 5) Jhingan M.L(2014), The Economics of Development and Planning, Vrinda Publications P Ltd., India
- 6) Kumar A and Ray R (2012), Decentralized Planning in India-A Myth or a Reality, Development Alternatives Newsletter, August, 2012. New Delhi.

BPL126 Elements of Sociology for Planning	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To make the students understand the main concepts and perspectives of sociology and its related issues in the Indian context.

Unit I: Introduction to Sociology (9 Periods)

Definition, meaning, importance and scope of sociology, urban sociology and rural sociology; Levels of social organisation and evolution of social institutions; Expressions of different scales of social organisations in built form, urban sociology, social anthropology; Concepts and theory of urban sociology, urban social institution and social organizations; Character of urban community.

Unit II: Social Institutions (9 Periods)

Family, marriage kinship pattern and authority; Religion and social work and significance in planning; Voluntary associations (identifying NGOs and involving them as partners of development, operational issues); Groups (primary, secondary and reference groups); Urbanization and housing- housing needs in context to changing family structure and life style, social segregation and integration; Social impact assessment of urban development programmes, informal settlements and inclusion issues.

Unit III: Sociological Theories and Methods (9 Periods)

Traditional and modern theories of sociology – understanding society man and environment; Culture of space and cultural ecology; Social structure and social control; Stratification and social inequality; Social mobility and social defiance, inclusiveness and exclusion.

Unit IV: Sociology of India (9 Periods)

Basic features of Indian society and culture - language, religion, caste and tribes; rural community and its relationship with urban community; Social division of urban and rural poor and poverty situation.

Unit V: Planning in the Context of Social Problems (9 Periods)

Social problems due to urban–rural migration, resettlement and rehabilitation, industrialization; Social problems of urban community and other issues – gender issues, vulnerability of marginal groups in urban settings, crime delinquency, violence, etc.; Role of planning in addressing social issues with case examples.

Total: 45 periods

Outcomes:

- Knowledge on basics of sociology, social institutions, sociological theories and methods
- Understanding of social problems, considering the diverse culture and planning in Indian Context.

Syllabus for Bachelor of Planning

References:

- 1) Giffings, Franklin. Henery (2011), Elements of Sociology, Macmillan & Co., Ltd., London.
- 2) Gyoujin Cho (1976), Global Review of Human Settlements, Pergamon Press, London.
- 3) Paul Zucker (1996), Town and the Square, Columbia University Press, New York.
- 4) Planning Commission (2011), India Human Development Report 2011: Towards Social Inclusion, Oxford
- 5) Wilson R.A & D.A. Schulz (1978), Urban Sociology, Prentice Hall Inc., New Jersey.

BPL12AU1 Human Rights and Constitutional Duties - Audit	Subject Category	Theory
	Number of Credits	0
	Lecture Periods per Week	1
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	1

Subject Objective:

To make the students understand the main concepts of Human Rights and Constitutional Duties.

Unit I: Human Rights and Duties - Concept and Nature (3 Periods)

The Basic Concepts: Individual, Group, State, Non-State Actors, Civil Society, Liberty, Freedom, Equality, Rights, Justice, Human Values: Humanity, Compassion, Virtues, Human Dignity and Human Duties; Rule of law.

Unit II: Origin and Evolution of Human Rights and International Standards (3 Periods)

Vienna Declaration on Human Rights 1993, Helsinki Declaration, ASEAN Human Rights Declaration (2012 & 2025).

Unit III: Society, Economy, Polity, Religion and Culture - Their Inter-Relationship (3 Periods)

Rural Poverty, Unemployment, Bonded Labour, Modern Forms of Slavery; Urban Poverty, Slums, Lack of Basic Civil Amenities; Rights of Refugees, Rights of Indigenous People, Aged Persons, Migrant Workers and Human Rights Violations, Human Rights of Persons with Disabilities (PwDs) under the Rights of Persons with Disabilities Act, 2016, Rights of Displaced Persons;

Unit IV: Indian Constitution (3 Periods)

Evolution, Features, Amendments, Significant Provisions and Basic Structure of Indian Constitution; Functions and Responsibilities of the Union and the States, Federal Structure, Devolution of Powers and Finances up to Local Levels; Parliament and State Legislatures—Structure, Functioning, Conduct of Business, Powers & Privileges; Structure, Organization and Functioning of the Executive and the Judiciary—Ministries and Departments of the Government; Pressure Groups and Formal/Informal Associations and their Role in the Polity; Public Interest Litigation (PIL), Indian Judiciary and Human Rights; Judicial Interpretations: Landmark Judgments Fundamental Duties; Constitutional Amendments; Fundamental Duties.

Unit V: Constitutional Governance (3 Periods)

Constitutional Organs: Inter-and intra-Relationships/Conflict and Cooperation; Fundamental Rights and Repressive Laws: Preventive Detention and Anti-Terrorist Legislations, Armed Forces Special Power Act linking with Urban Safety.

Total: 15 periods

Outcomes:

- Knowledge on basics of Human Rights and Constitutional Rights.

References:

- 1) Constitution of India.
- 2) Vienna Declaration on Human Rights 1993, World Conference on Human Rights in Vienna.
- 3) Rights of Persons with Disabilities Act, 2016.

THIRD SEMESTER

BPL211 Built Environment and Site Planning Studio	Subject Category	Studio
	Number of Credits	15
	Lecture Periods per Week	3
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	12
	Total Periods per Week	15

Subject Objective:

To understand the built environment and components of site planning.

Unit I: Introduction to Site Planning

Site planning process, site and user analysis including built environment and the quality of life.

Unit II: Site Analysis

Site analysis – inventory, topography – understanding contours, cut and fill, geomorphic approach to site development, soils, slopes natural drainage systems, implications in planning and development of the site; General principles and factors to be considered in planning and development of service networks, zones, and location of activities and buildings.

Unit III: Study of Built Environment

Factors and concepts related to built environment – climate, site characteristics, landform, visual elements, behavioural factors and space utilisation.

Unit IV: Study of Existing Layouts

Study and documentation of a planned housing layout; Blocks, building mass and void analysis, built form and open space relationships, three-dimensional relationship of spaces, density, footprints, layout regulations, infrastructure components, circulation, landscape elements, etc. study of residential, commercial, institutional or industrial neighbourhoods.

Unit V: Project

Preparation of a layout - residential, commercial, institutional or industrial uses; Selection of appropriate case studies, data collection - primary and secondary data as applicable; Analysis, evaluation of standards, formulation of alternative strategies and final proposal.

Total: 225 periods

Outcomes:

- Knowledge of various components of site planning and analysing existing layouts.
- Capability to prepare layout for various land uses.

References:

- 1) Dechiara, Joseph., Panero, Julius and Zelnik, Martin (2001), Time-Saver Standards for Interior Design and Space Planning, Mc-Graw hill, second edition, Boston.
- 2) Russ, T. (2009) Site Planning and Design Handbook, Second Edition, McGraw Hill, New York.

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3) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.

4) LaGro, J.A. Jr. (2013) Site Analysis: Informing Context-Sensitive and Sustainable Site Planning and Design Third Edition, Wiley International, New York.

5) Lynch, K. (1984) Site Planning, Third Edition MIT Press, USA.

BPL212 Planning Techniques	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To develop proficiency in applying suitable techniques of analysis in planning exercises.

Unit I: Population Models (9 Periods)

Parameters for study of population characteristics; Techniques of population projections including cohort survival method; Population accounting.

Unit II: Employment Analysis (9 Periods)

Employment mobility and analysis of distribution vis-a-vis place of residence; Basic and secondary employment, multiplier analysis.

Unit III: Input-Output Analysis (9 Periods)

Multi-sector input-output modelling; Formulation of contingency tables; Input and output factors analysis.

Unit IV: Representation Protocols, Norms and Spatial Standards (9 Periods)

Land use and land cover classification and coding at various levels; Colour and black and white presentation techniques. Spatial Standards for residential, industrial, commercial and recreational areas, space standards for facility areas, utilities and networks; Population, Distance criteria; Performance standards; Case studies.

Unit V: Delineation Techniques and Location Analysis (9 Periods)

Gravity Model, Centographic Technique, Distance functions. Use of Techniques of Location Quotient, Coefficient of Localization; Shift Share Analysis; Regional Delineation Techniques, Factor Analysis, Cluster Analysis; Flow Analysis; Case studies in Regional Delineation. Thresholds Analysis, Retail and Industrial Location Analysis; Intervening Opportunity Models; Linear Programming; Simulation; Applications in Planning.

Total: 45 periods

Outcomes:

- Application of various techniques related to population, employment and delineation of cities and region.
- Ability to apply planning techniques and tools in settlement planning.

References:

- 1) Field, B. and MacGregor, B.D. (2018) Forecasting Techniques for Urban and Regional Planning, Taylor and Francis Group, London.
- 2) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.

Syllabus for Bachelor of Planning

- 3) Sachithanandan (2004), Reading material on Planning Techniques, Institute of Town Planners India, New Delhi.
- 4) Kelley R.M. (1988) Planning Techniques (Basic and Advanced), Kelley Communication Development, Indiana University Press, Bloomington, Indiana.
- 5) Wang, Xinhao & Hofe, Rainer vom (2007), Research Methods in Urban and Regional Planning, Springer Berlin Heidelberg, New York.

BPL213 Planning Theory	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Basic and traditional theoretical framework to establish the rationale of spatial planning as a profession.

Unit I: Planning Theory (9 Periods)

Understanding the concept of theory in general; Differentiating between theories of planning and theories in planning and theories about planning; Significance of planning theory; Definitions, various issues and their critical evaluation; Understanding the paradigms and its stages of development.

Unit II: Rationality in Planning (9 Periods)

Understanding rationality and sustainability in planning in general; Introduction to categories of rationality and associated paradigms; Instrumental rationality and its associated schools of planning processes; means-ends planning.

Unit III: Types of Planning Approaches (9 Periods)

Introduction to synoptic, incremental, transactive, advocacy and radical theories of planning; Relating SITAR with purpose and process of planning; Reasoning and its various forms in planning - space, place and location; Participatory planning and action planning; Deductive and inductive methods; Prescriptive versus inclusive planning.

Unit IV: Theories of Urban Growth (9 Periods)

Classical theories of urban structure - concentric zone theory, sector theory; Multiple nuclei theory, etc. Forms of cities in the developed and developing world; Smart cities, compact cities, global cities, hierarchy in global cities; Agglomerations of scale, economies of scale and urban agglomeration; Location theories, concentric zone theory, bid rent theory, sector theory; Cross border regions (CBRs).

Unit V: Planning, Implementation and Evaluation (9 Periods)

Need for evaluation; Inseparability of planning and evaluation; Planning theories and evaluation; Methods of evaluating development plans; Theories of implementation of planning policies and development plans.

Total: 45 periods

Outcomes:

- Basic knowledge of planning theories and approaches, theories of urban growth, sustainability and globalization in planning.

References:

- 1) Davidoff, P (1965), Advocacy and Pluralism in Planning, Journal of American Institute of Planners, USA.
- 2) Faludi.A (1973), Planning Theory, Pregamon Press, Oxford.
- 3) Urban Planning Theory Since 1945, Nigel Taylor, Sage, 2007

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- 4) Alexander, E.R. (2006) Evaluation in Planning: Evolution and Prospects, Routledge, London.
- 5) Readings in Planning Theory, Susan Fainstein and Scott Campbell, Blackwell Publishers, 2003.

BPL214 Infrastructure Planning	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To impart basic knowledge sets on Infrastructure, its relation to planners in settlement planning and planning and design considerations of Infrastructure development.

Unit I: Introduction, Basic Concepts and Water Supply System (9 Periods)

Definition of Infrastructure and its components, Objectives of utilities and services planning; Hydrological cycle; Introduction to the institutions related to infrastructure services. Water supply sources, treatment system and types, distribution system and types, pressure requirements; Water requirements for domestic and non-domestic purposes of a settlements, fire fighting, seasonal variations in demand and factors affecting water demand; Standards of water demand per capita, variations of water demand and consumption, requirements of distribution and storage; pipe network analysis.

Unit II: Storm Water System (9 Periods)

Estimating storm run-off, Dry Weather Flow (DWF) and Storm Weather Flow (SWF), run-off coefficient, rainfall intensity, time of concentration; Gravity flow, hydraulic gradient line, Manning's formula and nomographs, full flow and partial flow; Layout and design of storm water system; General considerations, inlets, self-cleansing velocity, non-scouring velocity, physical layout-design principles, data requirement; Rain water harvesting.

Unit III: Sanitation (9 Periods)

On-site detention, design procedure for on-site detention; Low-cost appropriate technologies for sanitation; Sanitary sewer system, sewer network, materials used; Sewer system location and layout, data needs and procedure of planning; Quantity of sewage, standards for Indian cities, sewer appurtenances; Sewer pumping and forced main manholes. Decentralised Wastewater Treatment Systems (DEWATS); Concepts and application of Integrated Urban Water Management (IUWM); Cost recovery methods of infrastructure planning and development projects; Growth pay itself, development charge; Service Level Benchmarks (SLBs) and reforms.

Unit IV: Solid Waste Management and Energy (9 Periods)

Solid waste and types, municipal solid waste management rules 2000 and 2013; Stages of solid waste management and current practices; Composting process, Indore and Bangalore methods, concepts of re-use and recycle, e-waste and bio-medical waste generation and treatment methods. Power, sources of generation, transmission and distribution, national grid, high tension lines and buffer; gas storage and supply, telecommunication lines.

Unit V: Social Infrastructure (9 Periods)

Components and types of social infrastructure; Education facilities, categories and standards; Health care facilities, categories and standards; socio-cultural facilities and other infrastructure services include milk distribution centers, police station and posts, control room, fire stations and disaster

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management center and etc.; Provision of open spaces, parks, playgrounds, cremation grounds and multipurpose grounds category wise.

Note: Field Based Observations and learnings to be carried out as appropriate to the units.

Total: 45 periods

Outcomes:

- Knowledge and skillsets on planning for physical infrastructure for various settlements.

References:

- 1) CPHEEO, "Manual on Water Supply and Treatment" & "Manual on Sewerage and Sewage Treatment" & "Manual on Solid Waste Management", Ministry of Urban Development, New Delhi.
- 2) Nathanson, Jerry A (2008), Basic Environmental Technology, Water Supply, Waste Management and Pollution Control, Fifth Edition, Vol. 1. Pearson Prentice Hall, New Delhi.
- 3) Ministry of Urban Development (2009), Service Level Benchmarking; water supply, waste water, storm water and solid waste, Government of India, New Delhi.
- 4) Elmer, V. and Leigland, A. (2014), Infrastructure planning and finance. New York: Routledge.
- 5) Rastogi, Anupam (2007), India Infrastructure Report, 3i-network, New Delhi.

BPL215 Advanced Geoinformatics	Subject Category	Lab
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Introduce advanced concepts of geo-informatics; integration and analysis using GIS, RS and GPS; applications in planning.

Unit I: Introduction to GIS (9 Periods)

Concepts and components - thematic modelling, types of GIS, vector features – point, line, polygon and annotation.

Unit II: Digital Map Preparation (9 Periods)

Creation of vector data- spatial referencing and adjustment, working space and print space, digitization / vectorisation, working with different layers, grid, title panel; Quality check – topology creation, error check and correction; attribute data creation, integration and query.

Unit III: Analysis and Modelling in GIS (9 Periods)

Spatial analysis – multi-criteria overlay, distance, proximity, buffer; Attribute for spatial modelling; 3D modelling - digital terrain modelling, triangulated irregular network; Model builder.

Unit IV: Applications in Urban Planning (9 Periods)

Case studies - advanced spatial econometric analysis, land suitability and impact assessment.

Unit V: Emerging Concepts and Trends (9 Periods)

Dynamic GIS, geo-coding and geo-tagging – integration of GIS and GPS, web-enabled GIS; Spatial Data Infrastructure.

Total: 45 periods

Outcomes:

- Apply advanced geoinformatics techniques using GIS, Remote Sensing, GNSS, and spatial analysis tools to solve complex environmental, urban, and infrastructure planning problems.
- Develop and interpret geospatial databases and thematic maps for decision-making by integrating multi-source spatial data and employing advanced geospatial modeling and visualization techniques.

References:

- 1) Longley, P (2015), Geographic Information Systems and Science, 4th Edition. John Wiley & Sons.
- 2) O'Sullivan, D., Unwin, D (2010.), Geographic information analysis. 2nd ed. Hoboken, NJ: Wiley.
- 3) Awange., J, Kiema (2019), Environmental Geoinformatics, Springer International Publishing.
- 4) Elangovan, K. (2010), GIS: Fundamentals, Applications and Implementations, New India Publishing Agency, New Delhi.
- 5) Kennedy, M. (2013), Introduction to Geographic Information Systems with ArcGIS: A Workbook Approach, 3rd Ed. Wiley. Denver.

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6) Ministry of Housing and Urban Poverty Alleviation, (2010), Guidelines for GIS Mapping, MIS Development and Integration of GIS with MIS, Government of India. New Delhi.

7) Piotr, Jan Kowski (2010), Regional and Urban GIS: A decision Support approach, Jaipur Publishers, Rowat.

BPL216 Spatial Data Infrastructure in Planning	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To provide exposure to the students to the available spatial data and organizations involved in providing planning information and also to impart skills for the use of this planning information.

Unit I: Planning Information Systems (9 Periods)

Systems approach to planning as basis for planning information systems; Systems, hierarchy, types; Data and information, value of information, information flows and loops; Information sharing and security; Information systems, types, limitations; New sources of data such as big data and real data.

Unit II: Human Settlements and Planning Information Systems (9 Periods)

Information needs, scales and levels of human settlements; Preconditions for using planning information systems; Introduction to various planning information systems; Introduction to spatial data infrastructure; Planning information systems in India: NNRMS, NUIS, National Urban Observatory, Municipal information systems, land information systems, cadastre systems; Tools for spatial data handling; Introduction to GIS; BHUVAN; Agencies responsible for generating spatial data.

Unit III: Developing an SDI for a Selected area and Settlement for Planning (9 Periods)

Building an SDI and using it in the planning and decision making processes; Data streaming and mining of spatial data infrastructure; Use of Remote Sensing and GIS for developing SDI for a selected area for planning and management or administrative decisions. Application of open software for SDI; Real time technologies and their applications, web based models for spatiotemporal predictions, and decentralised planning; Satellite based and other real time technologies and their use in identifying physical changes and transformations and their applications in urban and rural areas.

Unit IV: SDI for Planning and Decision Making (9 Periods)

Regional resource management, regional water and sanitation management and SDI; SDI for economic and environmental decision making, infrastructure planning and management, transportation planning, e-governance, flash flood warning systems in river and coastal belt, planning for disaster prone, etc.

Unit V: Applications of SDI (9 Periods)

SDI initiatives at global, national, regional and local levels; Case study of implementation and success of SDI in different levels of planning and resource management.

Total: 45 periods

Outcomes:

- Understand the principles and components of Spatial Data Infrastructure (SDI) and evaluate its role in geospatial data sharing, interoperability, and spatial planning.
- Apply SDI frameworks and geospatial standards to manage, integrate, and disseminate spatial data for effective urban, regional, and environmental planning and decision-making.

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References:

- 1) Ralph, M.S., George, W. R. (2016) Fundamentals of Information Systems, Cengage Learning, Boston. 4. Herold, M. and Gamba, P. (2009)
- 2) Global Mapping of Human Settlement: Experiences, Datasets, and Prospects, CRC Press, Taylor and Francis, Boca Raton, Florida.
- 3) Masser, I. (ed.) (2019) Geographic Information Systems to Spatial Data Infrastructures: A Global Perspective, CRC Press, Boca Raton, Florida.
- 4) Sadahiro, Y. (ed.) (2008) Spatial Data Infrastructure for Urban Regeneration, Springer, Germany.
- 5) Williamson, I., Rajabifard, A., and Feeny, M.E.F. (ed.) (2003) Developing Spatial Data Infrastructures: From concept to reality, Taylor and Francis, London.

BPL21AU1 Community Welfare and Participatory Planning - Audit	Subject Category	Theory
	Number of Credits	0
	Lecture Periods per Week	1
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	1

Subject Objective:

The course intends to sensitize the students to the importance of participatory processes and integrated institutional arrangements for more effective, efficient and sustainable implementation.

Unit I: Understanding Public participation (3 Periods)

Understanding participation, conditions for effective participation; idea of power and representation in participatory process, Arenas of participation; Brief introduction to theories on citizen and community participation such as Arnstein's ladder of citizen participation.

Unit II: Public Participation in India (3 Periods)

Channels of public participation in plan making, plan implementation and governance in India; Legislative provisions; mandated and claimed spaces of participation; Requirements for planning a participatory process; evolution of community participation in development projects; Pani Panchayats.

Unit III: Horizontal and vertical integration (3 Periods)

Coordination in planning, understanding various kinds of public agencies involved in urban development and coordination for the purpose of planning projects and management in urban areas and regions; Current practices of cross-sectoral development, and case studies.

Unit IV: Participatory and integrated urban development – Case Studies (3 Periods)

Based on the conceptual understanding developed in the first two parts of the course, this section will develop an understanding of the idea of Participatory and Integrated Urban Development through case studies of multi-stakeholder projects.

Total: 15 periods

Outcomes:

- Understand the principles of community welfare and participatory planning and evaluate their role in promoting inclusive, equitable, and sustainable development.
- Apply participatory planning methods and stakeholder engagement techniques to identify community needs, formulate development strategies, and support effective planning and decision-making.

References:

- 1) Albert, M., & Hahnel, R. (1992). [Participatory planning](#). Science & Society, 1, 39–59.
- 2) Alexander, E. R. (1992). [A transaction cost theory of planning](#). Journal of the American Planning Association, 58(2), 190–200. doi.org/10.1080/01944369208975793
- 3) Cornwall, A. (ed.) (2011) The Participatory Reader, Zed Books, London.
- 4) Kochi Municipal Corporation and GIZ (2019) Multi-stakeholder Ente Kochi Initiative, Kochi Municipal Corporation and GIZ India, Kochi.

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5) Kumar, A. and Prakash, P. (eds.) Public Participation in Planning in India, Cambridge Scholars Publishing, Newcastle.

6) UN Habitat (2018) Leading Change: Delivering the New Urban Agenda through Urban and Territorial Planning, UN Habitat, Nairobi.

FOURTH SEMESTER

BPL221 Transportation Planning Studio	Subject Category	Studio
	Number of Credits	15
	Lecture Periods per Week	3
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	12
	Total Periods per Week	15

Subject Objective:

To inculcate knowledge related to traffic surveys, their analysis and interpretation in real traffic and transportation problems.

Unit I and II - Part A: Basic Surveys

Conduct, analyse, interpret, and produce reports on various traffic and transport planning surveys; Road and intersection inventory, traffic volume counts, origin destination, spot speed, speed and delay, parking, pedestrian, public transport surveys, etc.

Unit III, IV and V - Part B: Transport Planning Project

Two comprehensive field-based studio assignments spread over the semester, which shall cover the following:

Understanding of traffic and transportation related problems at the local / sub-city level and developing appropriate plans (using tools like traffic impact assessment for change of land use, appraisal of local transport projects, area level traffic management, and circulation plans, etc.)

City level appraisal of traffic and transportation issues and different transportation systems, mobility planning, interrelation of traffic problems with development issues; Traffic impact assessment proposals for given site conditions; Interpretation of data, working on various strategies, suggesting transport systems and policy based proposals for the problems and constraints of a particular settlement.

Total: 225 periods

Outcomes:

- Basic knowledge of traffic and transportation related problem and develop appropriate transport plans.
- Capability to conduct various survey related to transport plan.

References:

- 1) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.
- 2) Kadiyali L. R (2007), Traffic Engineering and Transport Planning, Khanna Publishers, New Delhi.
- 3) Kadiyali L. R (2007), Traffic Engineering and Transport Planning, Khanna Publishers, New Delhi.
- 4) Kansal P (1998), Reading Material on Advanced Transportation Planning, ITPI, New Delhi.
- 5) Ortuzar J (2001), Modelling Transport, Wiley, New York.
- 6) Rodrigue, J. P (2013), The geography of Transport systems. 1 ed. Abingdon: Routledge.

BPL222 Traffic and Transportation Planning	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To inculcate basic knowledge of traffic surveys, infrastructure design and concepts of planning.

Unit I: Concept, Role and Significance of Transport Planning (9 Periods)

Various systems of transport, its characteristics and role in development of a nation; Economic, political and social significance and transport development; Transport policies and programmes; Current trends in road development; Traffic and transport problems and issues; Emerging concepts - TOD, NMT, MRTS, RRTS and Universal Accessibility.

Unit II: Traffic Surveys and Data Collection (9 Periods)

Vehicle types, capacity, design of survey formats and questioners; Classified volume count, origin destination, spot speed studies, Block Spots, parking, pedestrian volume studies, collection of travel data from household surveys, traffic assessment- traffic density, traffic flow and speed; Traffic, travel and network characteristics and their significance in planning and design of transport infrastructure.

Unit III: Road Transport Infrastructure (9 Periods)

Road hierarchies, classification, capacity and level of service; space standards for road design, intersection types; Uncontrolled, controlled; Space sharing and time-sharing junctions; Cycling and pedestrian systems. Planning Guidelines for Road Users; Road Signage.

Unit IV: Geometric Design of Road and Intersections (9 Periods)

Vehicle characteristics and road characteristics; Components of geometric design-design speed; Horizontal and vertical alignment, network alignment planning, sight distance, cross-section elements, lateral and vertical clearance, control of axis.

Unit V: Traffic Systems Management (9 Periods)

Objectives, principles and approaches for traffic management, regulatory measures, physical measures, signal control at intersections and networks, driver information systems; Travel Demand Management; Demand Management Strategies.

Total: 45 periods

Outcomes:

- Basic knowledge on different traffic surveys and design for road transport.
- Basic knowledge on fundamentals of traffic flow theory.

References:

- 1) Principles of Urban Transport Systems Planning, B.G. Hutchinson, McGraw Hill Publications, 1974
- 2) Transportation Engineering and Planning, C. S Papacostas, PHI Learning Publications, 2009
- 3) Kadiyali L. R (2007), *Traffic Engineering and Transport Planning*, Khanna Publishers, New Delhi.

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- 4) Transportation Systems Engineering: Theory and Methods, Ennio Cascetta, Kluwer Academic Publishers, 2001
- 5) Ortuzar J (2001), *Modelling Transport*, Wiley, New York.
- 6) Rodrigue, J. P (2013), *The Geography of Transport Systems*. 1 ed. Abingdon: Routledge.

BPL223 Contemporary Planning Theory	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Introduction to alternative development theories, application of theories to contemporary planning practice and introduction of the state of the art in planning theory.

Unit I: Systems Approach to Planning: Rational Comprehensive Planning (9 Periods)

Understanding systems theory in general; Main characteristics of rational comprehensive planning; Components of systems-based planning; Key disadvantages with systems view of planning.

Unit II: Alternative Planning Paradigms and Human Development Approach (9 Periods)

Incremental planning and disjointed incrementalism; transactive planning and mixed scanning; Advocacy planning; radical planning approaches – equity, social mobilisation and social change. Defining functioning and capabilities; Exploring relevance of Amartya Sen and Nussbaum's capabilities to planning; Role of planning and planners in enhancing capabilities of the poor.

Unit III: Participatory Planning (9 Periods)

Ladders of citizens' participation and the art of muddling through; Models of public private partnership; Public interest and its forms, history and significance of public participation; Public participation and empowerment; Fundamentals of communicative rationality in planning; Models of communicative and collaborative planning.

Unit IV: Uncertainty in Planning and the Role of Planners (9 Periods)

Matrix of uncertainty; Agreed goals and known tools; Disagreed goals and unknown tools; Leapfrogged decision making, premature programming and premature consensus; Implications of uncertainty; risk reduction; Role of planners.

Unit V: Political Economy and Cities: New Public Management (NPM) Theories (9 Periods)

Role of market in development; Economic planning vs. physical planning; Models of NPM; Efficiency and efficacy in planning; Transparency and delegation of planning services; Defining the term political economy; Role of the state in planning; Sustainable Development Goals; Globalisation and Sustainability of Cities; 15-minute city; Networked cities; Impact of information technology on urban services and economy.

Total: 45 periods

Outcomes:

- Knowledge on contemporary planning theory and its relevance and application.

References:

- 1) Agarwal, B., Humphries, J. and Robeyns (eds.) Capabilities, Freedom, and Equality: Amartya Sen's work from a gender perspective, Oxford University Press, New Delhi.
- 2) Jean Hillier (eds.) (2008), Contemporary movements in planning theory, Ashgate, London.

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- 3) Healey, P. (1997) Collaborative Planning: Shaping Places in Fragmented Societies, Macmillan Press Limited, London
- 4) Krumholz, N. and Forester, J. (1990) Making Equity Planning Work: Leadership in the public sector, Temple University Press, Philadelphia.
- 5) McLoughlin, J.B. (1969) Urban and Regional Planning: A Systems Approach, Faber and Faber, London
- 6) John Forester (1999), *The Deliberative Practitioner: Encouraging Participatory Planning Processes*, MIT, NY.

BPL224 Environmental Planning and Management	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Introduce environmental consciousness in planning and methods to assess implications of planning and development on a natural-on-natural resource base.

Unit I: Environmental Resources (9 Periods)

Environmental resources, meaning and variation; Setting the environmental baseline at site, settlement and regional levels; Understanding environmental commons and their significances; Energy as parameter of analysis for being environmentally sensitive; Watershed Management; Coastal Management and Planning on Hilly Areas; Ecosystem Services.

Unit II: Typology of Environmental Problems (9 Periods)

Green and brown agenda approaches to environmental issues; Understanding Indian environmental movement; Urban environmental problems; Regional environmental resources and threats – eco-sensitive zones, biodiversity zones, watersheds, aquifers, wetlands, etc.

Unit III: Environmental Policies and Law (9 Periods)

Global and National policies on environment; Environment in five year plans; Legal tools available for protection of environment, environmental awareness and education in India; Agencies involved in environment protection - NRDMS, local biodiversity boards, national green tribunal, state environmental impact assessment authority, pollution control boards; national wildlife board.

Unit IV: Environmental Impact Assessment (9 Periods)

EIA – meaning, significance and framework; Methodologies – checklist, matrices, network and social cost-benefit analysis; Sources and acquisition of environmental information; Environmental land use classification; Environment impact studies of development projects.

Unit V: Sustainable Environment (9 Periods)

Environmental zones, environmental parameters in site selection and development; environmental parameters for planning of tourism, environmentally sensitive areas, preservation and improvement of human habitat; Effects of soils, vegetation and drainage on spatial planning; Effects of soils, vegetation and drainage on spatial planning.

Total: 45 periods

Outcomes:

- Understand the principles of environmental planning and management and evaluate environmental issues, policies, and regulatory frameworks for sustainable development.
- Apply environmental planning tools and management strategies to assess environmental impacts, conserve natural resources, and integrate sustainability into urban and regional planning.

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References:

- 1) Allaby, M (2003), Basics of Environmental Science, Routledge, London.
- 2) Cedric Pugh (ed.) (2010), Sustainable Cities in Developing Countries, Earthscan, London.
- 3) Murck, B (2006), Environmental Science, John Wiley & Sons. New Jersey.
- 4) Randolph, J (2012), Environmental Land Use Planning and Management, Island Press, Washington.

BPL225 Urban Design and Renewal	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To introduce urban design as a component of planning and design of traditional and new towns; and aspects of heritage, values and urban conservation.

Unit I: Introduction

(9 Periods)

Urban design - definition and methodologies to understand the urban form, components of urban design, scope and limitations; Scale and relation between architecture, urban design and planning; Brief historic review of the development of the urban design discipline and principles; Urban design theories.

Unit II: Evolution and Morphology of Cities

(9 Periods)

Study and analysis the concept of urbanization across the time and how city took the shape; Physical and non-physical determinants of urban form, topography and environment impact on city formation, time line, world view and principles of city planning and design; Early cities, temple towns, medieval cities, colonial cities, new towns, contemporary development; Global cities.

Unit III: Components and Methodology

(9 Periods)

Methods of urban survey, urban design case study, documentation and representation, type and typology, urban structure, urban form, urban experience, urban design principles.

Unit IV: Reading the City

(9 Periods)

Reading the city through its various process of development, focusing on to its cultural, social, and economical parameter; Study and analysis of the cities through existing built form, process of city extension, and transformation.

Unit V: Urban Renewal and Conservation

(9 Periods)

Urban renewal and conservation of historic core areas, understanding its cultural, social and heritage value reflected on the built form; Historic overview of urban renewal, development strategies for regeneration of inner city areas, introduction to conservation, heritage concepts of historic zones and world heritage sites, importance of charters, archaeological acts, conservation acts and legislation, concepts and approaches to urban conservation, institutional framework for urban conservation and renewal strategies.

Total: 45 periods

Outcomes:

- Basic knowledge of evolution and morphology of cities.
- Capacity to prepare special area plans.

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References:

- 1) Hersh, B (2017), Urban Redevelopment. 1st ed. Routledge.
- 2) Hutchison, R., Gotham, K (2009), Critical perspectives on urban redevelopment. Emerald Group Ltd.
- 3) Jonathan, Barnett (1982), An Introduction to Urban Design, Harper and row, Publishers, New York.
- 4) Jones, E (2017), The Slaughter of Cities. Fidelity Press.
- 5) Luescher, A (2019), Urban Shrinkage, Industrial Renewal and Automotive Plants. [S.I.]: Palgrave Pivot.
- 6) Morris A.E.J., (1994), History of urban form, Longman, Routledge; 3rd edition, New York.
- 7) Spreiregen, Paul D., AIA, The Architecture of Towns and cities, McGraw-Hill Inc; 1st edition, New York.

BPL226 Housing and Habitat	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To learn the basic concepts, tools, techniques for evaluating the real estate and understand how the market forces and regulations influence the real estate development.

Unit I: Land and Housing (9 Periods)

Definition of house, home and housing; housing and residential areas - characteristics, economic concepts, objectives and scope; Land market and its type, status of land in the constitution of India, peculiar nature of land markets; Land supply & demand; Development and controls; Laws and regulations related to ownership, tenancy and pricing; Various acts related to housing and land; Land Acquisition, Housing Board Acts, Apartments Acts, Rent Control Acts, RERA and SARFEASI etc.

Unit II: Community and Housing Development Process (9 Periods)

Understanding a community, its characteristics, basic entitlements, strengths and weaknesses; Socio-economic implications behind formation of slums, critical characteristics of slums, improvements of slums, sites and services schemes, squatter upgrading; Theoretical knowledge of ecological, neo-classical, institutional approaches to housing; Housing subsystems and their characteristics; Formal and non-formal housing; Public and private sector housing development process.

Unit III: Assessment of Housing Need and Demand (9 Periods)

Assessing Housing Difference between housing need and housing demand; Understanding housing shortage; Housing demand assessment methods: definition and limitations; Sources of housing statistics data and their uses (Census, NSSO etc.); Urban and rural housing statistics; Quantitative and qualitative aspects of housing.

Unit IV: Housing Standard and Housing Policy Analysis (9 Periods)

Factors determining residential densities; development control regulations; Estimation of housing need and demand; evaluation of rural and urban housing policy and programmes in India and UN-Habitat policy framework for urban and rural housing, management and financing of housing projects, investment in housing in public and private sectors; housing organizations in India at national and international level.

Unit V: Housing Project Formulation (9 Periods)

Housing Project Formulation Understanding the community; Determinants of housing form including physical, social, economic, technical and aesthetic; Development options and housing; Housing costs, standards, densities and FAR; Housing projects and city level housing provisions, Affordable housing policies and projects.

Total: 45 periods

Outcomes:

- Basic knowledge on land, community and housing, real property market and housing policies.

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References:

- 1) David Geltner, Norman G. Miller, Jim Clayton, and Piet Eichholtz (2007), *Commercial Real Estate Analysis and Investments*, Second Edition, by Cengage Learning.
- 2) Government of India) (2015), *URDPFI Guidelines*. Vol. 1, Ministry of Urban Development, New Delhi.
- 3) Ratcliffe, John, Micheal Stubbs and Mark Shepherd (2001), *Urban Planning and Real Estate Development (Natural and Built Environment)*, Spon Press, New York.
- 4) William B Brueggeman and Jeffrey D. Fisher, *Real Estate Finance and Investments*, McGraw-Hill Higher Education.

BPL22AU1 Reading and Comprehending Spaces - Audit	Subject Category	Theory
	Number of Credits	0
	Lecture Periods per Week	1
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	1

Subject Objective:

The main objective of this course is to get students acquainted with various perspectives on space.

Unit I: (3 Periods)

Approaches to Place and Space Meaning of place and space in planning; Geometries of space by Doreen Massey; Lefebvre's spatial practice, representation of space, spaces of representation; The Third Space of Edward Soja; Perspectives on space from Euclidian space to spaces of Lefebvre.

Unit II: (3 Periods)

Identity and Spaces Experiencing space through the lenses of gender, caste, region and religion; Multiplicity of linkages between identities and spaces; Dialectical relationship between identities and spaces; Shaping of built environments and identities.

Unit III: (3 Periods)

Colonial and Postcolonial Spaces Building of colonial cities and infrastructures such as roads and rail links; Control and dominance in the colonial spaces; Present day uses of colonial spaces; Nature of postcolonial spaces and national identity; Case examples New Delhi and Chandigarh, etc.

Unit IV: (3 Periods)

Neoliberal Spaces Role of economic and political forces in producing space under neoliberalism; Characteristics of neoliberal spaces and how they shape city elements; Globalization and global cities; Planetary urbanization; Speculative urbanism; Case examples of reforms in the urban sector.

Total: 15 periods

Outcomes:

- Understand and interpret the physical, social, cultural, and environmental characteristics of spaces to analyse their influence on human activities and urban form.
- Apply spatial observation, mapping, and analytical techniques to evaluate built environments and support context-sensitive planning and design decisions.

References:

- 1) Allen, J., Massey, D., Cochrane, A. with Julie Charlesworth, Gill Court, Nick Henry and Phil Sarre (1998) Rethinking the Region: Spaces of Neoliberalism, Routledge, New York.
- 2) Fincher, R. and Iveson, K. (2008) Planning and Diversity in the City, Palgrave Macmillan, New York.
- 3) Harvey, D. (2005) Spaces of Neo liberalization: Towards a Theory of Uneven Geographical Development. Stuttgart, Franz Steiner Verlag, London.
- 4) King, A. (1976) Colonial Urban Development: Culture, Social Power and Environment, Routledge and Kegan Paul, New York.
- 5) King, A. (1989) Colonialism, Urbanism and the Capitalist World Economy, International Journal of Urban and Regional Research, 13(1), 1–18.

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- 6) Kumar, A., Vidyarthi, S. and Prakash, P. (2021) City Planning in India, 1947-2017, Routledge, New York.
- 7) Massey, D. (2005) For Space, Sage, London.
- 8) Hubbard, P. and Kitchin, R. (2011) Key Thinkers on Space and Place, Sage, London.
- 9) Lefebvre, H. (1991) The Production of Space, Blackwell Publishing, Oxford.
- 10) Lefebvre, H. (2003) The Urban Revolution, University of Minnesota Press, London.
- 11) Raju, S. (ed.) (2011) Gendered Geographies: Space and place in South Asia, Oxford University Press, New Delhi.

FIFTH SEMESTER

BPL311 Local Area planning and Development Studio	Subject Category	Studio
	Number of Credits	15
	Lecture Periods per Week	3
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	12
	Total Periods per Week	15

Subject Objective:

Understand the essential planning and development process at the lowest planning level of a city, specifically the neighbourhood level, with a clear intention to devise and implement strategies that align seamlessly with the overarching master plan.

Unit I: Fundamentals of Local Area Planning and Development

Definition, significance and scope; Delineation of local area and preparation of base maps; Understanding the functional base and predominant land use of the local area; To study different approaches of plan making with a focus on local or sub-city level planning and development of standards while studying various Indian and International case studies. Appraisal of comprehensive development plans, structure plans, zonal plans and sector plans with its local implications.

Unit II: Understanding Local Area Planning

Understand Demographic and Socio Economic Survey Household / demographic survey: sex ratio, literacy, dependency ratio, migrant population, occupational pattern, mode of transport, distance to workplace, vehicle ownership, Physical Appreciation of Local Area Location and setting; Accessibility and linkages; Natural water body and drain off; Environment attributes; Topography and vegetation; Existing land use and building use; Open and vacant spaces; Availability of physical and social infrastructure; Building attributes and conditions, Planning Imperatives Issue identification and envisioning through stakeholder consultations; Scope for redevelopment, renewal; Computation of existing density and building future scenarios: reference to DCRs and incentives, conducting stakeholders interviews.

Conduct key informant interviews, stakeholder mapping and profiling, based on field surveys detailed local development profile to be developed covering all spatial and socio-economic aspects of development. The literature study and surveys should help students to see interrelations amongst different sectors at the city level and how these need to be translated through detailed plans so as to achieve city level statutory plan objectives.

Unit III: Area Development Planning Project

A comprehensive field-based planning studio assignment spread over the semester shall lead to an 'Local Area Development Plan' (ADP) for parts of a chosen town/city. The ADP shall be prepared by studying and exploring the past and present situation prevailing in the selected area of the town/city. Those aspects include the land and building use, local development regulations, planning standards, building bye-laws, local circulation and transportation aspects, building footprints, utilities, economic base, environmental conditions conservation and urban design, and other aspects deemed contextually relevant. Analysis is to be done in detail at the plot level. The study shall essentially be done by groups, with each group focussing on one case neighbourhood. ADP exercise is to be made contextually relevant to the framework of the existing town/city-level statutory plans. The ADP

exercise is also to be sensitive to the local community needs as per the priorities and be aligned to the role of the local market players.

Total: 255 periods

Outcomes:

- Capacity to develop area development plan at neighbourhood level.

References:

- 1) Alexander Garvin, (2013), The Planning Game: Lessons from Great Cities, W.W.Norton & Company, USA.
- 2) Anthony Townsend, Smart Cities: Big Data, Civic Hackers and the Quest for a New Utopia, W.W.Norton & Co, USA.
- 3) Ballaney, Shirley and Patel, Bimal (2009), Using the 'Development Plan – Town Planning Scheme, Mechanism to Appropriate Land and Build Urban Infrastructure, India Infrastructure Report, 3iNetwork, IDFC, Oxford University Press, New Delhi.
- 4) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.
- 5) Local Area Planning in India, Author: Rishi Dev, COPAL Publishing Group, 2015, ISBN:9383419156,9789383419159.

BPL312 Real Estate Planning and Management	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To introduce the principles, strategies, and practices of real estate planning and management, focusing on land markets, property valuation, investment strategies, and regulatory frameworks.

Unit I: Introduction to Real Estate

(9 Periods)

Definition and importance of real estate in urban and regional development. Real estate as an asset class: residential, commercial, industrial, and mixed-use properties. Market dynamics: demand-supply mechanisms, growth trends, and emerging opportunities. Legal and regulatory aspects: ownership, tenure, and land-use policies.

Unit II: Real Estate Market Assessment and Investment

(9 Periods)

Understanding real estate markets: primary and secondary markets, speculative vs. investment markets. Real estate demand and supply analysis: factors affecting property values and pricing. Methods of property valuation and appraisal: comparative, cost, and income approaches. Real estate investment strategies: risk assessment, return on investment (ROI), and portfolio diversification.

Unit III: Land Use, Development, and Regulations

(9 Periods)

Land use planning and zoning: residential, commercial, industrial, and mixed-use zones. Regulatory framework: real estate laws, RERA (Real Estate Regulatory Authority), building codes, and environmental considerations. Process of Layout Development.

Unit IV: Real Estate Finance and Risk Management

(9 Periods)

Sources of real estate finance: private investments, bank loans, REITs (Real Estate Investment Trusts), and crowdfunding. Real estate project financing: capital structuring, funding mechanisms, and financial feasibility. Risk management in real estate: market risks, regulatory risks, financial risks, and mitigation strategies. Public-private partnerships (PPP) in real estate development.

Unit V: Emerging Trends and Technology in Real Estate

(9 Periods)

Smart cities and real estate: role of digital transformation in property management. Protech and digital innovations: blockchain, AI, IoT, and real estate analytics. Sustainable real estate development: green buildings, energy efficiency, and climate-responsive design. Future trends: co-living, co-working spaces, transit-oriented development (TOD), and adaptive reuse of buildings.

Note: To bring a holistic and pragmatic dimension to the course, the five core underlying parameters of a) Sustainability, b) Equity, c) Efficiency, d) Harmony, and e) Safety, are to be incorporated in the instruction strategies through case studies and examples, wherever applicable.

Total: 45 periods

Outcomes:

- Understand the principles of real estate planning and management, including land valuation, property markets, development processes, and regulatory frameworks.

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- Apply real estate planning and management techniques to evaluate development projects, optimize land use, and support sustainable and economically viable urban growth.

References:

- 1) The Affordable Housing Reader – J. Rosie Tighe & Elizabeth Mueller.
- 2) Real Estate Principles: A Value Approach – David C. Ling & Wayne R. Archer.
- 3) Urban Land Use Planning – Philip R. Berke, David R. Godschalk, Edward J. Kaiser.
- 4) Real Estate Development: Principles and Process – Mike E. Miles, Laurence M. Netherton, Adrienne Schmitz.
- 5) Real Estate Market: Practices and Policies in India – Prashant Das & Divyanshu Sharma.
- 6) Real Estate Regulatory Authority (RERA) Act – Government of India.

BPL313 Integrated Planning for Informal Sector	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To provide exposure to the concepts and issues involved in the planning and management of the informal sector.

Unit I: Understanding Informality (9 Periods)

Defining informality; types and characteristics of informal; Linking informal sector and poverty, socio-economic deprivation and informal sector; Growth of informal sector; Poverty alleviation programmes, impact of macro-economic structural adjustment policies on poor and marginal urban households.

Unit II: Migration and Informal Sector (9 Periods)

Rural urban migration and growth of informal settlements; Migratory patterns, characteristics of migrants, growth of informal sector; City development projects and informality, linking landuse planning with informal sector; Insensitive institutional response and informality.

Unit III: Informality in Commercial Sector (9 Periods)

Formal and informal economy at the local scale; Types and categories of informal sector service providers; Advantages and disadvantages in the Indian context; Statistics related to employment and examples of integration between formal and informal sector market entities; Dependency factors of local economy on formal sector; Contribution of informal sector in city economy and employment.

Unit IV: Provision of Basic Urban Services (9 Periods)

Concept of basic needs and quality of life; Socio-economic deprivation and environmental degradation in informal settlements; Legal and institutional constraints in provision of services; Provision of basic urban services through target group approach; Budgetary allocation mechanisms; Role of NGOs as facilitators between local government and the poor towards their basic needs.

Unit V: Dealing with Informality (9 Periods)

Institutional reforms - approaches to address informality; Participatory planning approach; Capacity building and formal livelihood generation; Credit accessibility; Linking with formal economy; Space consideration for informal sector; Case studies from India and other developing countries; Norms and standards of informal sector.

Total: 45 periods

Outcomes:

- Knowledge of the informal sector, their emergence, issues and solutions towards the planning and management sector in urban areas.

References:

1) Ali Sabir (2006), Dimensions of Urban Poverty, Rawat Publications, the University of Michigan.

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- 2) Asthana MD and Ali, Sabir (2004), Urban Poverty in India: Issues and Policies, Uppal Publication House, the University of Michigan.
- 3) Deden R (2007), Urban Planning and the Informal Sector in Developing Countries, Planetizen.
- 4) Sugranyes A and Mathivet C edited (2010), Cities for All, Proposals and Experiences towards the Right to the City, Habitat International Coalition.
- 5) Edited by Ashok Das and Bambang Susantono (2019), Informal services in Asian cities lessons for urban planning and management from the covid-19 pandemic, ADBI.
- 6) Ray Bromley (2013), The Urban Informal Sector: Critical Perspectives on Employment and Housing Policies [Print Replica] Kindle Edition, Published by Pergamon.

BPL314 Development Planning and Management	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To focus on the basic concepts of development as a critique to the neoliberal economic policies and to introduce contemporary indicators of development with the help of major development theories.

Unit I: Elements of Development (9 Periods)

Concept, definition and indicators of development; Growth versus Development; Imperialism and north-south dichotomy; Paradigm shift in development studies discourse; Different approaches of development; Inequality and growth; Review of national and global development reports.

Unit II: Models of Development (9 Periods)

Dualistic approach in development; Theories related development- Classical economic theories, neo-classical models, marxist theories, structuralist model, dependency theory, neo-liberal model, capability approach.

Unit III: Issues in Growth and Development in India (9 Periods)

Planning in India; Development models in Indian planning; Process of decentralization in development discourse with special reference to India; Spatial implications of economic change, 74th Constitutional Amendment Act and empowerment of local bodies.

Unit IV: Political Economy and Planning (9 Periods)

Concept and approaches of political economy; Political economies of cities; Gentrification and spatial injustice; Aspects of structural adjustments in economic policies and on spatial scale.

Unit V: Globalization and neoliberalism (9 Periods)

Concept of global cities and hierarchy of settlements; Concept and approach to regional development; Inequality and regional disparity; Theories related to regional development; Concept of growth pole and agglomeration economies.

Total: 45 periods

Outcomes:

- Knowledge of elements and models of development, issues in growth and development in India.
- Understanding on political economy, globalisation, neo – liberalism.

References:

- 1) Jhingan, M.L (2004), The Economics of Development and Planning, Vrinda Publications Ltd., New Delhi.
- 2) Kurien, N.J (2002), Widening Regional Disparities in India, Planning Commission Publication, New Delhi.
- 3) Neil, Brenner and Roger (Ed.) (2005), The Global Cities Reader, New York, Routledge.
- 4) Sassen Saskia (2007), Elements for Sociology of Globalization, W.W. Norton, New York.
- 5) Siddique. Quaddus, MA (2013), Handbook of sustainable Development Planning: Studies in Modelling and Decision Support, Edward Elgar Publisher.

BPL315 Rural Planning and Development	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Introduce planning for rural settlements.

Unit I: Introduction to Rural Development

(9 Periods)

Hierarchy of rural settlements, meaning, nature and scope of development; Nature of rural society in India. Social Change in India; Sanskritization, westernisation, modernisation; Diffusion of innovation, resistance to change, socio-cultural, economic and ecological barriers for rural development; Approaches to rural development in India: Broad front approach, sectoral approach, participatory approach, area approach, target group approach and integrated approach to rural development.

Unit II: Roots of Rural Development in India

(9 Periods)

Experiments in rural development before Independence: Sriniketan, Martandam, Sevagram, Baroda, Firka development, Nilokheri and Etawa pilot project, rural reconstruction and Sarvodaya programme before independence; Impact of voluntary effort and sarvodaya movement on rural development; Constitutional direction, directive principles; Panchayatiraj, beginning of planning and community development; National extension services.

Unit III: Post Independence Rural Development

(9 Periods)

Balwant Rai Mehta committee, three tier system of rural local government; Need and scope for people's participation and panchayati raj; Ashok mehta committee, linkage between panchayati raj, participation and rural development.

Unit IV: Rural Development Initiatives in Five-Year Plans

(9 Periods)

Five-year plans and rural development; Planning process at national, state, regional and district levels; planning, development, implementing and monitoring organizations and agencies; Special component plan and sub-plan for the weaker section; Data base for local planning; Need for decentralized planning; Sustainable rural development.

Unit V: Post 73rd Amendment Scenario

(9 Periods)

73rd Constitution (Amendment) Act–XI schedule, devolution of powers, functions and finance; Panchayati raj institutions–organizational linkages; Recent changes in rural local planning; Gram sabha–revitalized Panchayatiraj; Institutionalization; resource mapping, resource mobilization including social mobilization; Information technology and rural planning; Need for further amendments, Grampanchyat Spatial Development Plan (GPSDP), RADPFI.

Total: 45 Periods

Outcomes:

- Exposed to experiments in rural development pre and post-independence India.
- Planning for rural settlements based on five-year plans and post 73rd constitutional amendment scenario.

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References:

- 1) Dutt. R, Sundaram. KPM (2008), Indian Economy, S Chand Publication, New Delhi.
- 2) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi
- 3) Moseley, MalcolmJ(2003), Rural Development: Principles and Practice, SAGE Publications Pvt.Ltd., London.
- 4) Singh.K (2009), Rural Development Principles, Policies and Management, SAGE Publications Pvt. Ltd, New Delhi.
- 5) Gandhi, F.V. (2018) A Rural Manifesto: Realizing India's Future through her Villages, Rupa, New Delhi.
- 6) Gupta, K.R. (2010) Rural Development in India, Atlantic Publishers, New Delhi. Volume 4.
- 7) Jodhka, S.S. (2018) A Handbook of Rural India, (Readings on the Economy, Polity and Society), Orient Black Swan, New Delhi.
- 8) Jodhka, S.S. and Simpson, E. (2019) India's Villages in the 21st Century: Revisits and Revisions, Oxford University Press, New Delhi.
- 9) Ministry of Rural Development (2017) Sustainable Rural Development, Ministry of Rural Development, Government of India.
- 10) Paul, S.K. (2015) Rural Development: Concept and Recent Approaches, Concept Publishing Company Private Limited, New Delhi.
- 11) Singh, K. and Shishodia, A. (2019) Rural Development: Principles, Policies, and Management, Fourth Edition, Sage, New Delhi.

BPL3111 Planning and Management of Blue and Green Spaces	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

The course aims to emphasize the significance of blue and green spaces in urban planning and design, focusing on their environmental, social, and aesthetic roles. It aims to develop a comprehensive understanding of planning, design, management, and maintenance of urban open spaces, emphasizing their contribution to sustainability, public health, biodiversity, and community well-being.

Unit I: Elements of Blue and Green Spaces in Urban Planning (9 Periods)

The definition and types of blue and green spaces, their evolution and functions, landscape planning principles, historical perspectives, and the role of surface materials, outdoor structures, and urban fittings in shaping these spaces, as well as the evolution and functions of landscapes due to natural and cultural processes.

Unit II: Urban Open Spaces and Green Networks (9 Periods)

Typologies and hierarchies of urban open spaces: streets, plazas, gardens, ghats, public parks, and ecological corridors. Urban green space systems. Design principles for open spaces. Integration of street furniture, signage, and public art in urban landscapes. Blue spaces and water-sensitive urban design (WSUD): managing urban water bodies for recreation, biodiversity, and flood resilience.

Unit III: Designing with Nature: Ecological and Functional Aspects (9 Periods)

Ecological principles in landscape planning: biodiversity, habitat connectivity, microclimate, and stormwater management. Vegetation planning: environmental, functional, and aesthetic roles; species selection based on site analysis, soil, and climate. Land suitability and site analysis for blue-green space development. Techniques of grading, drainage design, and contour integration. Climate-responsive open space design for heat mitigation and air quality improvement.

Unit IV : Recreational Spaces, Sports, and Playfields (9 Periods)

Multipurpose open spaces: maidans, playgrounds, and public squares. Hierarchy and design standards for recreational spaces, Contested spaces. Role of public and private sectors in provision and maintenance. Design considerations for inclusive, gender-sensitive, and child-friendly spaces.

Unit V: Management, Governance, and Community Engagement (9 Periods)

Policy and legal frameworks for blue and green space management. Role of municipal bodies, development authorities, NGOs, and community groups. Public participation and stewardship models for sustainable management. Maintenance strategies. Financing mechanisms for blue-green infrastructure: public funding, CSR, PPP models. Case studies of successful blue-green space management: urban river restoration, park rejuvenation, community gardens, and green corridor development.

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Note: The course shall emphasize five core parameters to be addressed through teaching, assignments, and case studies: a) Sustainability, b) Ecological resilience, c) Inclusivity, d) Livability, and e) Community participation.

Total: 45 periods

Outcomes:

- Understand the principles of planning and management of blue and green spaces and evaluate their role in ecological conservation, climate resilience, and sustainable urban development.
- Apply planning and management strategies to design, conserve, and enhance blue and green infrastructure for improving environmental quality, biodiversity, and community well-being.

References:

- 1) People Places: Design Guidelines for Urban Open Spaces, Clare Cooper Marcus and Carolyn Francis, John Wiley & Sons, 1997.
- 2) Delhi Master Plan 2021, Delhi Development Authority, Government of Delhi, 2001.
- 3) Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines, Ministry of Urban Development, Government of India, 2015.
- 4) Landscape Planning, William M. Marsh, Wiley, 2010.
- 5) Naturally Challenged: Contested Perceptions and Practices in Urban Green Spaces, Julian Dobson and Nicola Dempsey, Springer, 2020.
- 6) Design with Nature, Ian L. McHarg, Wiley, 1995.
- 7) Blue-Green Cities: Integrating Urban Flood Risk Management and Green Infrastructure, Sarah Bell et al., Palgrave Macmillan, 2017.
- 8) Green Infrastructure: Linking Landscapes and Communities, Mark A. Benedict and Edward T. McMahon, Island Press, 2012.
- 9) Guidelines for Urban Green Spaces and Parks, UN-Habitat Reports and Publications.

BPL3112 Inclusive Cities	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

The course aims to teach the principles and practices of creating inclusive cities that promote diversity, equity, accessibility, and social justice, focusing on spatial, social, economic, and policy dimensions, focusing on marginalized communities, gender-sensitive planning, affordable housing, accessible public spaces, and participatory governance.

Unit I: Concept and Need for Inclusive Cities (9 Periods)

Definition and dimensions of inclusive cities: spatial, social, economic, political, and cultural inclusion. Importance of inclusivity in urban planning and sustainable development goals (SDGs), especially SDG 11: Sustainable Cities and Communities. Barriers to inclusion. Overview of international charters and frameworks for inclusive cities. Role of urban planning in promoting inclusion: theories, best practices, and case studies.

Unit II: Social Inclusion and Equity in Urban Spaces (9 Periods)

Understanding urban poverty, informality, and marginalized communities: slums, street vendors, migrants, minorities, women, elderly, persons with disabilities (PWDs), and LGBTQIA+ communities. Gender and urban space. Planning for universal accessibility. Housing and tenure security for marginalized communities. Public space design for inclusivity.

Unit III: Economic and Institutional Aspects of Inclusion (9 Periods)

Urban livelihoods and inclusive economic development. Inclusive infrastructure and services. Inclusive governance and participatory planning. Role of institutions, NGOs, cooperatives, and civil society in promoting inclusive urban development. Inclusive cities and disaster resilience.

Unit IV: Legal, Policy, and Planning Framework for Inclusive Cities (9 Periods)

Legal frameworks and rights-based approaches. Review of national and state-level policies in India. Urban planning tools and mechanisms for inclusive development. Case studies of inclusive city initiatives from India and around the world.

Unit V: Emerging Issues, Innovations, and Future Directions (9 Periods)

Smart and inclusive cities. Innovations in housing, mobility, and public space design. Climate justice and social inclusion. Role of data and digital tools (GIS, participatory mapping) in identifying exclusion zones and planning inclusive interventions. Future trends: inclusive urban regeneration, tactical urbanism, urban commons, co-creation, and place-making for all.

Note: Throughout the course, focus will be maintained on five core principles of inclusivity: a) Equity, b) Accessibility, c) Participation, d) Safety, and e) Empowerment, using case studies, real-world projects, participatory exercises, and field observations wherever applicable.

Total: 45 periods

Outcomes:

- Understand the principles of inclusive urban development and evaluate social, economic, and spatial factors influencing equity, accessibility, and quality of life in cities.
- Apply inclusive planning approaches and policy frameworks to promote equitable access to housing, infrastructure, public spaces, and essential services for diverse communities.

References:

- 1) Inclusive Urban Design: Public Toilets, Clara Greed, Routledge, 2003.
- 2) Planning and Design for Sustainable Urban Mobility: Global Report on Human Settlements, UN-Habitat, 2013.
- 3) The Right to the City: Social Justice and the Fight for Public Space, Don Mitchell, Guilford Press, 2003.
- 4) Gender Inclusive Urban Planning and Design, UN-Habitat, 2012.
- 5) Inclusive Urbanization: Rethinking Policy, Practice, and Research in the Age of Climate Change, Andrea Rigon & Vanesa Castán Broto (Eds.), Practical Action Publishing, 2021.
- 6) National Urban Policy Framework (NUPF), Ministry of Housing and Urban Affairs, Government of India, 2018.
- 7) Making Cities Inclusive: How Women, Migrants, and Minorities Are Shaping Urban Spaces, United Nations University, 2017.
- 8) Street Vendors and Informal Economy: Law, Policy, and Practice, Sharit Bhowmik, Routledge, 2010.
- 9) Smart Cities Mission Guidelines, Ministry of Housing and Urban Affairs, Government of India.
- 10) The Urban Poor and Right to the City: Space, Politics, and Everyday Struggles in Indian Cities, Gautam Bhan, Yoda Press, 2016.

BPL31AU1 Indian Economy (Module 1)	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

The course aims to teach students about the Indian economy, its structure, sectors, national issues, and development trends, with a particular focus on urban and regional planning. It will help them understand how economic policies and strategies affect growth, housing, infrastructure, and public service.

Unit I: Introduction to Indian Economy (9 Periods)

Nature, features, and structure of Indian economy. Basic characteristics of developing economies, and India's position in global context. Key concepts: GDP, GNP, NNP, PCI, HDI, Poverty Line, Inequality, Unemployment. Role of urbanization in economic development: economic base of cities, informal sector, migration trends. Overview of economic planning in India.

Unit II: National Income and Economic Planning (9 Periods)

Concept of national income and methods of its measurement. Trends and composition of national income in India: primary, secondary, and tertiary sectors. Economic planning in India: historical evolution, objectives, achievements, and limitations. Role of urban and regional planning in economic development. Sustainable Development Goals (SDGs) and economic planning linkage to urban and rural development.

Unit III: Agriculture, Industry, and Services Sectors (9 Periods)

Agriculture sector. Industrial sector. Services sector. Economic impact of informal sectors, MSMEs, and start-up ecosystems on urban economies. Special focus on construction and housing industries as critical urban sectors.

Unit IV: Infrastructure, Employment, and Public Finance (9 Periods)

Role of economic development in spatial and urban planning. Importance of physical and social infrastructure: transport, energy, water supply, sanitation, health, education. Public finance in India: sources of revenue, taxation system (GST and local taxes), fiscal deficit, budgetary system. Urban local bodies and municipal finance. Employment scenario in India.

Unit V: Contemporary Issues in Indian Economy Relevant to Planning (9 Periods)

Urban-rural divide and regional disparities in development. Economic reforms and their impact on urban growth. Poverty, inequality, and inclusive development challenges in urban India. Climate change, environmental degradation, and sustainable economic growth. Role of government programs and initiatives: Smart Cities Mission, AMRUT, PMAY, Digital India, Start-up India. Case studies on urban economic zones, SEZs, industrial corridors, and city competitiveness.

Note: The course will emphasize linking economic concepts to urban and regional planning, through case studies, projects, policy reviews, and economic data analysis, focusing on urban development, infrastructure, housing, and inclusive growth.

Total: 45 periods

Outcomes:

- Understand the structure, growth patterns, and key sectors of the Indian economy and evaluate their implications for urban, regional, and infrastructure planning.
- Apply economic concepts and policy analysis to assess development strategies, resource allocation, and planning interventions for sustainable and inclusive economic growth.

References:

- 1) Indian Economy: Performance and Policies, Uma Kapila, Academic Foundation, Latest Edition.
- 2) Indian Economy, Ramesh Singh, McGraw Hill, Latest Edition.
- 3) Indian Economy: Problems of Development and Planning, A.N. Agarwal, New Age International.
- 4) Economic Survey of India, Ministry of Finance, Government of India (Latest Annual Report).
- 5) Union Budget Documents, Government of India (Latest available).
- 6) Planning and Economic Development in India, M.L. Jhingan, Vrinda Publications.
- 7) India Development Report, IGIDR (Latest edition).
- 8) Urban India: Understanding the Planning and Economic Interface, Select relevant papers/articles.
- 9) NITI Aayog Reports and Policy Documents, Government of India.
- 10) IGNOU Study Material on Indian Economy, School of Social Sciences, IGNOU.

SIXTH SEMESTER

BPL321 Master Plan Studio	Subject Category	Studio
	Number of Credits	15
	Lecture Periods per Week	3
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	12
	Total Periods per Week	15

Subject Objective:

Impart techniques, tools and methods for the preparation of a comprehensive development plan for a small town/city.

Unit I: Regional Setting and Vision Formulation

The studio exercise shall begin with an understanding of the fundamentals of master plan preparation, including the purpose, scope, process, statutory context, planning standards, data requirements, and key components of a master/development plan. Students shall be introduced to the principles of urban settlement planning, land use planning, infrastructure planning, environmental considerations, and stakeholder-based planning.

The unit shall further focus on the study of the regional setting of the selected small town/city, including its location, connectivity, regional linkages, physical characteristics, socio-economic profile, existing statutory plans, and development context. Based on the understanding of the settlement and its regional role, students shall formulate the vision, goals and planning objectives for the study area. The exercise may include a predetermined focus such as tourism, heritage, environment, energy conservation, transit-oriented development, or any other relevant planning theme, as deemed suitable for the selected settlement.

Unit II: Existing Situation Analysis and Sectoral Appraisal

Students shall undertake detailed field-based studies and analyse the existing situation of the selected town/ zone of a city. The appraisal shall cover major planning sectors such as land use, housing, transportation, economy, environment, social infrastructure, physical infrastructure, heritage, governance, and public services. Students shall work in smaller groups to assess sector-wise conditions, identify key issues, gaps, potentials, constraints and inter-sectoral linkages. The unit shall also include review of relevant plans, policies, planning norms, stakeholder needs and local priorities. The sectoral appraisal shall form the basis for identifying development challenges and opportunities for the preparation of the master plan.

Unit III: Preparation of Master Plan

Based on the vision, objectives and sectoral appraisal, students shall prepare a comprehensive master plan for the selected settlement. The unit shall involve the formulation of planning proposals, land use plan, sectoral strategies, infrastructure proposals, mobility plan, environmental management measures, development controls, phasing and implementation framework.

Any one or more sectors or areas may be detailed in depth depending on the context and planning needs of the city/town. Periodic integration, review and discussion exercises shall be undertaken to ensure cross-sectoral coordination and overall planning coherence. The final master plan shall be sensitive to local stakeholders' needs, existing issues, future growth requirements, development

potentials and implementation priorities; Request for Proposal (RFP), proposals for raising funds, preparing and writing Detailed Project Report.

Total: 45 periods

Outcomes:

- Knowledge of Sectoral appraisal for a small town or city.
- Ability to compare and analyse various aspects of city and prepare a Master plan.

References:

- 1) Center for Good Governance (2010), Managing urban growth using the town planning schemes in Andhra Pradesh, Ministry of Urban Development, TCPO. Hyderabad.
- 2) Deutsche Gesellschaft für Internationale Zusammenarbeit (2012), Land use planning; concepts, tools and application, BMZ, Federal. Ministry for Economic Cooperation and Development, Germany.
- 3) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.
- 4) Ministry of Housing and Urban Poverty Alleviation (2011), Report of the working group on urban strategic planning, Steering committee on urban development and management, Government of India, New Delhi.
- 5) MOUD (2015), Amrut Mission Statement and Guidelines, Gol, New Delhi, India.
- 6) MOUD, Heritage City Development and Augmentation Yojana, Gol, New Delhi, India.

BPL322 Regional Planning	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To enable an understanding of the settlements within the contextual framework of regions and the approach to planning them.

Unit I: Regions

(9 Periods)

The nature of a region, functional regions and formal regions, regional specialisation, development and growth of regions; Regionalisation, inter-regional trade and factor movements; Settlements patterns, hierarchy; Rural and urban continuum, role of cities in regional development.

Unit II: Regional Economics

(9 Periods)

Individual location decisions, transfer costs, locational patterns, markets, existence, conditions and size, market locations and regional development, inter and intra-regional economic analysis.

Unit III: Regional Analysis

(9 Periods)

Techniques of delineation of regions; Centro graphic analysis; input-output analysis – income and expenditure multipliers; inter and intra-regional economic analysis; Multivariate analysis of industrial groupings, principal components and factor analysis, sectoral shift analysis, rank size rule.

Unit IV: Regional Planning and Development

(9 Periods)

Regional development; Balanced and unbalanced development; under development; Models of regional development; Regional planning processes; identification of plan objectives; Collection, classification and analysis of data; Norms and standards for regional planning; Role of district planning committees (DPC) and metropolitan planning committees (MPC); Settlement pattern, population and resource allocation/distribution; Environmental concerns and protection; alternative strategies; Implementation and financing strategies.

Unit V: Case Studies

(9 Periods)

Selected case studies from across the country and abroad.

Total: 45 periods

Outcomes:

- Knowledge of various types of regions, regional economy, various analysis and concepts related to regional and development.

References:

- 1) Birch, Eugenie. L (2008), The Urban and Regional Planning Reader (Routledge Urban Reader Series), Routledge, USA
- 2) Chaudary.J.R (2009), An Introduction to Development and Regional Planning with special reference to India. Orient Blackswan, Hyderabad

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- 3) Hall, Peter (2002), Urban and Regional Planning, Routledge, London and New York.
- 4) Mishra, R.P, Regional Planning: Concepts, Techniques, Policies and Case Studies, Concept Publishing Company, India.
- 5) Wang, Xinhao & Hofe, Rainer vom (2007), Research Methods in Urban and Regional Planning, Springer Berlin Heidelberg, New York.

BPL323 Project Formulation and Appraisal	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Introduce aspects of project planning, management, implementation and appraisal.

Unit I: Introduction to Project Planning (9 Periods)

Introduction to Projects, Nature of planning projects, Project life cycle, Methodology for project identification and formulation; Detailed project report, and feasibility studies, Concepts of pay-back period, Internal Rate of Return (IRR), DCF, Net Present Value (NPV), Cost Benefit Ratio (CBR), financial cost-benefit analysis, economic cost benefit analysis.

Unit II: Project Formulation and Appraisal (9 Periods)

Concept of appraisal, Project appraisal, Technical/Economic/Financial/Organisational criteria, appraisal criteria (NPV/ B/C. Ratio/ IRR) – financial analysis, capital costs, financial viability, debt servicing, income and expenditure statement, project balance sheets, rate of returns; social cost benefits analysis – rationale for SCBA, UNIDO approach.

Unit III: Project Management (9 Periods)

Project characteristics; techniques of management, Importance of project management; reasons for shortfall in performances; critical path, PERT & CPM; Concepts of project organization, contracting, procurement and recruitment budget; Fund flow statement and stabilization; Organization of project, matrix organization, task forces, project teams; Monitor and control of project; Tools and techniques for project management.

Unit IV: Pre- Implementation Planning Phase (9 Periods)

Work break down structure; Network analysis; CPM, PERT; Resource levelling and allocation; Time-cost trade off aspects.

Unit V: Project Implementation, Monitoring and Evaluation (9 Periods)

Importance of Project implementation, stages of implementation; Actors in projects implementation; project monitoring; Meaning objectives and significance; Monitoring techniques; Integrated reporting, milestones, time and cost over-run and under runs, unit index techniques; Project evaluation; Techniques of project evaluation; Input analysis, financial cost-benefit analysis, social-cost benefit analysis; Case studies in Urban and Regional planning projects;

Total: 45 periods

Outcomes:

- Capability to formulate and appraise a project.

References:

- 1) Bennett, Lawrence F (2003), Management of Construction: A Project Lifecycle Approach, Butterworth Heinemann, UK.
- 2) Carmichael, David G (2006), Project Planning, and Control, Taylor and Francis, UK.

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- 3) Kerzner, Harold R. (2013), Project Management: A Systems Approach to Planning, Scheduling, and Controlling, John Wiley & Sons, New Delhi.
- 4) Lester, Albert (2007), Project Management, Planning and Control, Butterworth Heinemann publishing house, United Kingdom.

BPL324 Data Analytics and Programming in Planning	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	1
	Total Periods per Week	3

Subject Objective:

To develop key data analytics skillsets necessary to interpret and derive inferences from the relevant datasets available to spatial planners.

Unit I: Introduction to Data Analytics (9 Periods)

Need for Data Analytics in Spatial Planning; Data, Types of Data, units of measurements, Data coding, data cleaning techniques, biases and errors in data; statistical tests-normality test, t-test, F test, z test, etc. Data clustering and methods; Data mining; Introduction to model building and data validation using programming language.

Unit II: Big Data and Policy Research (9 Periods)

Big data landscape; comparison of big data, survey data and other data commonly used in spatial planning and public policy; Advantages and Disadvantages of data sources for research. Problems and Errors in Big data. Big data sharing policy.

Unit III: Programming languages for Data Analytics (9 Periods)

Introduction to Python, basis on data analysis using python, coding, variables, data structures, logical functions and exercises. Introduction to R/SPSS/Stata/Matlab, basics on data coding, testing and analysis, model building and queries. Introduction to SQL, Java, DBMS.

Unit IV: Machine learning and Application Program Interface (APIs) (9 Periods)

Introduction to Machine learning; formulation of research questions in machine learning framework; Build, evaluate, compare, select and interpret various models; Introduction to API and tools to interact with network-based APIs.

Unit V: Case studies and Application (9 Periods)

Students are expected to perform data analytics on spatial planning and public policy for the identified case study area. The overall exercise shall consist of data collection, cleaning, modelling, model validation, generate case specific simulations, forecasting, results, findings, optimal policy recommendation using appropriate data analytics platforms.

Total: 45 periods

Outcomes:

- To develop the capability of data analytical skills in order to arrive at plausible decisions.
- To gain scientific knowledge on data interpretation, evaluation and apply the results for policy analysis and decision making in spatial planning

References:

1) Wang, Xinhao & Hofe, Rainer vom (2007), Research Methods in Urban and Regional Planning, Springer Berlin Heidelberg, New York.

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- 2) Lane, J., Stodden, V., Bender, S., & Nissenbaum, H. (2014). Privacy, big data and the public good: Frameworks for engagement. Cambridge University Press.
- 3) Kevin Sheppard (2014). Introduction to Python for Econometrics, Statistics and Data Analysis.
- 4) Trevor Hastie, Robert Tibshirani, Jerome Friedman. The Elements of Statistical Learning Data Mining, Inference and Prediction. Springer 2009.

BPL3211 Freight Transport and Logistics	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To possess a good understanding of freight transport and acquire fundamental concepts and principles in logistics.

Unit I: Introduction to Freight Transport (9 Periods)

Transport and freight movements-principles, types, role and components; Freight transport characteristics-types of freight and characteristics, market segments; Organisational structure of freight transport industry; Freight transport costs and charges-types, principles of discounting.

Unit II: Planning and Operation of Freight Transport (9 Periods)

Planning Freight Transport; Route planning and scheduling freight transport services; Collection, storage and distribution centres; Mechanisms for controlling operations; Regulation and enforcement of freight transport.

Unit III: Introduction to Logistics (9 Periods)

Origin and definition-purpose and scope; Types of logistics; concepts in logistics and physical distribution - distribution and Inventory; Organisational and logistics objective; Factors in logistics decision making; Logistics solution.

Unit IV: Warehousing and Inventory (9 Periods)

Inventory-definition and characteristics; The concept of warehouse-definition, functions, types, factors determining location, type, size and number; Warehouse Principles-Flow, stock separation, unitisation, stock rotation; Storage and materials handling; Warehouse processes.

Unit V: Key Issues in Freight Transport and Logistics Planning (9 Periods)

Managing speed and reliability in freight transport; Problems with traditional approaches to inventory planning; New inventory requirements; lead-time gap; Inventory and time; Inventory planning for manufacturing; Inventory planning for retailing; Security and safety; Logistics and the environment.

Total: 45 periods

Outcomes:

- Knowledge of freight transport, its planning and operations.
- Knowledge of logistics, warehousing and inventory, key issues in freight transport and logistics planning.

References:

- 1) Bowersox, D. J., Closs, D. J. and Cooper, M.B. (2007), Supply Chain Logistics Management, McGraw-Hill Education, Singapore.
- 2) Harrison, A. and Hoek, R. Van (2002), Logistics Management and Strategy, Pearson Education Limited, England.

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- 3) Hesse, M. (2008), The City as a Terminal: The Urban Context of Logistics and Freight Logistics, Ashgate Publishing Ltd., England.
- 4) Stroh, M. B. (2006), A Practical Guide to Transportation and Logistics, Logistics Network Inc., USA.

BPL3213 Resilient and Sustainable Cities	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To introduce the concepts, frameworks, and strategies for creating resilient and sustainable cities, focusing on environmental, social, and economic sustainability, risk reduction, climate responsiveness, inclusive urban development, and future-ready urban planning approaches.

Unit I: Introduction to Resilient and Sustainable Cities (9 Periods)

The text explores the concept of resilience and sustainability in urban contexts, its evolution, and its relevance in sustainable development paradigms, including the SDGs, UN-Habitat frameworks, and the Paris Agreement, while also discussing the challenges of climate change, natural disasters, pandemics, urbanization, inequality, and migration.

Unit II: Urban Risks, Vulnerability, and Climate Change Adaptation (9 Periods)

Urban vulnerabilities include environmental, economic, social, and infrastructural issues. Risk assessment frameworks include hazards, vulnerability, exposure, and adaptive capacity. Climate change impacts include rising temperatures, sea-level rise, extreme weather, and water scarcity. Climate adaptation strategies include nature-based solutions, blue-green infrastructure, urban forests, and heat action plans.

Unit III: Planning Tools and Approaches for Resilient Urban Development (9 Periods)

The City Resilience Index and Urban Sustainability Framework are tools for assessing resilience. Urban planning strategies for disaster risk reduction include zoning, setback, permeable surfaces, and floodplain management. Participatory planning for resilience includes community-based, gender-sensitive approaches, and social equity.

Unit IV: Sustainable Urban Infrastructure and Smart Solutions (9 Periods)

Sustainable infrastructure, energy-efficient urban design, and transit-oriented development are key strategies for low-carbon cities. Smart city components, such as ICT and data-driven governance, are essential for resilience. Waste management and circular economy strategies are also crucial, as are green building standards and rating systems.

Unit V: Governance, Policy and Future Directions (9 Periods)

Urban Governance Models for Resilience and Sustainability. Review of national and international policies. Financing mechanisms for sustainable urban development: green bonds, PPPs, international climate funds. Innovations in urban resilience: sponge cities, resilient energy grids, community-led adaptation models. Future of resilient cities: urban metabolism, regenerative design.

Note: To provide a holistic and practical understanding, the five core parameters of a) Sustainability, b) Resilience, c) Equity, d) Efficiency, and e) Safety are to be integrated across units through case studies, global examples, and problem-based learning sessions.

Total: 45 periods

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Outcomes:

- Understand the principles of real estate planning and management, including land valuation, property markets, development processes, and regulatory frameworks.
- Apply real estate planning and management techniques to evaluate development projects, optimize land use, and support sustainable and economically viable urban growth.

References:

- 1) Resilient Cities: Responding to Peak Oil and Climate Change, Peter Newman, Timothy Beatley, Heather Boyer, Island Press, 2009.
- 2) The Sustainable City (Second Edition), Steven Cohen, Columbia University Press, 2021.
- 3) Urban Resilience for Risk and Adaptation Governance, Grazia Brunetta, Springer, 2019.
- 4) Designing Resilient Cities: A Guide to Good Practice, Nick Voulvoulis, Institution of Civil Engineers, 2012.
- 5) Cities and Climate Change: Responding to an Urgent Agenda, Daniel Hoornweg, World Bank, 2011.
- 6) Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia, Anthony Townsend, W.W. Norton & Company, 2013.
- 7) Building Urban Resilience: Principles, Tools, and Practice, Abhas K. Jha, Todd W. Miner, Zuzana Stanton-Geddes, World Bank Publications, 2013.
- 8) Towards Sustainable Cities: Urban Transport and Land Use Planning in the Era of Climate Change, UN-Habitat Reports and Publications.

BPL3214 Approaches to Special Area Plan	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To introduce students to the concepts, methods, and frameworks of **Special Area Plans (SAPs)**, with a focus on addressing the unique planning, design, and development needs of targeted urban and rural areas. The course emphasizes inclusive, sustainable, and innovative planning strategies for areas requiring specific regulatory, environmental, and socioeconomic considerations.

Unit I: Introduction to Special Area Plans (SAPs) (9 Periods)

Definition, scope and significance of SAPs in urban and regional planning. Differences between SAPs and other urban planning instruments (Master Plan, Zonal Plan). Legal, institutional, and policy frameworks governing SAPs in India and globally. Typologies of SAPs: heritage areas, environmental zones, slum redevelopment, transit corridors, and special economic zones (SEZs). Role of SAPs in achieving inclusive, sustainable, and resilient development.

Unit II: Identification and Analysis of Special Areas (9 Periods)

Guidelines for identifying special areas, including ecological sensitivity, cultural/heritage significance, high-density areas, and disaster-prone zones, and GIS-based mapping, demographic profiling, infrastructure assessment, stakeholder understanding, and case studies of SAPs.

Unit III: Planning Approaches and Design Strategies (9 Periods)

Strategic planning frameworks for special areas, design guidelines for heritage conservation, eco-sensitive development, TOD, and informal settlement upgrading, principles of inclusive and participatory planning, integration of green and blue infrastructure, and tools for environmental impact assessment and social impact assessment in SAP contexts.

Unit IV: Regulatory Framework and Development Control (9 Periods)

Regulatory provisions and land use management in SAPs: development control regulations (DCR), building bye-laws, and zoning. Floor Area Ratio (FAR), Transfer of Development Rights (TDR), and Inclusionary Zoning for SAPs. Special provisions for heritage conservation areas, informal settlements, and vulnerable zones. Development incentives and disincentives for promoting compliance and innovation in special area development. Governance models.

Unit V: Implementation, Monitoring, and Emerging Trends (9 Periods)

Implementation frameworks: roles of municipal corporations, development authorities, and community organizations. Phasing and financing strategies: land pooling, land readjustment, infrastructure bonds, and external aid. Monitoring and evaluation mechanisms for SAPs: indicators, benchmarks, and performance-based planning. Use of technologies (GIS, Remote Sensing, Smart Tools) for monitoring special area developments. Emerging trends: climate-responsive SAPs, urban regeneration, tactical urbanism, and place-making. Future directions: inclusive growth, resilience building, and smart governance in special areas.

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Note: To ensure a pragmatic and contextual approach, the five core parameters of a) Inclusivity, b) Sustainability, c) Resilience, d) Efficiency, and e) Heritage sensitivity shall be integrated throughout the syllabus via case studies, policy reviews, and participatory exercises.

Total: 45 periods

Outcomes:

- Understand the principles, methodologies, and statutory frameworks for preparing Special Area Plans for environmentally, culturally, economically, and strategically significant areas.
- Apply planning approaches and spatial analysis techniques to prepare context-specific Special Area Plans that promote sustainable development, conservation, and efficient land use management.

References:

- 1) Special Area Development Plans: A Handbook, Ministry of Housing and Urban Affairs, Government of India.
- 2) City Planning for Civil Engineers, Environmental Engineers, and Surveyors, P. Rao, McGraw Hill Education, 2013.
- 3) Urban Planning: Theory and Practice, S.K. Kulshrestha, Vishwakarma Publications, 2012.
- 4) Planning for Special Areas: A Case Study Approach, United Nations Human Settlements Programme (UN-Habitat), 2015.
- 5) Heritage-led Urban Regeneration in Historic Cities, Rodrigo Cardoso, Springer, 2022.
- 6) Sustainable Urban Planning: Tactics for Development without Destruction, A. Sorensen and P. Marcotullio (Eds.), Taylor & Francis, 2018.
- 7) Guidelines for Conservation and Development of Heritage Zones, INTACH (Indian National Trust for Art and Cultural Heritage), 2016.
- 8) Slum Upgrading and Urban Inclusion, UN-Habitat Reports, 2014.
- 9) Eco-sensitive Zone Planning Manual, Ministry of Environment, Forest, and Climate Change (MoEFCC), Government of India.

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BPL32AU1 Indian Economy (Module 2)	Subject Category	Theory
	Number of Credits	0
	Lecture Periods per Week	1
	Tutorial Periods per Week	0
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	1

Subject Objective:

The course aims to teach students about the Indian economy, its structure, sectors, national issues, and development trends, with a particular focus on urban and regional planning. It will help them understand how economic policies and strategies affect growth, housing, infrastructure, and public service.

Unit I: Introduction to Indian Economy

(3 Periods)

Nature, features, and structure of Indian economy. Basic characteristics of developing economies, and India's position in global context. Key concepts: GDP, GNP, NNP, PCI, HDI, Poverty Line, Inequality, Unemployment. Role of urbanization in economic development: economic base of cities, informal sector, migration trends. Overview of economic planning in India.

Unit II: National Income and Economic Planning

(3 Periods)

Concept of national income and methods of its measurement. Trends and composition of national income in India: primary, secondary, and tertiary sectors. Economic planning in India: historical evolution, objectives, achievements, and limitations. Role of urban and regional planning in economic development. Sustainable Development Goals (SDGs) and economic planning linkage to urban and rural development.

Unit III: Agriculture, Industry, and Services Sectors

(3 Periods)

Agriculture sector. Industrial sector. Services sector. Economic impact of informal sectors, MSMEs, and start-up ecosystems on urban economies. Special focus on construction and housing industries as critical urban sectors.

Unit IV: Infrastructure, Employment, and Public Finance

(3 Periods)

Role of economic development in spatial and urban planning. Importance of physical and social infrastructure: transport, energy, water supply, sanitation, health, education. Public finance in India: sources of revenue, taxation system (GST and local taxes), fiscal deficit, budgetary system. Urban local bodies and municipal finance. Employment scenario in India.

Unit V: Contemporary Issues in Indian Economy Relevant to Planning

(3 Periods)

Urban-rural divide and regional disparities in development. Economic reforms and their impact on urban growth. Poverty, inequality, and inclusive development challenges in urban India. Climate change, environmental degradation, and sustainable economic growth. Role of government programs and initiatives: Smart Cities Mission, AMRUT, PMAY, Digital India, Start-up India. Case studies on urban economic zones, SEZs, industrial corridors, and city competitiveness.

Note: The course will emphasize linking economic concepts to urban and regional planning, through case studies, projects, policy reviews, and economic data analysis, focusing on urban development, infrastructure, housing, and inclusive growth.

Total: 15 periods

Outcomes:

- Understand the structure, growth patterns, and key sectors of the Indian economy and evaluate their implications for urban, regional, and infrastructure planning.
- Apply economic concepts and policy analysis to assess development strategies, resource allocation, and planning interventions for sustainable and inclusive economic growth.

References:

- 1) Indian Economy: Performance and Policies, Uma Kapila, Academic Foundation, Latest Edition.
- 2) Indian Economy, Ramesh Singh, McGraw Hill, Latest Edition.
- 3) Indian Economy: Problems of Development and Planning, A.N. Agarwal, New Age International.
- 4) Economic Survey of India, Ministry of Finance, Government of India (Latest Annual Report).
- 5) Union Budget Documents, Government of India (Latest available).
- 6) Planning and Economic Development in India, M.L. Jhingan, Vrinda Publications.
- 7) India Development Report, IGIDR (Latest edition).
- 8) Urban India: Understanding the Planning and Economic Interface, Select relevant papers/articles.
- 9) NITI Aayog Reports and Policy Documents, Government of India.
- 10) IGNOU Study Material on Indian Economy, School of Social Sciences, IGNOU.

SEVEN SEMESTER

BPL411 Regional Planning and Development Studio	Subject Category	Theory
	Number of Credits	15
	Lecture Periods per Week	3
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	12
	Total Periods per Week	15

Subject Objective:

Impart techniques, tools and methods for the preparation of a development plan for a district or metropolitan area.

Unit I: Fundamentals of Regional Planning

The course shall begin with an understanding of the fundamentals of regional planning, including its meaning, scope, objectives, need and relevance in the context of balanced regional development. Students shall be introduced to different approaches to regional plan preparation, types of regions, regional development theories, planning processes, and the role of regional planning in national, state, district and metropolitan development.

The unit shall also cover the constitutional and institutional framework for regional and district planning, with reference to the 73rd and 74th Constitutional Amendment Acts, decentralised planning, metropolitan planning, district planning committees, and the linkage between regional plans, development plans and sectoral plans.

Unit II: Regional Setting, Delineation and Sectoral Appraisal

This unit shall focus on understanding the regional setting of the selected district, metropolitan area or planning region. Students shall study the physical, demographic, economic, environmental, infrastructural and settlement characteristics of the region. The exercise shall include delineation of the planning region, identification of regional linkages, settlement hierarchy, growth centres, rural-urban relationships and regional circulation patterns.

Students shall form smaller groups to analyse key sectors such as housing, economy, agriculture, industry, services, transport, social infrastructure, physical infrastructure, ecology, environment and resource base. The appraisal shall help identify regional disparities, development potentials, constraints, thrust areas and sectoral priorities.

Unit III: Preparation of Regional Plan and Development Strategies

Based on the regional study and sectoral appraisal, students shall prepare a regional development plan for the selected district, metropolitan area or planning region. The plan-making process shall include formulation of regional vision, goals and objectives, preparation of alternative development scenarios, projection of population and economic activities, and identification of growth patterns, investment areas, development corridors and priority zones.

The unit shall also include preparation of sectoral proposals, settlement hierarchy, infrastructure and mobility strategies, environmental management measures, and implementation framework. Special attention may be given to sub-regional plans or action areas such as tribal, industrial, agro-based,

coastal, eco-sensitive, backward or peri-urban zones. Periodic integration and review exercises shall be undertaken to ensure cross-sectoral coordination and regional planning coherence.

Total: 225 periods

Outcomes:

- Knowledge of fundamentals of regional planning, various tools, techniques and methods for preparation of development plan at district or metropolitan area.

References:

- 1) Ghosh, S (1998), Introduction to Settlement Geography, Sangam Books Limited, India.
- 2) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.
- 3) Mishra, R. P. (1992), Regional Planning: Concepts, Techniques, Policies and Case Studies, Concept Publishing Company, Delhi.
- 4) Sassen, Saskia (2007), Deciphering the Global: Its Scales, Spaces and Subjects, Routledge, New York.

BPL412 Dissertation - Formulation of Research Proposal	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To initiate the terminal project exercise by enabling students to identify a topic and then develop a proposal and methodology in detail.

Each student is required to undertake a terminal project in the eighth semester which is to be approved by the faculty in the seventh semester. This course shall enable the student to identify this individual topic and develop a plan of action for its execution.

Unit I: Introduction to Research (9 Periods)

Students shall be introduced to basics of academic and applied research and different typologies of research methods; Students shall be introduced to various research topics and associated methods as examples.

Unit II: Formulation of Research Titles (alternatives) (9 Periods)

Students shall develop two alternatives of research titles as their 'terminal project' within their interest areas. Each of these two topics needs to be substantiated with an abstract write-up; These abstracts shall be reviewed by the faculty followed by one-to-one consultation meetings.

Unit III: Development of Research Proposal (9 Periods)

On finalisation of the project topic, each student shall develop detailed background information on that topic and for particular case area(s) based on literature review; This shall establish the need for the project and its scope. The background shall also include basic objectives and limitations of the project.

Unit IV: Development of Detailed Methodology and Field Work Plan (9 Periods)

A methodology chart of the intended project with details of the types of information required, the types of survey to be conducted on field shall be presented by the student through visuals / presentation; The student is expected to conduct the field work for collection of data related to the thesis during the break between seventh and eighth semester, based on the field work plan developed in this course.

Unit V: Academic Writing (9 Periods)

Technical writing – synopsis, abstract, report writing, etc.; Writing styles, citation and referencing.

Total: 45 periods

Outcomes:

- Knowledge of various aspects of research, formulation of titles, research proposals, methodology, field work and academic writing.

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References:

- 1) Crotty, Michael, (nd), Introduction: The Research Process, The Foundations of Social Research, Meaning and Perspective in the Research Process, Sage Publications.
- 2) Kothari, C.R. (2004), Research Methodology: Methods and Techniques, New Age International.
- 3) Mahesh Chand, V K Puri (1983), Regional Planning in India, Allied Publishers, India.
- 4) Peter Calthorpe, William Fulton (2001), The Regional City, Island Press, USA.

BPL413 Urban Finance	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

This course aims to impart technical skill sets on urban finance and knowledge on provisions in the constitution along with non-conventional sources of finances and concepts.

Unit I: Multiple Finance (9 Periods)

Principles and composition of income and expenditure of urban local bodies; Taxation and user charges; Inter-governmental fiscal relations; Powers and resources of local governments, constitutional provisions; CFC and SFC, Index of decentralization; Limitations and need for revenue enhancements; Expenditure control methods and mechanisms; Assistance from foreign donors and Multi National agencies.

Unit II: Alternative Sources of Financing (9 Periods)

Types of partnership approaches; Privatization of civic services; Types of contracts and ownerships; User charged projects; Pricing of services; Market access; Municipal Bonds; Pooled finance and prerequisite conditions for accessing non-traditional funds; Land value capture; Land extractions.

Unit III: Resources Based on Achievement of Urban Reforms (9 Periods)

Role of state government and urban local bodies; City's challenge fund; Urban reforms; Implications on resources, incentive fund and state level pooled finance development fund; Property tax reforms and monetization of public properties.

Unit IV: Institutional Capacity Enhancement (9 Periods)

Better finance management, management process; Accounting and budgeting, asset management, receivables management; Computerisation as tool for resource enhancement; Role of Management Information Systems.

Unit V: Plan Forms and Indices (9 Periods)

Financial operating plan, city corporate plan; Development of urban indicators; Infrastructure pricing and financing – financing mechanisms in addition to tax and grants; Private public partnerships like BOT, BOOT, BOLT etc.; Impact fee; Subsidies and Betterment fees.

Total: 45 periods

Outcomes:

- Knowledge of multiple finance mechanism, alternative sources of financing, provisions in the constitution along with non-conventional sources of finance and concepts.

References:

1) Ministry of Urban Development (2014), Policy Discussion Note on Devolving of Land Based Fiscal Tool to the Urban Local Bodies for Strengthening Municipal Finance System, NIUA, New Delhi.

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- 2) Mohanty, Prasanna. K (2014), Cities and Public Policy: An Urban Agenda for India, Vol. 1. SAGE Publications India Pvt. Ltd., New Delhi.
- 3) NIUA (2010), Best Practices on Property Tax Reforms in India, Research Study. Ministry of Urban Development, New Delhi.
- 4) The High-Powered Expert Committee (2011), Estimating the Investment Requirements for Urban Infrastructure Services, Study Report, NIUA, New Delhi.

BPL414 Metropolitan Planning	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

This course discusses the role of metropolises as a system in regional development. This course also highlights how urban areas are undergoing transformation as a part of changing political economy.

Unit I: Metropolis and Metropolitanisation (9 Periods)

Concept and characteristics of metropolis and metropolitanisation; metropolitan areas as urban systems and growth engines; complexities in urban systems; growth and structure of metropolitan areas; case studies from the Indian context; techniques and criteria for delineation of metropolitan areas.

Unit II: Metropolises and its Region (9 Periods)

Metropolis and its regional setting; city core and periphery relationships; suburbanisation and peri-urban growth; rural–urban linkages; transit-oriented development; global cities and city-regions; major metropolitan problems related to housing, transport, infrastructure, environment and governance.

Unit III: Forms and Concepts (9 Periods)

Economic Restructuring and the Post-1973 metropolis; New Urbanism and Neoliberalism; Political economies of cities, Urban renewal and segregation.

Unit IV: Emerging Theories (9 Periods)

New urban theories; Public Space and urban politics; Social Life in Cities: Gender, Space, and Power.

Unit V: Programmes Related to Metropolitan Planning (9 Periods)

Collaborative governance in cities; Decentralization and Metropolitan Planning Committees, Indian policies and programmes related to metropolitan planning.

Total: 45 periods

Outcomes:

- Knowledge of metropolis and region, various concepts and theories and programs related to metropolitan planning.

References:

- 1) Harvey, David (1973), Social Justice and the City, Johns Hopkins University Press, Baltimore.
- 2) Kumar, A (2006), Trends of Planning and Governance in metropolitan India, ITPI Journal, 3: 2 (2006) 10-20.
- 3) Ministry of Urban Development (2009), Guidelines on Urban Infrastructure Development Scheme for Small & Medium towns (UIDSSMT), Guidelines, GoI, New Delhi.
- 4) Sassen, Saskia (2007), Deciphering the Global: Its Scales, Spaces and Subjects, Rutledge, New York.

BPL415 Governance and Management	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To develop the understanding and application of the concept of governance in Development management.

Unit I: The Concept of Governance (9 Periods)

Evolution of the concept of governance; Critical approaches to governance; Governmentality; Types of democracy and significance of decentralisation (political, administrative and fiscal); Good governance.

Unit II: State, Civil Society and Market: Reforms (9 Periods)

New institutionalism and networks in governance; New public management; Transparency and accountability; Access to justice; Civil society; Social movements; State-society synergy; Neo-liberal markets; The concept of participatory governance.

Unit III: Local Self Governance (9 Periods)

Models of local governance; Challenges of local government institutions in India; The need and empowerment of local governments; Good governance initiatives in local governments; Decentralized planning in India and its various models; Participatory planning; Participatory budgeting.

Unit IV: Governance Innovations (9 Periods)

The concept of E-governance, M-governance, SDI-governance and their application in disaster management, public service delivery and efficient local governance.

Unit V: Urbanization and Multi level Governance (9 Periods)

Multilevel governance: Context, institutional types and critiques; Globalisation and Global Governance; Global civil society and global social movement.

Total: 45 periods

Outcomes:

- Knowledge of concepts of governance, state, civil societies and market reforms, local self governance, multi level governance and innovation in governance.

References:

- 1) Aziz,A. & Arnold,D.(eds.)(1996), Decentralized Governance in Asian Countries, Sage,New Delhi.
- 2) Chhotray,V.andStoker,G(2009),GovernanceTheoryandPractice:ACross-DisciplinaryApproach, Palgrave Macmillan, London.
- 3) Corbridge,S.etal.(2005),SeeingtheState:GovernanceandGovernmentalityinIndia,Cambridge University Press.
- 4) Hajer, M. & Wagenaar, H (2002), Deliberative Policy Analysis: Understanding Governance in the NetworkSociety, Cambridge University Press.

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- 5) Ahluwalia MS.1999. India's economic reform: An appraisal In India in theera of economic reforms. SachsJ, Varshney A, Bajpai N (eds.) Oxford University Press, New Delhi 26-80
- 6) Banerjee, A. M. and K. A. Chandrasekaran (1996), Renewing Governance: Issues and Options. New Delhi: Tata McGraw Hill.
- 7) MerinoR.Pinto(2000),Metropolitan City Governance in India,Sage Publications.
- 8) Nayyar,D(2002),Governing Globalisation: Issuesand Institutions, Oxford University Press.

BPL4110 Environmental Impact Assessment	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Introduce tools and techniques of EIA

Unit I: Introduction

(9 Periods)

Environment-meaning, problems faced in urban and rural context; Need and relevance of Environmental Impact assessment in planning and decision-making process; Evolution of EIA at global and national level; Principles of EIA; Classification of EIA projects.

Unit II: Process and Methods

(9 Periods)

Process of EIA in India and Abroad; Importance of scoping and screening in EIA process; Role of public participation at various levels of decision making; Methodologies –checklist, matrices, network and social cost-benefit analysis; Advantages and limitations of various methods adopted through case studies from India and abroad on projects of various types covering different levels of planning.

Unit III: Impacts (Understanding and Assessment)

(9 Periods)

Classification of Impacts-Direct environmental (natural resources) and indirect environmental (social and health) impacts; Urban and regional; Assessment of impacts on resources (including air, water, flora and fauna); Case studies from India and abroad on projects of various types covering different levels of planning.

Unit IV: Various Assessment Techniques

(9 Periods)

PRA technique, Its definition and concepts, objectives, techniques, advantages and limitations; SEA-evolution need and relevance, scope and tasks.

Unit V: Strategic Planning Interventions

(9 Periods)

Need and relevance for strategic planning interventions to reduce environmental impact at various spatial levels of planning, Efforts of other policies at global and national level to reduce the impacts.

Total: 45 periods

Outcomes:

- Knowledge of various aspects of environment, environment risks and need for environmental impact assessment.
- Capability to conduct environment impact assessment.

References:

- 1) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.
- 2) John Glasson, Riki therivel and Andrew chadwik (2012), Introduction to Environmental Impact assessment, Routledge publications.

Syllabus for Bachelor of Planning

- 3) Richard, k. Morgan (2002), Environmental Impact Assessment, A Methodological Perspective, Kluwer Academic publishers, Boston.
- 4) Vijay Kulkarni, T V Ramachandra (2006), Environmental Management, The Energy and Resources Institute, New Delhi.

BPL4111 Planning for Disaster Management	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Introduce the fundamental concepts of Disaster Management and their relevance to the planning, development and management of human settlements with a focus on how planning interventions can reduce disaster risk.

Unit I: Introduction to Disaster Management Framework (9 Periods)

Overview of disasters and their impact at global and national level; Definitions of disaster management terminology such as hazard, risk, vulnerability, preparedness, response, mitigation, etc. Overview of types of hazards including natural hazards, environmental hazards and man-made disasters.

Unit II: The Disaster Cycle (9 Periods)

Pre-disaster – risk and vulnerability; Preparedness, mitigation; Emergency stage, rescue and relief; Emergency shelter; Post disaster, damage and needs assessment; Reconstruction and rehabilitation, Legal and institutional framework for disaster management.

Unit III: Planning for Disaster Mitigation (9 Periods)

The multi-faceted concept of vulnerability, vulnerability and resilience from a planning perspective – land use planning, building regulations, socio-economic considerations for estimating vulnerability; Hazard zonation; Components of disaster mitigation – structural mitigation (improvement in design and construction); Non - structural mitigation (land use zoning, development control regulations); Integration of disaster mitigation into planning processes – case studies.

Unit IV: Planning for Disaster Response (9 Periods)

Institutional framework and roles of different stakeholders- the state and civil society response, private companies and recovery processes; Early warning systems for natural disasters; Evacuation and safe shelters; Maps and databases for effective disaster response; Disaster management plans, Hazard risk vulnerability atlas preparation etc., the concepts of disaster capitalism and disaster diplomacy.

Unit V: Planning for Post-Disaster Reconstruction (9 Periods)

Typical issues in a post disaster scenario; Approaches to post disaster reconstruction; Role of planners; Components of reconstruction – housing, physical and social infrastructure, heritage conservation and restoration, urban renewal, socio-economic rehabilitation; NGOs and CBOs in post-disaster recovery along with case studies of “building back better”, displacement and its social and environmental implications – case studies.

Total: 45 periods

Outcomes:

- Fundamental concepts of Disaster management related to planning for disaster preparedness, mitigation, response and post disaster re – construction measures.

References:

1) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.

2) Kapur, A (2010), Vulnerable India: A Geographical Study of Disasters, Sage, New Delhi.

3) Nicolas A. Valcik, Paul E. Tracy (2013), Case Studies in Disaster Response and Emergency Management, CRC Press.

Course Structure and Syllabus for Bachelor of Planning (B.Plng.)

4) Rodriguez, Havidan, Quarantelli, Enrico L., Dynes, Russell (2006), Handbook for Disaster Research, Springer, India.

EIGHT SEMESTER

BPL421 Dissertation	Subject Category	Studio
	Number of Credits	21
	Lecture Periods per Week	0
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	21
	Total Periods per Week	21

Subject Objective:

To conduct independent scientific research in the form of a terminal project on a topic decided in the last semester.

Each student is required to undertake a terminal project on a subject concerning urban, rural, or regional development as approved by the Department in the seventh semester in the course Dissertation.

The terminal project will provide an opportunity to the student to synthesise the knowledge and skills acquired through the learning of various theories and practices during the course and apply it for strategy formulation for a live planning challenge.

The terminal project shall be monitored continuously and periodically, through internal marked reviews, to check the consistency of work, the relevance of the analysis with respect to the data collected and project scope, and the progress towards logical proposals. The final output shall be firstly in the form of an extended abstract, which once approved by the department will be followed by the submission of a detailed report and drawing/visuals for external jury members, in a given format. The terminal project shall also be presented orally in external jury by each student in the form of visuals / drawings as necessary for each topic.

Total: 225 periods

Outcomes:

- The final output shall be in the form of a draft report, which once approved by the department will be followed by the submission of a detailed report and drawing/ visual for external jury members, in a given format. The thesis shall also be presented orally in external jury by each student in the form of visuals/ drawings as necessary for each topic.

References:

- 1) Elizabeth A. Wentz (2013), How to Design, Write, and Present a Successful Dissertation Proposal, Sage Publications.
- 2) Greetham, Bryan (2014), How to Write Your Undergraduate Dissertation, Palgrave Macmillan.
- 3) Kothari, C.R. (2004), Research Methodology: Methods and Techniques, New Age International (P)Limited Publishers, New Delhi.
- 4) Tayie, Sami (2005), Research Methods and Writing Research Proposals, Pathways to Higher Education, Cairo.

BPL422 Planning Legislation and Professional Practice	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Developing understanding of planning institutions at various scales, planning tools and models of collaborative implementation mechanisms; professional scope and ethics.

Unit I: Concept of Law

(9 Periods)

Sources of law (custom, legislation and precedent); meaning of the term of law, legislation, ordinance, bill act, regulations and bye-laws; Doctrine of separation of powers; Judiciary, legislature and executive – rule of law – significance of law and its relationship to urban planning; Provisions regarding property rights; Legislative competence of state and central governments to enact town planning, legislation, benefits of statutory backing for planning schemes; Eminent domain and police powers; Indian Constitution, provisions regarding property rights.

Unit II: Legislation for Use and Control of Land

(9 Periods)

Concept of eminent domain; Introduction to Land Acquisition Act, 1894; Case studies related to Land Acquisition Act highlighting nature of contention, parties in dispute and the decisions in specific planning disputes; Betterment charges and compensation provisions in planning laws; Judicial precedents; Legislation controlling use of land; NOC, building permission, building bye-laws, etc.; Significance of land development control; ULCRA and its significance, Sectoral Legislation: TCPO, Housing and Environment.

Unit III: Planning Profession, Ethics and Public Sector Practice

(9 Periods)

Reforms in the planning system; planning practice and classification of assignments; spatial planner and qualities, roles, responsibilities and ethics; clients in planning practice; ITPI and its scope; planning practice at national, interstate, state, district, metropolitan and local levels; consultancy practice in the public sector; role of government as facilitator; Conflicting Interests and the planner's dilemma.

Unit IV: Private Sector and Joint Sector in Planning Practice

(9 Periods)

Need for private sector involvement in planning; types of private sector participants including consultants, contractors and developers; systems of private sector participation; understanding joint sector; public-private partnership; models of PPP with case-based approach; Dispute resolution (arbitration and litigation).

Unit V: International Urban Planning Practice and Service Delivery Models

(9 Periods)

Effect of liberalization, privatization and globalization on planning practice; international urban planning practice; models of supply of services; understanding GATS (General Agreement on Trade in Services) and its relevance to planning practice.

Total: 45 periods

Outcomes:

- Understand the principles of professional practice, ethics, legal frameworks, and project management relevant to the planning profession.

Syllabus for Bachelor of Planning

- Apply professional planning skills in project execution, stakeholder coordination, communication, and decision-making while adhering to ethical and statutory standards.

References:

- 1) Blackhall C, (2005) Planning Law and Practice, Routledge Cavendish.
- 2) Tale E (2011), City Rules: How Regulations Affect Urban Form, Island Press
- 3) Farazmand, A (1999), Globalization and Public Administration, Public Administration Review, pp. 509–522.
- 4) George, M (1994), Panchayati Raj: From Legislation to Movement, Concept Publications, New Delhi.
- 5) Scheppele, K.M (1994), Legal theory and Social Theory, Annual Review of Sociology, 20, pp. 383–406.
- 6) [Uttam Chand Shah](#) (2023) PLANNING LEGISLATION covering Urban & Regional Planning and Environmental Laws in India, Published by Notion Press.
- 7) Ahluwalia, Isher J., Ravi, Kanbur and Mohanty, P K (2014), Urbanisation in India, Challenges, Opportunities and the Way Forward, SAGE Publications Pvt. Ltd., New Delhi.
- 8) Kulshreshtha, S.K (2012), Urban and Regional Planning in India - a Handbook for Professional Practice, SAGE Publications Pvt. Ltd., New Delhi.
- 9) Kulshreshtha, S. K (2006), Dictionary of Urban and Regional Planning, Kalpaz Publications, New Delhi.
- 10) Government of India (Ministry of Urban Development and Town and Country Planning Organisation) (2015), Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines. Vol. 1, Ministry of Urban Development, New Delhi.

BPL423 Climate Change and Cities	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

Introduce students to aspects of climate change and its relation to the growth of cities.

Unit I Concept and Issues

(9 Periods)

Changing perspectives in man-environment relationship with focus on issues of population growth and distribution, haphazard urbanization, resource depletion and pollution; Inefficient and intense energy use, life style changes, growing consumption levels and waste; Anthropogenic impacts of growing GHGs on global environment and climate change; Global environmental and climatic change concerns and actions by global community and organizations.

Unit II Cities as Cause of Climate Change

(9 Periods)

Atmospheric heat balance and global warming; Debate on climate change; Energy consumption levels and trends in the cities; Growth of GHGs in the cities of developing countries and India in particular; Rapid urbanization and industrialization; Motorized transportation; Growing builtup area and loss of water bodies and vegetation cover.

Unit III Impacts of Climate Change on the Cities

(9 Periods)

Growing urban vulnerability to climate change and extreme weather events; Heat islands; Heat wave events; Flooding and waterlogging; Sea level rise and coastal cities; Food insecurity; Livelihood issues linked to urban agriculture; Environmental health hazards; Climate change, pollution of water supplies and sanitation and health.

Unit IV Vulnerability and Resilience of Cities towards Climate Change

(9 Periods)

Understanding vulnerability, resistance and resilience in climate change science; Locational vulnerability; Poverty and informality; Infrastructure inadequacy; Landuse changes; Assessing the risk of climate change in different sectors; Lack of priority, awareness and sensitivity in city officials and residents.

Unit V Response to Climate Change

(9 Periods)

Mitigation and adaptation to climate change ; Improving the drainage system; Policy intervention to reduce GHGs emissions; Shelter for the vulnerable groups; Flood protection measures; Responsive urban planning measures; Technical measures; Behavioural change; Guidelines on adaptation to climate change; Coastal zone management; Urban design; Critical review of global case studies on risks, impacts and adaptation. Application of software's related to Climate Change (HEC-RAS, InVEST, SWAT Analysis)

Total :45 Periods

Outcomes:

- Knowledge of impact of climate change on the growth of cities.
- Exposed to the vulnerability, resilience and response measures related to climate change.

References:

1. Jane, Bicknell., David, Dodman and David, Satterthwaite (2009), Adapting Cities to Climate change, Earthscan.
2. Kirstin, Dow and Thomas, E Downing (2007), The Atlas of Climate Change, Earthscan.
3. Rosenzweig, C., Solecki, W. D., Hammer, S. A. & Mehrotra, S (2011), Climate Change and Cities: First Assessment Report of the Urban Climate Change Research Network (1st ed.), Cambridge University Press.
4. UN HABITAT (2009), Climate Change: are cities really to blame ?, Urban World , Volume 1, Issue 2, UN.
5. TERI (2011), The Energy and Climate Resilient, Resource Institute Sustainable Urban Development 6. Planning Commission(2012) Environmental Sustainability of Indian Cities, GoI, New Delhi.

BPL4211 Water Sensitive Urban Development	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

At the end of the semester, the student shall be having a good understanding of urban hydrology and its component. The technologies, strategies, regulations involved in water management will be understood.

Unit I: Urban Hydrology and Its Component (9 Periods)

Hydrological cycle; Various sources of water and its quality, use of water and its variation, Scenario and meaning of water stress and water footprint in the world : social imperatives, environmental considerations and economic challenges.

Unit II: Waste water (9 Periods)

Various traditional and historic case studies on water management based on traditional wisdom , storm water management, rainwater harvesting.

Unit III: Water demand and supply management (9 Periods)

Water demand management, Integrated Urban Water Management and associated case studies , Strategies of Water Pricing and Regulation and Water Demand Management Measures.

Unit IV: Aspects of water sensitive layouts (9 Periods)

Neighbourhood design of water sensitive layout, water sensitive street design; Water Drainage and Site Analysis and various Site Planning Measures; Waste Water Management and Recycling Techniques.

Unit V: Development of a Water Sensitive Neighbourhood Design and Planning (9 Periods)

Individuals shall work on a particular project / case area in a rural or urban setting and analyze the water scenario of the same. A water sensitive neighbourhood, with the details of a street need to be proposed with the availed knowledge of the subject and the case area and the designs to be submitted as original research work with the researcher's viewpoints and suggestions for development in the water related sector with a scientific base.

Total: 45 Periods

Outcomes:

- Knowledge on Urban hydrology, water demand and supply management and recycling of waste water.
- Capability to develop water sensitive neighbourhood design and planning considering street design, site planning and analysis, waste water management and recycling.

References:

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- 1) Jain, Sharad K., Agarwal, Pushpendra K., Singh, Vijay P. (2007), Hydrology and Water Resources of India, Springer, India.
- 2) JohnBriscoe,R.P.S.MalikEditors(2007),Handbook of Water Resources in India: Development, Management and Strategies, OUP.
- 3) Ramaswamy,R.Iyer,Editor,(2009),Water and the Laws in India, Sage Publications India Pvt.Ltd.
- 4) Subramanya,K(2000),Engineering Hydrology,Tata McGraw-HillPublishingCo.,Ltd.,NewDelhi.

BPL4212 Tourism Planning	Subject Category	Theory
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective:

To understand the meaning, types, concepts and practices related to tourism planning, and its social, cultural, economic and spatial aspects by case studies of national and international.

Unit I: Introduction to Tourism

(9 Periods)

Meaning, types, scope, nature, purpose, and key elements - understand concepts such as tour, visits, tourism, travel, excursion, tourist etc. - history, evolution and growth of tourism – domestic and international tourism destinations and regions – surface to space tourism.

Unit II: Tourism: Sociological Aspects

(9 Periods)

People travel habits, purpose, and patterns – culture, leisure and recreation activities – age, gender, income groups and tourism – tourism and differently able people – tourist and local community interface - access and affordability towards tourism- safe and wellness tourism - tourist surveys methods and importance.

Unit III: Tourism: Economic Aspects

(9 Periods)

Tourism as a business and service industry – tourism and hospitality – demand and supply of tourism products - mode of travel and tourism - tourism cost and benefits – tourism investments and developments – tourism and employment – formal and informal sector and tourism - tourism multiplier -tourism and local to regional development - tourism projects.

Unit IV: Tourism: Environment Aspects

(9 Periods)

Nature, human environment and tourism – rural and urban environment and tourism – Impact of tourism on environment – assessing carrying capacity of tourist destinations – eco- tourism – disaster, resilience, climate change and tourism.

Unit V: Tourism: Planning aspects

(9 Periods)

Tourism planning components – planning for tourism infrastructure and services - Information and communication system and tourism - role of government and private sector in tourism development - tourism circuits – planning and development of regions - tourism policies and programs – governance vs e-governance and tourism. case studies of tourism planning at destination, transit, regional, national and international levels.

Total: 45 periods

Outcomes:

- Knowledge of Tourism planning in relation to Social, Economic, Environmental and Planning aspects.

Syllabus for Bachelor of Planning

References:

- 1) Clare A. Gunn, (1993), Tourism Planning: Basics, Concepts, Cases, Taylor & Francis Group, London.
- 2) James Mark, (2003), Tourism and Economy, Versa Press, London.
- 3) Mohamed, Abdul Razak (2019) Multi-culture Communication is essential for Tourism Industry: Global to Local Perspective, In Tuzunkan D, Alntas V (eds), Contemporary Human Resources Management in Tourism Industry, IGI Global, Pennsylvania, USA.

BPL4213 Global Cities - Elective	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Studio/Lab/Workshop/Practical's	0
	Total Periods per Week	3

Subject Objective

This course introduces the concept and significance of global cities in the context of globalisation and urbanisation. It examines their roles as centres of finance, innovation, governance, culture, and global connectivity, while addressing challenges of sustainability, inclusiveness, resilience, and urban competitiveness.

Unit I: Introduction to Global Cities (9 Periods)

Concept, definition and evolution of global cities; characteristics and functions of global cities; globalization and urbanization; world city hypothesis; global city hierarchy; indicators and criteria for identifying global cities; comparison between global cities, metropolitan cities, megacities, and smart cities.

Unit II: Economy and Competitiveness of Global Cities (9 Periods)

Global economic networks; financial and business service centres; innovation districts and knowledge economy; multinational corporations; digital economy and creative industries; global connectivity through transport and communication; economic competitiveness and city branding.

Unit III: Urban Form, Infrastructure and Governance (9 Periods)

Urban morphology of global cities; infrastructure systems; sustainable mobility and public transport; housing and real estate dynamics; governance models in global cities; public-private partnerships; role of technology and smart governance.

Unit IV: Social, Environmental and Cultural Dimensions (9 Periods)

Migration and multiculturalism; social diversity and inclusion; urban inequality and gentrification; environmental sustainability; climate resilience; public spaces and cultural identity; sustainable development goals (SDGs) in global cities.

Unit V: Global Cities – Case Studies and Future Perspectives (9 Periods)

Comparative study of selected global cities (New York, London, Singapore, Tokyo, Dubai, Shanghai); emerging global cities in India (Mumbai, Delhi, Bengaluru, Hyderabad); global city rankings and indices; future trends including AI, digital governance, resilience, and sustainable urban development.

Total: 45 periods

Outcomes:

Syllabus for Bachelor of Planning

- Understand the concept, evolution, characteristics, and governance of global cities, and analyse the role of globalization, innovation, infrastructure, and socio-economic processes in shaping their development.
- Evaluate and compare global cities using appropriate indicators and case studies, with particular emphasis on sustainability, resilience, inclusiveness, inequality, and urban competitiveness.

References:

- 1) Hall, P. (1966). *The World Cities*. Weidenfeld & Nicolson, London.
- 2) Sassen, S. (2001). *The Global City: New York, London, Tokyo* (2nd Edition). Princeton University Press.
- 3) Friedmann, J. (1986). *The World City Hypothesis*. *Development and Change*, 17(1), 69–83.
- 4) Taylor, P. J. (2004). *World City Network: A Global Urban Analysis*. Routledge.
- 5) UN-Habitat (2022). *World Cities Report*. United Nations Human Settlements Programme.
- 6) OECD (2020). *Cities in the World: A New Perspective on Urbanisation*. OECD Publishing.
- 7) Florida, R. (2005). *Cities and the Creative Class*. Routledge.
- 8) Glaeser, E. (2011). *Triumph of the City*. Penguin Press.



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

***Revised Annexure – IV:
Revised Course Structure (10 Sem) and Detailed
Syllabus (2 Sem) of B.Architecture***

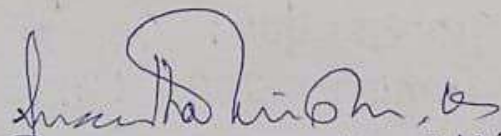
Remarks on the B.Architecture - Detailed syllabus 2026-27

- 1) The overall framework is in line with the spirit of NEP 2020, which is illustrated by the offer of 30 professional elective subjects and 11 open electives.
- 2) Theory of Structure I and Theory of Structure II are taught at the second and third semester levels respectively. In the fourth semester, Theory of Structure is combined with Surveying and Levelling, which is not very appropriate. Surveying and Levelling is a very critical subject which throws light on understanding & mapping the site characteristics. It may be taught as an independent subject, especially because it involves practical work.
- 3) Architects are involved in interior design works in a big way, especially in metropolitan cities. Therefore, Interior Design needs to be taught as a regular subject.
- 4) Architecture students, in their studios, produce output which is essentially a sketch scheme. In real practice, Working drawing is what is used for construction purpose. Therefore, Working Drawing deserves a place as a regular subject.
- 5) There appears to be overlap among a few subjects, which may be avoided. In the third semester, Climate Responsive Design is a regular subject. However, the following titles of Professional electives indicate the possibility of overlap: -
Passive Design principles, Building Physics and Energy efficient architecture, Climate Responsive Design Tools.

- 6) The title of the Professional elective 'Architectural Psychology' may be changed to 'Environmental Psychology' since the latter is a well recognised field, which includes the architectural environment.
- 7) The title of the professional elective 'Contemporary Adaptation of Vernacular Design' may be changed to 'Neo Vernacular architecture' since the latter involves the adaptation of vernacular and labelled as such.
- 8) The title of the Professional Elective 'Indian Knowledge System Vastu' may be changed to 'Indian Knowledge Systems in Architecture'. Vastu Shastra and Artha Shastra are ancient texts related to architecture & Planning. However, the term Vastu in the present day context has taken a different turn and may be rather misleading.

9) An elective entitled 'AI tools for Architects' may become part of Professional electives.

10) In the module system of dividing the Outline, the advantage is that the learning outcomes can be measured crisply. For eg, if there are five objectives (learning), five modules and five learning outcomes, the measurement of outcomes can be made in specific terms.


 Dr. K. S. Anantha Krishna
 Special Invitee to the
 Academic Senate Meeting
 held on 21.07.2026.

Draft

Bachelor of Architecture

Detailed Syllabus for

Five Year Under Graduate Degree Programme in Architecture

Bachelor of Architecture: Course Structure & Examination Scheme													
First Semester													
S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	Total Marks
1	PC	2026ARC111	Foundational Studio I	2	1	7	10	10	IA + J	50	-	50	100
2	PC	2026ARC112	Architectural Drawing & Model Making Workshop – I	2	--	3	5	5	IA + J	50	-	50	100
3	SEC	2026ARC113	Maths for Architects	1	1	--	2	2	IA + WE	50	50	-	100
4	SEC	2026ARC114	Language	1	0	--	1	1	IA + WE	50	50	-	100
5	SEC	2026ARC115	Professional Communication	2	1	--	3	3	IA + WE	50	50	-	100
6	SEC	2026ARC116	Computer Application – I	1	--	2	3	3	IA + J	50	-	50	100
7	BS&AE	2026ARC117	Ecology and Environmental Science & Lab	1	1	1	3	3	IA + WE	50	50	-	100
			Total	10	4	13	27	27		350	200	150	700
SECOND SEMESTER													
S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	Total Marks
1	PC	2026ARC121	Foundational Studio II	2	1	7	10	10	IA + J	50	-	50	100
2	PC	2026ARC122	Architectural Drawing & Model Making Workshop II	2	--	3	5	5	IA + J	50	-	50	100
3	PC	2026ARC123	History of Architecture and Culture – I	2	1	--	3	3	IA + WE	50	50	-	100
4	PC	2026ARC124	Theory of Architecture	2	1	--	3	3	IA + WE	50	50	-	100
5	BS&AE	2026ARC125	Theory of Structure - I	2	1	--	3	3	IA + WE	50	50	-	100
6	SEC	2026ARC126	Computer Application – II	1	--	2	3	3	IA + J	50	-	50	100
			Total	11	4	12	27	27		300	150	150	600
THIRD SEMESTER													
S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	Total Marks
1	PC	2026ARC211	Architectural Design I	2	1	7	10	10	IA + J	50	-	50	100
2	BS&AE	2026ARC212	Building Material and Construction – I	2	--	3	5	5	IA + J	50	-	50	100
3	BS&AE	2026ARC213	Climate-Responsive Design	2	--	1	3	3	IA + WE	50	50	-	100
4	BS&AE	2026ARC214	Building Services – I	2	--	1	3	3	IA + WE	50	50	-	100
5	BS&AE	2026ARC215	Theory of Structure - II	2	1	--	2	3	IA + WE	50	50	-	100
6	PE		Professional Elective – I	2	1	--	2	3	IA + WE	50	50	-	100
			Total	12	3	12	25	27		300	200	100	600

FOURTH SEMESTER													
S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			Total Marks
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	
1	PC	2026ARC221	Architectural Design II	2	1	7	10	10	IA + J	50	-	50	100
2	BS&AE	2026ARC222	Building Material and Construction – II	2	--	3	5	5	IA + J	50	-	50	100
3	PC	2026ARC223	History of Architecture and Culture – II	2	1	--	3	3	IA + WE	50	50	-	100
4	BS&AE	2026ARC224	Building Services – II	2	--	1	3	3	IA + WE	50	50	-	100
5	BS&AE	2026ARC225	Theory of Structure and Surveying & Levelling - III	2	--	1	2	3	IA + WE	50	50	-	100
6	PE		Professional Elective – II	2	1	--	2	3	IA + WE	50	50	-	100
			Total	12	3	12	25	27		300	200	100	600

FIFTH SEMESTER													
S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			Total Marks
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	
1	PC	2026ARC311	Architectural Design III	2	1	7	10	10	IA + J	50	-	50	100
2	BS&AE	2026ARC312	Building Material and Construction – III	2	--	3	5	5	IA + J	50	-	50	100
3	PC	2026ARC313	History of Architecture and Culture – III	2	1	--	3	3	IA + WE	50	50	-	100
4	BS&AE	2026ARC314	Building Services – III	2	--	1	3	3	IA + WE	50	50	-	100
5	PE		Professional Elective – III	2	1	--	2	3	IA + WE	50	50	-	100
6	PE		Professional Elective – IV	2	1	--	2	3	IA + WE	50	50	-	100
			Total	12	4	11	25	27		300	200	100	600

SIXTH SEMESTER													
S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			Total Marks
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	
1	PC	2026ARC321	Architectural Design IV	2	1	7	10	10	IA + J	50	-	50	100
2	BS&AE	2026ARC322	Building Material and Construction – IV	2	--	3	5	5	IA + J	50	-	50	100
3	PC	2026ARC323	Landscape and Site Planning	2	--	1	3	3	IA + WE	50	50	-	100
4	BS&AE	2026ARC324	Building Services – IV	2	--	1	3	3	IA + WE	50	50	-	100
5	PC	2026ARC325	Human Settlement Planning	2	1	--	3	3	IA + WE	50	50	-	100
6	PE		Professional Elective – V	2	1	--	2	3	IA + WE	50	50	-	100
			Total	12	3	12	26	27		300	200	-	600

SEVENTH SEMESTER													
S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			Total Marks
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal	External Assessment		

				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	Total Marks
1	PC	2026ARC411	Architectural Design V	2	1	7	10	10	IA + J	50	-	50	100
2	PC	2026ARC412	Specifications, Cost Estimation and Budgeting	3	1	1	5	5	IA + WE	50	50	-	100
3	PC	2026ARC413	Urban Design and Housing	2	1	--	3	3	IA + WE	50	50	-	100
4	OE	2026AROE41	OPEN Elective – I	2	1	--	2	3	IA + WE	50	50	-	100
5	OE	2026AROE42	OPEN Elective – II	2	1	--	2	3	IA + WE	50	50	-	100
6	PE		Professional Elective – VI	2	1	--	2	3	IA + WE	50	50	-	100
			Total	13	6	8	24	27		300	200	-	600

EIGHTH SEMESTER

S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			Total Marks
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	
1	PAECC	2026ARC421	Practical Training / Internship (Mandatory) – (*26 Minimum Credit as per COA Norms)	--	--	--	--	27	IA+J	50	-	50	100
			Total	--	--	--	--	27					100

NINTH SEMESTER

S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			Total Marks
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	
1	PC	2026ARC511	Architectural Design VI	2	1	7	10	10	IA + J	50	-	50	100
2	PAECC	2026ARC512	Pre-Thesis	2	--	3	5	5	IA + J	50	-	50	100
3	PAECC	2026ARC513	Project Management	2	1	--	3	3	IA + WE	50	50	-	100
4	OE	2026AROE51	OPEN Elective – III	2	1	--	2	3	IA + WE	50	50	-	100
5	OE	2026AROE52	OPEN Elective – IV	2	1	--	2	3	IA + WE	50	-	50	100
6	PE		Professional Elective – VII	2	1	--	2	3	IA + WE	50	50	-	100
			Total	12	5	10	24	27		300	150	150	600

TENTH SEMESTER

S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			Total Marks
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	Written Exam (WE)	Jury / Viva-Voce (J)	
1	PC	2026ARC521	Architectural Design Thesis + Report Writing	3	--	18	21	21	IA + J	60	-	40	100
2	PAECC	2026ARC522	Entrepreneurship & Professional Practice	2	--	3	5	3	IA + J	50	-	50	100
3	PE		Professional Elective – VIII	2	1	--	2	3	IA + WE	50	50	-	100
			Total	7	1	21	28	27		160	50	90	300

PROFESSIONAL ELECTIVES

			Subject	Classes			Marks
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S No	Course Category	Subject Code						Credit s	Examination Scheme	Internal Assessment (IA)	External Assessment		Total Marks
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week				Written Exam (WE)	Jury / Viva-Voce (J)	
Professional Elective - I													
1	PE	2026ARE211	Algorithmic Modeling	2	1	--	2	3	IA + WE	50	50	-	100
2	PE	2026ARE212	Design Thinking	2	1	--	2	3	IA + WE	50	50	-	100
3	PE	2026ARE213	Modular Construction	2	1	--	2	3	IA + WE	50	50	-	100
Professional Elective - II													
4	PE	2026ARE221	Passive Design Principles	2	1	--	2	3	IA + WE	50	50	-	100
5	PE	2026ARE222	Vernacular Architecture & Traditional Materials and Construction	2	1	--	2	3	IA + WE	50	50	-	100
6	PE	2026ARE223	Art and Architecture	2	1	--	2	3	IA + WE	50	50	-	100
7	PE	2026ARE224	Narrative and Storytelling in Design	2	1	--	2	3	IA + WE	50	50	-	100
8	PE	2026ARE225	Ergonomics and Product Design	2	1	--	2	3	IA + WE	50	50	-	100
Professional Elective - III & IV													
9	PE	2026ARE311	Digital Tools & Methods in Architecture	2	1	--	2	3	IA + WE	50	50	-	100
10	PE	2026ARE312	Traditional Settlements and Typology	2	1	--	2	3	IA + WE	50	50	-	100
11	PE	2026ARE313	Appropriate Building Technologies	2	1	--	2	3	IA + WE	50	50	-	100
Professional Elective - V													
12	PE	2026ARE321	Digital Twins & Data Analytics for Architecture	2	1	--	2	3	IA + WE	50	50	-	100
13	PE	2026ARE322	Building Physics and Energy Efficient Architecture	2	1	--	2	3	IA + WE	50	50	-	100
14	PE	2026ARE323	Introduction to Conservation and Documentation	2	1	--	2	3	IA + WE	50	50	-	100
15	PE	2026ARE324	Architectural Psychology	2	1	--	2	3	IA + WE	50	50	-	100
16	PE	2026ARE325	Architectural Journalism	2	1	--	2	3	IA + WE	50	50	-	100
17	PE	2026ARE326	Planning Theory	2	1	--	2	3	IA + WE	50	50	-	100
18	PE	2026ARE327	Universal Design Principles and Signages	2	1	--	2	3	IA + WE	50	50	-	100
19	PE	2026ARE328	Disaster Resilient Buildings	2	1	--	2	3	IA + WE	50	50	-	100
Professional Elective - VI													
20	PE	2026ARE411	Indian Knowledge System - Vastu	2	1	--	2	3	IA + WE	50	50	-	100
21	PE	2026ARE412	Behaviour Mapping Techniques	2	1	--	2	3	IA + WE	50	50	-	100
22	PE	2026ARE413	Prefab Construction	2	1	--	2	3	IA + WE	50	50	-	100
Professional Elective - VII													
23	PE	2026ARE511	Advanced Digital Technologies in Architecture	2	1	--	2	3	IA + WE	50	50	-	100
24	PE	2026ARE512	Climate Responsive Design Tools	2	1	--	2	3	IA + WE	50	50	-	100
25	PE	2026ARE513	Contemporary Adaptation of Vernacular Design	2	1	--	2	3	IA + WE	50	50	-	100
26	PE	2026ARE514	Architectural Repairs, Renovations and Retrofits	2	1	--	2	3	IA + WE	50	50	-	100
27	PE	2026ARE515	Smart City Systems & SDG	2	1	--	2	3	IA + WE	50	50	-	100

28	PE	2026ARE516	Contemporary Processes in Architecture	2	1	--	2	3	IA + WE	50	50	-	100
Professional Elective - VIII													
29	PE	2026ARE521	Green Buildings and Rating System	2	1	--	2	3	IA + WE	50	50	-	100
30	PE	2026ARE522	Contemporary Sacred Architecture beyond India	2	1	--	2	3	IA + WE	50	50	-	100
31	PE	2026ARE522	Evidence-Based Design	2	1	--	2	3	IA + WE	50	50	-	100
OPEN ELECTIVES													
S No	Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			Total Marks
				Lecture Hrs / Week	Tutorial Hrs / Week	Studio Hrs / Week	Total Hrs / Week			Internal Assessment (IA)	External Assessment Written Exam (WE)	Jury / Viva-Voce (J)	
1	PE	2026AROE01	Photography	2	1	--	2	3	IA + WE	50	50	-	100
2	PE	2026AROE02	UX UI Design	2	1	--	2	3	IA + WE	50	50	-	100
3	PE	2026AROE03	GIS	2	1	--	2	3	IA + WE	50	50	-	100
4	PE	2026AROE04	IPR	2	1	--	2	3	IA + WE	50	50	-	100
5	PE	2026AROE05	Valuation	2	1	--	2	3	IA + WE	50	50	-	100
6	PE	2026AROE06	Foreign Language	2	1	--	2	3	IA + WE	50	50	-	100
7	PE	2026AROE07	Startup Law, IP & Company Formation	2	1	--	2	3	IA + WE	50	50	-	100
8	PE	2026AROE08	Basics of Accounting & Cost Management	2	1	--	2	3	IA + WE	50	50	-	100
9	PE	2026AROE09	Graphic Design	2	1	--	2	3	IA + WE	50	50	-	100
10	PE	2026AROE10	Printing	2	1	--	2	3	IA + WE	50	50	-	100
11	PE	2026AROE11	Interior Design and Space Making	2	1	--	2	3	IA + WE	50	50	-	100

FIRST SEMESTER

2026ARC111 Foundational Studio I

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
2	1	7	10	10	IA+J	PC

Theme: Abstract / Human Scale & Basic Visual Arts

Course Objective To establish foundational visual literacy by focusing entirely on abstract form, tactile material properties, and the human scale. Students will master 2D graphic composition and translate flat concepts into proportional, three-dimensional spatial constructs guided strictly by anthropometric data.

Learning Outcomes

1. **Visualize** core design principles (balance, rhythm, contrast) through 2D graphics.
2. **Evaluate** the tactile and structural properties of physical modeling materials.
3. **Execute** precise 2D-to-3D visualization (translating orthographic drafts into volumetric models).
4. **Apply** strict anthropometric data to scale and proportion spatial thresholds.

Course Contents:

The course content and studio workflow begin by exploring the elements of design, color theory, and visual organization through exercises in geometric pattern development, collage making, and free-hand sketching for graphic abstraction. This 2D abstract work leads directly into the study of form and material properties, where concepts of solid versus void and light behavior are examined through hands-on material explorations using paper, clay, and wire to translate those initial patterns into 3D block models. The curriculum then introduces anthropometrics and the human scale, teaching ergonomics and universal design standards as students draw human figures to build an eye for proportion and analyze spatial activities to derive precise dimensions for architectural components. Finally, students correlate orthographic projection with volumetric reality by designing an abstract spatial threshold based strictly on their gathered anthropometric data, culminating in accurate 2D drafts and a precise to-scale block model.

References

1. Broadbent, G. (1973). *Design in Architecture*. John Wiley and Sons.
2. Ching, F.D.K. (1997). *Design Drawing*. John Wiley & Sons.
3. Ching, F.D.K. (2012). *Architecture: Form, Space & Order*. John Wiley & Sons.
4. Panero, J. & Zelnik, M. (1979). *Human Dimension & Interior Space*. Watson-Guptill.

2026ARC112 Architectural Drawing & Model Making Workshop – I

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			

2	--	3	5	5	IA+J	PC
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Course Objective To establish the foundational vocabulary of architectural representation. Students will develop precise manual drafting skills, understand the geometry of architectural projection, and learn safe, accurate physical model-making techniques using primary workshop tools.

Learning Outcomes

1. **Execute** precise manual drafting techniques, mastering line weights, lettering, and architectural scales.
2. **Translate** 3D objects into 2D orthographic projections (plans, elevations, sections).
3. **Draft** 3D isometric and axonometric views of geometric solids and simple spatial compositions.
4. **Fabricate** accurate physical block models using foundational materials (paper, foam board, wood) and workshop tools.

Course Contents:

The course content and studio workflow introduce students to drafting fundamentals at the board, mastering the use of T-squares, set squares, architectural scales, precise line weights, and standardized architectural lettering. Following this, the focus shifts to orthographic projections, where students study the descriptive geometry of simple solids, learning to extract accurate 2D plans, elevations, and sections from 3D objects. This process is then reversed by teaching students to construct measurable isometric and axonometric views from their 2D orthographic drafts. Finally, students transition from the drafting board to the fabrication lab, receiving safety training on basic workshop hand tools and learning cutting, joining, and finishing techniques to build precise physical block models that directly correspond to their drafted projections.

References

1. Ching, F.D.K. (1997). *Design Drawing*. John Wiley & Sons.
2. Ching, F. D. K. (2011). *A Visual Dictionary of Architecture*. John Wiley & Sons.
3. Ching, F. D. K. (2009). *Architectural Graphics*. John Wiley & Sons.
4. Bhatt, N.D. (2014). *Engineering Drawing*. Charotar Publishing House.
5. Mills, C.B. (2005). *Designing with Models: A Studio Guide to Making and Using Architectural Design Models*. Wiley.

2026ARC113 Mathematics

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
1	1	--	2	2	IA+WE	SEC

Course Objective To equip students with the rigorous quantitative foundation necessary for structural analysis, complex form-finding, and data-driven design. This course bridges the gap between traditional manual geometry and applied architectural logic, culminating in the use of statistical and probabilistic models to evaluate environmental and urban data.

Learning Outcomes

1. **Apply** advanced trigonometry and calculus to calculate spatial volumes, surface areas, and structural load distributions.
2. **Utilize** 2D and 3D coordinate geometry to resolve complex architectural curves and surfaces.

3. **Translate** mathematical logic and coordinate systems into the algorithmic rules required for parametric spatial generation.
4. **Analyze** urban demographic data, climate metrics, and risk factors using advanced statistics and probability.

Course Contents:

The course begins by reinforcing foundational geometry and advanced trigonometry, focusing on the calculation of surface areas, volumes, and complex spatial curves essential for architectural form-finding. Following this, the curriculum introduces applied calculus, teaching students the mathematical principles behind structural mechanics, load distribution, and the calculation of bending moments. The focus then bridges traditional analog mathematics with contemporary digital practice, demonstrating how coordinate geometry, vectors, and matrices form the underlying logic of parametric design platforms and algorithmic spatial generation. Finally, the course culminates in the comprehensive study of statistics and probability. In this final phase, students are equipped with the quantitative tools necessary to analyze urban demographic datasets, predict long-term climate metrics, and evaluate environmental risk factors, ensuring they can make highly informed, data-driven decisions.

References

1. Salvadori, M. (1990). *Mathematics in Architecture*. Prentice Hall.
2. Burry, J., & Burry, M. (2010). *The New Mathematics of Architecture*. Thames & Hudson.
3. Grewal, B.S. (2018). *Higher Engineering Mathematics*. Khanna Publishers.
4. Benjamin, J. R., & Cornell, C. A. (2014). *Probability, Statistics, and Decision for Civil Engineers*. Courier Corporation.

2026ARC114 Language

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
1	--	--	1	1	IA+WE	SEC

Course Objective To develop fundamental linguistic skills in a selected regional or foreign language. This course focuses on general communication, reading comprehension, and writing proficiency, enhancing the student's overall cognitive and expressive abilities to navigate diverse cultural, social, and future professional environments.

Learning Outcomes

1. **Comprehend** the basic grammar, syntax, and essential vocabulary of the selected language.
2. **Construct** coherent written texts, including basic correspondence, summaries, and short essays.
3. **Demonstrate** conversational fluency and accurate pronunciation in everyday social interactions.
4. **Analyze** and interpret general literary texts to improve reading comprehension and cross-cultural awareness.

Course Contents:

The course is structured to systematically build foundational language skills, allowing students to select from regional languages (Indian) or foreign languages (such as French, German, or Spanish). The curriculum begins with an intensive focus on core grammar, syntax, and essential vocabulary in the

chosen language. Once the grammatical foundation is established, the focus shifts to reading comprehension, utilizing short stories and general literary texts to improve the ability to interpret, process, and analyze written information. Parallel to reading, students practice written composition, drafting basic correspondence, descriptive paragraphs, and summaries. Finally, the course heavily emphasizes active verbal communication, engaging students in regular conversational practice, listening comprehension exercises, and pronunciation drills to ensure confident, articulate, and natural spoken fluency in everyday situations.

2026ARC115 Professional Communication

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
2	1	--	3	3	IA+WE	SEC

Course Objective To equip students with the essential verbal, written, and visual communication skills required in the architectural profession. This course transitions students from general language proficiency to specialized design communication, enabling them to articulate spatial concepts, write architectural narratives, and present their design intent confidently to both professional and lay audiences.

Learning Outcomes

1. **Articulate** architectural concepts and spatial intent using precise, discipline-specific vocabulary.
2. **Draft** professional architectural documents, including design briefs, formal correspondence, and analytical essays.
3. **Synthesize** visual media and verbal delivery to execute compelling architectural presentations and jury defenses.
4. **Evaluate** and critique architectural literature to develop rigorous reading and academic writing skills.

Course Contents:

The course content and workflow begin by establishing a robust foundation in architectural vocabulary and descriptive language, where students learn to articulate abstract spatial concepts, material properties, and core design principles using precise professional terminology. The focus then shifts to written communication, teaching students the mechanics of drafting clear and concise architectural documents, including formal emails, project design briefs, and short analytical essays based on the critical reading of foundational architectural texts. Building upon these written skills, the curriculum introduces the techniques of verbal presentation and public speaking, actively training students to pitch their design ideas, structure compelling narrative arcs, and defend their concepts constructively during studio juries. Finally, the course culminates in the synthesis of visual and verbal communication, where students practice integrating their drafting and modeling outputs with oral presentations, ensuring complete mastery in communicating comprehensive design intents before they advance to complex public projects.

References

1. Frederick, M. (2007). *101 Things I Learned in Architecture School*. MIT Press.
2. Bovée, C. L., & Thill, J. V. (2015). *Business Communication Today*. Pearson.
3. Parnell, R. (2001). *The Portfolio: An Architecture Student's Handbook*. Architectural Press.

4. Anderson, J. (2013). *Architectural Design: Communication and Representation*. Routledge.

2026ARC116 Computer Application – I

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
1	--	2	3	3	IA+J	SEC

Course Objective To bypass traditional 2D drafting and immerse students immediately in object-oriented architectural modeling. Students will understand the fundamental logic of Building Information Modeling (BIM), learning to construct intelligent 3D spatial models and dynamically extract 2D construction documentation and data schedules directly from the digital environment.

Learning Outcomes

1. **Comprehend** the core philosophy of BIM (data-driven objects versus analog lines).
2. **Construct** precise, intelligent 3D building models using parametric architectural elements.
3. **Extract** accurate 2D orthographic projections (plans, sections, elevations) directly from the 3D model.
4. **Generate** basic data schedules (quantities, areas) to understand the informational value of the model.

Course Contents:

The course content and studio workflow begin by establishing the conceptual shift from digital drafting to intelligent modeling, introducing students to the core interface and logic of BIM platforms (such as Revit or ArchiCAD). Students immediately begin constructing 3D spatial models by manipulating data-rich parametric elements—walls, slabs, roofs, and fenestrations—understanding how these objects interact dynamically. Once a foundational 3D model is built, the curriculum focuses on documentation, teaching students how to cut automated sections, generate orthographic plans, and control visual visibility graphics directly from the central model. The semester concludes with an introduction to data extraction, where students learn to generate automated room area schedules and material quantities, fundamentally grasping that a BIM model is a comprehensive spatial database, bridging seamlessly with their concurrent foundational design projects.

References

1. Eastman, C., et al. (2011). *BIM Handbook: A Guide to Building Information Modeling*. Wiley.
2. Krygiel, E., & Vandezande, J. (2015). *Mastering Autodesk Revit Architecture*. John Wiley & Sons.
3. Kensek, K. (2014). *Building Information Modeling*. Routledge.

2026ARC117 Ecology and Environmental Science & Lab

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
1	1	1	3	3	IA+WE	BS&AE

Course Objective: To introduce students to the fundamentals of ecology and environmental science and their relationship with the built environment, enabling awareness of sustainable development, environmental conservation, and ecological responsibility in architecture.

Learning Outcomes:

1. **Understand** the fundamental principles of ecology, ecosystems, biodiversity, and environmental processes influencing human settlements.
2. **Identify** the relationships between natural systems, climate, resources, and the built environment.
3. **Develop** environmentally responsible and sustainable design awareness for future architectural applications.

Course Contents:

The course introduces the fundamentals of ecosystems and environmental resources, focusing on the structure and functions of forest, grassland, desert, and aquatic ecosystems. Students gain an understanding of natural resources such as land, forest, water, and energy, along with the significance of biodiversity, India's biogeographical diversity, and methods of conservation including in-situ and ex-situ approaches. The course also examines threats to biodiversity such as habitat loss, species extinction, and environmental degradation.

The course further explores major environmental problems in India including air, water, soil, marine, noise, thermal, and nuclear pollution, along with waste management, recycling, composting, global warming, acid rain, and ozone depletion. Social and environmental concerns related to sustainable development, urbanization, population growth, resource depletion, wetland and mangrove loss, desertification, and human-wildlife conflict are discussed. Students are also introduced to environmental governance, regulatory frameworks, and major environmental protection acts related to pollution control, wildlife protection, and forest conservation.

References

1. Agarwal, K. C. (2001). Environmental Biology. Bikaner : Nidhi Publications Ltd.
2. Benny, J. (2005). Environmental Studies. New Delhi : Tata McGraw Hill.
3. Bharucha, E. (2005). Text book of environmental studies for undergraduates courses. New Delhi : Universities Press, UGC. .
4. Brunner, R.C. (1989). Hazardous Waste Incineration. New Delhi : McGraw Hill.
5. Kaushik, A. and Kaushik, C. P. (2010). Basics of Environment and Ecology. New Delhi: New Age International Publisher

SECOND SEMESTER

2026ARC121 Foundational Studio II

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
2	1	7	10	10	IA+J	PC

Theme: Art, Design, & Spatial Practices (Form, Material & Fabrication)

Course Objective To transition from abstract human-scale proportions to purposeful spatial configurations and physical enclosures. Students will explore the psychology of space and understand how light, shadow, material fabrication, and basic structural logic (small-scale framing) dictate the human experience of an architectural threshold.

Learning Outcomes

1. **Analyze** the psychology of spatial perception, transitions, and threshold conditions.
2. **Evaluate** and manipulate the behavior of natural light and shadow within an enclosed volume.
3. **Fabricate** tangible material joints and small-scale structural framing models.
4. **Synthesize** art and spatial practices to design a functional, single-use architectural enclosure.

Course Contents:

The course content and studio workflow begin with students transitioning from abstract forms to purposeful spatial configurations, exploring thresholds, transitions, and the psychology of enclosure through outdoor observational sketching and spatial mapping. This leads directly into the study of light, shadow, and articulation, where the behavior of natural light is analyzed using scio-graphy and physical models to actively manipulate shadow, texture, and tonal values within a built volume. Moving beyond abstract massing into tangible fabrication, students then study small-scale structural logic—such as basic wood framing or simple masonry—and experiment with physical material joinery. Finally, students synthesize these practices by designing a single-use spatial volume, such as an artist's pavilion or a meditation space, culminating in highly detailed 3D fabrication models and precise 2D architectural drafts that demonstrate a mastery of form, material, and structural enclosure.

References

1. Rasmussen, S. (1962). *Experiencing Architecture*. MIT Press.
2. Pallasmaa, J. (2005). *The Eyes of the Skin: Architecture and the Senses*. Wiley.
3. Ching, F.D.K. (2012). *Architecture: Form, Space & Order*. John Wiley & Sons.
4. Deplazes, A. (2005). *Constructing Architecture: Materials, Processes, Structures*. Birkhäuser.

2026ARC122 Architectural Drawing & Model Making Workshop – II

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
2	--	3	5	5	IA+J	PC

Course Objective To master complex spatial representation by introducing human vantage points, light behavior, and detailed fabrication. Students will learn perspective construction, shadow mapping, and advanced model-making techniques to represent internal spaces and site topography entirely through manual analog processes.

Learning Outcomes

1. **Construct** accurate one-point, two-point, and bird's-eye perspective drawings.
2. **Calculate** and draft scio-graphy (shadows) on plans, elevations, and 3D projections.
3. **Fabricate** complex physical models, including detailed sectional models and topographical contours.
4. **Synthesize** perspective drawings, shadow mapping, and manual rendering techniques to produce professional-grade architectural presentations.

Course Contents:

The course content and studio workflow advance into complex spatial representation by moving beyond isometric projection to draw spaces as the human eye sees them, mastering the geometry of one-point and two-point interior and exterior perspectives. The curriculum then introduces the physics of light through scio-graphy and rendering, teaching the mathematical calculations required to cast accurate shadows across 2D plans, elevations, and 3D perspectives, finished entirely with manual architectural rendering techniques. Workshop techniques are concurrently escalated; students learn to read contour maps to build physical topographical site models and utilize advanced joinery to fabricate detailed sectional models showing internal structural framing. The workshop culminates in the production of highly finished, fully hand-rendered portfolio presentations, ensuring complete mastery of analog architectural communication before students advance to the computationally heavy design studios of their second year.

References

1. Ching, F.D.K. (1997). *Design Drawing*. John Wiley & Sons.
2. Schaarwachter, G. (1992). *Perspectives for Architecture*. Schiffer Publishing.
3. Knoll, W., & Hechinger, M. (2006). *Architectural Models: Construction Techniques*. J. Ross Publishing.

2026ARC123 History of Architecture and Culture – I

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
2	1	--	3	3	IA+WE	PC

Course Objective: To introduce students to the evolution of architecture and culture from prehistoric to early classical civilizations and their influence on built forms, settlements, and architectural traditions.

Learning Outcomes:

1. **Understand** the relationship between culture, society, climate, religion, and the evolution of architecture.
2. **Identify** key architectural characteristics of ancient civilizations and early historical periods.

3. **Analyse** spatial planning, construction techniques, and symbolic expressions in historical architecture.
4. **Interpret** the cultural and philosophical influences that shaped early architectural traditions across civilizations.

Course Contents:

The course introduces the evolution of architecture and culture from prehistoric societies to early classical civilizations, examining the relationship between geography, climate, religion, society, and built forms. Students study the development of human settlements and shelter forms, prehistoric architecture, cave dwellings, megalithic structures, and the architectural achievements of ancient civilizations such as Mesopotamian, Egyptian, and Indus Valley cultures. The course further explores Greek and Roman architecture with emphasis on architectural orders, temples, theatres, public spaces, planning principles, and engineering innovations shaped by political, philosophical, and cultural influences.

The course also examines the evolution of early Indian architecture through Buddhist, Jain, and Hindu traditions including stupas, chaityas, viharas, rock-cut structures, and temple architecture. Emphasis is placed on symbolism, spatial planning, construction techniques, and cultural contexts influencing architectural expression. Students are introduced to traditional settlements and vernacular architecture, understanding indigenous building practices, climatic responses, material use, settlement patterns, and regional architectural identities shaped by lifestyle and cultural traditions.

References

1. Fletcher, B. (1996). A history of architecture (20th ed.). Architectural Press.
2. Ching, F. D. K., Jarzombek, M. M., & Prakash, V. (2017). A global history of architecture (3rd ed.). John Wiley & Sons.
3. Kostof, S. (1995). A history of architecture: Settings and rituals (2nd ed.). Oxford University Press.
4. Tadgell, C. (1990). The history of architecture in India: From the dawn of civilization to the end of the Raj. Phaidon Press.
5. Grover, S. (2015). The architecture of India: Buddhist and Hindu. Vikas Publishing House.

2026 ARC124 Theory of Architecture

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
2	1	--	3	3	IA+WE	PC

Course Objective: To introduce students to the theoretical foundations of architecture, design principles, spatial expression, and conceptual thinking through the study of architectural elements, philosophies, and influential architectural works.

Learning Outcomes:

1. **Understand** the fundamental elements, components, and principles that shape architecture and spatial organization.

2. **Analyse** architectural form, design principles, and spatial relationships through traditional and contemporary examples.
3. **Interpret** architecture as an expressive and experiential medium influenced by cultural, social, and historical contexts.
4. **Develop** conceptual and creative thinking approaches applicable to architectural design processes.

Course Contents:

The course introduces the theoretical foundations of architecture through the study of architectural elements, spatial organization, and design principles. Students explore architecture as a composition of function, form, structure, material, circulation, and character, along with the role of building elements such as floors, walls, columns, roofs, openings, and stairs in shaping space. The course further examines principles of design including proportion, scale, balance, rhythm, hierarchy, symmetry, harmony, and order, and their application in architecture through examples from traditional and modern built forms. Understanding of form transformation, spatial relationships, and spatial organization is developed through the study of points, lines, planes, and volumes.

The course also explores architecture as an expressive and experiential medium influenced by culture, society, history, place, and time. Students are introduced to concepts of semiotics, spatial narratives, visual perception, Gestalt principles, creativity, imagination, and architectural thinking processes including convergent, divergent, lateral, and vertical thinking. Various conceptual and philosophical approaches to architectural design are discussed through historical, vernacular, modern, postmodern, and contemporary examples. The ideas and design philosophies of influential architects such as Frank Lloyd Wright, Le Corbusier, Mies van der Rohe, Zaha Hadid, Tadao Ando, Norman Foster, Renzo Piano, and Robert Venturi are studied to understand conceptual approaches in architecture across Western and Indian contexts.

Key References

1. Ching, F. D. K. (2014). Architecture: Form, space, and order (4th ed.). John Wiley & Sons.
2. Rasmussen, S. E. (1964). Experiencing architecture. MIT Press.
3. Norberg-Schulz, C. (1971). Existence, space and architecture. Praeger Publishers.
4. Broadbent, G. (1980). Signs, symbols and architecture. John Wiley & Sons.
5. Unwin, S. (2014). Analysing architecture (4th ed.). Routledge.

2026ARC125 Theory of Structure - I

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
2	1	--	3	3	IA+WE	BS&AE

Course Objective To establish a foundational understanding of structural mechanics and material behavior. This course familiarizes students with the basic theorems of forces, the mechanical properties of engineering materials, the deformation of elastic bodies under stress, and the practical analysis of structural frames and trusses.

Learning Outcomes

1. **Analyze** and apply the concepts and techniques for finding structural stresses and strains.
2. **Evaluate** deflection in beams and structural behavior using simple bending theory.

3. **Resolve** structural determinacy to analyze different types of columns, trusses, and frames.
4. **Comprehend** and execute standard empirical tests in a material-testing laboratory.

Course Content

The course begins by tracing the history of structural design, exploring the evolution from pre-industrial rock-cut, trabeated, and arcuate constructions to post-industrial modular steel and large-span suspension structures. Following this historical context, the curriculum examines the physical characteristics and strengths of foundational building materials such as stone, brick, terracotta, and cement. The focus then shifts strictly to the mechanics of forces and moments, covering coplanar force systems, Lami's theorem, and the principles of equilibrium. Building on these mechanics, students explore the mechanical properties of materials, calculating simple stresses, strains, elastic constants, Poisson's ratio, and the behavior of composite sections under load and temperature changes. Finally, the theoretical coursework culminates in the structural determinacy and analysis of trusses and frames, running concurrently with a hands-on Material Testing Laboratory. In the lab, students conduct empirical compression, water absorption, and torsion tests on bricks and cement using Universal Testing Machines, bridging theoretical structural physics with tangible material realities.

Key References

1. Timoshenko, S., Young, D. H., & Rao, J. V. (2007). *Engineering Mechanics*. Tata McGraw-Hill Education.
2. Ramamrutham, S. (2008). *Engineering Mechanics: A Textbook of Applied Mechanics*. Dhanpat Rai Publishing Company.
3. Junnarkar, S. B. (1991). *Mechanics of Structures, Vol. 1*. Charotar.
4. Ferdinand, L. S. (1975). *Engineering Mechanics: Statics and Dynamics*. Harper Collins Publishers.
5. Kumar, K. L. (2003). *Engineering Mechanics*. Tata McGraw-Hill Education.

2026ARC126 Computer Application – II

Distribution of Periods per week				Credits	Examination Scheme	CoA Category
Lecture	Tutorial	Studio	Total Periods			
1	--	2	3	3	IA+J	SEC

Course Objective To push beyond static modeling into the realms of computational generation and immersive architectural representation. Students will learn the logic of algorithmic form-finding, produce cinematic architectural walkthroughs, and prepare their digital models for spatial evaluation within Virtual and Augmented Reality (VR/AR) environments.

Learning Outcomes

1. **Execute** rule-based geometric generation using visual scripting and parametric tools.
2. **Apply** advanced digital materiality and global illumination for photo-realistic rendering.
3. **Generate** dynamic, cinematic architectural walkthroughs and spatial animations.
4. **Deploy** architectural models into immersive Virtual Reality (VR) and Augmented Reality (AR) interfaces.

Course Contents:

The course content and studio workflow start by introducing algorithmic thinking, shifting from manual modeling to generative design using visual scripting interfaces (such as Grasshopper or Dynamo) to explore rule-based spatial layouts and complex parametric form-finding. The focus then moves to advanced visualization, where students take their BIM or parametric models and apply high-fidelity texture mapping, global illumination, and atmospheric effects using real-time rendering engines (such as Lumion, Twinmotion, or Unreal Engine). Building on these rendering skills, students learn the cinematography of architecture, scripting camera paths and rendering dynamic, temporal walkthroughs that communicate spatial sequences. Finally, the curriculum introduces the frontier of immersive technologies, teaching students how to optimize and export their 3D models into Virtual Reality (VR) headsets and Augmented Reality (AR) applications, allowing them to evaluate the human scale and spatial impact of their designs from a true, first-person digital perspective.

References

1. Tedeschi, A. (2014). *AAD_Algorithms-Aided Design: Parametric Strategies Using Grasshopper*. Le Penseur.
2. Jerald, C. (2015). *The VR Book: Human-Centered Design for Virtual Reality*. ACM Books.
3. Pallasmaa, J. (2005). *The Eyes of the Skin* (Applied to immersive digital presence). Wiley.



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School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

***Revised Annexure – V:
Revised Course Structure and
Detailed Syllabus 2026 of M.Urban Design***

Master of Urban Design : Proposed Course Structure & Examination Scheme 2026-27 onwards

FIRST SEMESTER

Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks				
			Lecture Hrs/Week	Tutorial/Seminar/Practical Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		Marks*	Total Marks for Grade conversion
										Written Exam	Jury / Viva-Voce		
Core Subject	MUD1101	Introduction to Urban Design	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD1102	Urban History and development theory	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD1103	Urban Design Studio- I (Brownfield Design)	2	-	8	10	10	Internal Assessment+ Viva-Voce/Jury (SC)	200	-	200	400	100
	MUD1104	Urban Ecology and Site Planning	1	-	2	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD1105	Geoinformatics for Urban Design	2	1	-	3	3	Internal Assessment (IA)	100	-	-	100	100
Elective-1 (Any One)	MUD1106	Humanizing Cities	2	1	-	3	3	Internal Assessment (IA)	100	-	-	100	100
	MUD1107	Imagining Cities -I											
	MUD1108	Communication in Urban Design											
	MUD1109	Urban Conservation											
		Course from SWAYAM/MOOC/Online course (as PBOC)	-	-	-	-	-						
		TOTAL	11	4	10	25	25		550	150	200		600

SECOND SEMESTER

Course Category	Subject Code.	Subject	Classes				Credits	Examination Scheme	Marks				
			Lecture Hrs/Week	Tutorial/Seminar/Practical Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		Marks*	Total Marks for Grade conversion
										Written Exam	Jury / Viva-Voce		
Core Subject	MUD1201	Planning techniques for Urban Design	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD1202	Urban Mobility	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD1203	Urban Design Studio- II (Greenfield Design)	2	-	10	12	12	Internal Assessment+ Viva-Voce/Jury (SC)	250	-	250	500	100
	MUD1204	Urban Design Research Lab	2	-	2	4	4	Internal Assessment+ Viva-Voce/Jury (JC)	50	-	50	100	100
Elective-2 (Any One)	MUD1205	Liveable Cities	2	1	-	3	3	Internal Assessment (IA)	100	-	-	100	100
	MUD1206	Imagining Cities -II						Internal Assessment (IA)					
	MUD1207	Open Elective/Inter Institutional Elective						Internal Assessment + Written Exam (TC)	50	50	-		
	MUD1208	Environmental Impact Assessment											
		Course from SWAYAM/MOOC/Online course (as PBOC)	-	-	-	-	-						
		TOTAL	10	3	12	25	25		500	150	300		500

Note: Compulsory Summer Internship/Training for 8 weeks after second semester to be undertaken by the Student, to be evaluated along with the 'Internship Certificate' at the end of Third Semester

THIRD SEMESTER

Course Category	Subject Code.	Subject	Classes				Credits	Examination Scheme	Marks				
			Lecture Hrs/Week	Tutorial/Seminar/Practical Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		Marks*	Total Marks for Grade conversion
										Written Exam	Jury / Viva-Voce		
Core Subject	MUD2101	Participatory Planning and Techniques	2	1	-	3	3	Internal Assessment (IA)	100	-	-	100	100
	MUD2102	Urban Design Studio- III (Local Area Planning)	2	-	10	12	12	Internal Assessment+ Viva-Voce/Jury (SC)	250	-	250	500	100
	MUD2103	Urban Design Dissertation	2	1	-	3	3	Internal Assessment+ Viva-Voce/Jury (JC)	50	-	50	100	100
	MUD2104	Real Estate Management	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
Professional Training	MUD2105	Summer Internship/Training (08 Weeks after Semester-II)	-	-	-	-	2	Internal Assessment (IA)	100	-	-	100	100
Elective-3 (Any One)	MUD2106	Urban Policy and Management	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD2107	Open Elective											
	MUD2108	Inter departmental/Inter-Institutional Elective (Online/Physical Mode)											
			Course from SWAYAM/MOOC/Online course (as PBOC)	-	-	-	-						
		TOTAL	10	4	10	24	26		600	100	300		600

FOURTH SEMESTER

Course Category	Subject Code.	Subject	Classes				Credits	Examination Scheme	Marks				
			Lecture Hrs/Week	Tutorial/Seminar/Practical Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		Marks*	Total Marks for Grade conversion
										Written Exam	Jury / Viva-Voce		
Core Subject	MUD2201	Urban Design Thesis	2	7	6	15	15	Internal Assessment+ Viva-Voce/Jury (SC)	600	-	400	1000	100
	MUD2202	Seminar and Report Writing	2	4	0	6	6	Internal Assessment (IA)	100	-	-	100	100
Elective- 4 (Any one)	MUD2203	Open Elective	2	1	0	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD2204	Project Planning and Finance											
			Course from SWAYAM/MOOC/Online course (as PBOC)	-	-	-	-						
		TOTAL	6	12	6	24	24		750	50	400		300
		TOTAL All Semester				98	100						2000

TC -Theory Course

JC - Jury Course

SC - Studio Course

IA - Internal Assessment only

* Note: The absolute marks awarded as given above will be proportionately converted to a "Total Marks" of 100 for Grade conversion

Master of Urban Design (M.U.D.)

**Course Structure and Detailed Syllabus for
Two-years Masters Degree Programme**

Effective from the Academic year 2026-27 onwards



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada

An Institute of National Importance, Ministry of Education, Govt. of India

Introduction

School of Planning and Architecture Vijayawada offers a Two year Four Semester Master's Program titled **"Master of Urban Design" (MUD)** in line with the **Gazette of India notification by University Grants Commission (Specification of Degrees)** with the approval dated **March 03, 2022** of the **Government of India**, mentioning **Master of Urban Design (Minimum duration 2 years)** as a **New Specified Degree**.

Curriculum Brief

Urban Design course emerged in recent years globally to broaden the perspectives on Urban interventions in complex urban environments considering various social, behavioural, environmental, historical factors for formulating design and development strategies. Today, cities are under immense morphological transformation, triggered by various factors both planned and unplanned. The course offers documentation of dynamic aspects of growth and transformation in various cities and provides direction for further Urban development, Urban Redevelopment, Urban Renewal, Urban Conservation, Urban Retrofitting, Green field development and new growth strategies at varying scales through broad range of subjects and interactive design studio projects.

India being in the forefront of rapid Urbanization in the current years, the most important challenges would be to provide the basic amenities without disturbing the ecological balance. In this context, Urban Design programme becomes offers learning diverse issues of development at Urban level with focus on design with rationality, inclusivity, functionality, liveability and sustainability. Urban Design programme encourages multidisciplinary approach and ideologies through dissemination of various theories and concepts of urban interventions.

OBJECTIVES

- 1) **To demonstrate the critical understanding, documenting and researching cities through various initiatives as part of the curricular Studios and Labs**
- 2) **To equip students the students with required theoretical and practical knowledge in the realm of Urban Design**
- 3) **To develop a Multi-disciplinary learning environment for the students and engage them in diverse ways of learning**
- 4) **To develop a professional interface and engagement with the cities to contribute to societal needs**
- 5) **To periodically develop the teaching learning process and pedagogical initiatives through diverse environments**
- 6) **To strengthen the research base in the Urban context, contribute to the research ecosystem and add value to the body of knowledge**

The programme will not only benefit many Architects in the region but will also encourage learning through research and practise focused towards urban development in the cities across the globe. Through its demonstration of various projects, it shall guide the local authorities and development organizations towards achieving wholeness in the complex built environments. The programme builds a continuous systematic enquiry into the rapid urban development, towards making cities culturally responsive and people-centric in nature.

CURRICULUM STRUCTURE

The overall structure of the Curriculum is designed to focus on the student centric and diverse learning that is required for the program with the scope for research and self-exploration. Strong theoretical foundation is very much essential to inform students about various dimensions and theories of Urban Design. The idea is to have higher emphasis on Theoretical learning in the initial semesters and Core learning as well as research in the later semesters.

The curriculum is equipped with scope for more theoretical learning in the initial semesters. Core learning is through Studios and Labs in the course which first orients students' to various types of urban issues that are varying in scale and then develop guided Urban interventions at these varying scales. Role of Lab at the second semester is to equip the students with the ongoing research worldwide and to instil a sense of research and inquiry into cities in line with the Studio.

Summer Internship at the end of Second Semester (during the summer break) is an opportunity to connect to the practising world, where the students can engage and co-learn with Urban development practitioners/Experts, Development agencies, Urban Designers, Urban local bodies like Municipal Corporations, Research and/or Academic Institutions, Development Authorities, Non-partisan groups, NGO's and alike so as to learn more about the organic or guided city development and social initiatives. Third Semester focus is to strengthen the core learning and research through community engagement in the Studio and Participatory planning and techniques subject. Urban Design dissertation subject acts as a preparatory stage for building up required theoretical enquiry for the Urban Design Thesis.

Table: Overall Curriculum Structure

	Semester I	Semester II	Semester III	Semester IV
Theoretical Foundation	Introduction to Urban Design	Planning techniques for Urban Design	Real Estate Management	
	Urban History, Theory and development	Urban Mobility		
	Urban Ecology and Site Planning			
Core Learning and Research	Urban Design Studio-I	Urban Design Studio-II	Urban Design Studio-III	Urban Design Thesis
		Urban Design Research Lab	Urban Design Dissertation	
			Participatory Planning and Techniques	
Practise based learning	Geoinformatics for Urban Design	Summer Internship		Seminar and Report writing
Choice based Diverse Learning	Humanizing Cities	Liveable Cities	Urban Policy and Management	Open Elective
	Imagining Cities-I	Imagining Cities-II	Open Elective	Project Planning and Finance
	Communication in Urban Design	Open Elective/Inter Institutional Elective	Inter departmental/Inter-Institutional Elective	
	Urban Conservation	Environmental Impact Assessment		

The course culminates into the Urban Design Thesis in the final semester, which is an independent research and design on a topic or area of interest that structures to address the current global issues that the cities are facing.

The diverse learning, as elaborated in the **National Education Policy 2020**, through allied subjects are offered through electives (13) across all semesters, with more options in the first two semesters.

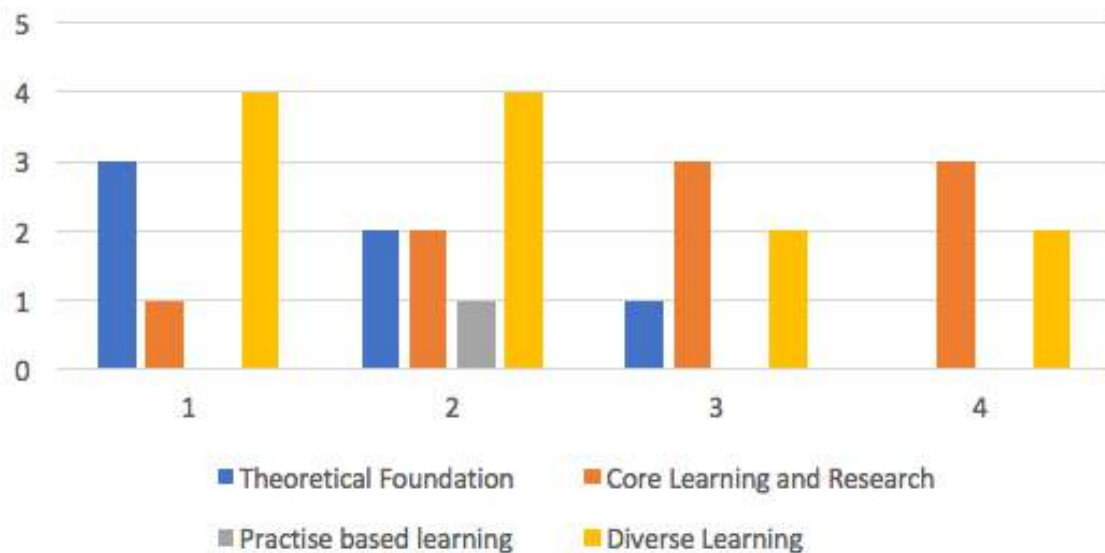


Figure 1: Conceptual Structure of the Syllabus

The above graphic shows the conceptual structure of the curriculum and the way students are equipped with various means of learning as they progress upwards in the course.

Master of Urban Design : Course Structure & Examination Scheme												
First Semester												
Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			
			Lecture Hrs/Week	Tutorial Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	Written Exam	Jury / Viva-Voce	Total Marks for Grade conversion
Core Subject	MUD1101	Introduction to Urban Design	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100
	MUD1102	Urban History and development theory	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100
	MUD1103	Urban Design Studio- I (Brownfield Design)	2	-	8	10	10	Internal Assessment+ Viva-Voce/Jury (SC)	200	-	200	100
	MUD1104	Urban Ecology and Site Planning	1	-	2	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100
	MUD1105	Geoinformatics for Urban Design	2	1	-	3	3	Internal Assessment (IA)	100	-	-	100
Elective-1 (Any One)	MUD1106	Humanizing Cities	2	1	-	3	3	Internal Assessment (IA)	100	-	-	100
	MUD1107	Imagining Cities -I										
	MUD1108	Communication in Urban Design										
	MUD1109	Urban Conservation										
		Course from SWAYAM/ MOOC/Online course (as PBOC)	-	-	-	-	-					
		TOTAL	11	4	10	25	25		550	150	200	600

Master of Urban Design : Course Structure & Examination Scheme													
Second Semester													
Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks				Total Marks for Grade conversion
			Lecture Hrs/Week	Tutorial Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		Jury / Viva-Voce	
Core Subject	MUD1201	Planning techniques for Urban Design	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD1202	Urban Mobility	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD1203	Urban Design Studio- II (Greenfield Design)	2	-	10	12	12	Internal Assessment+ Viva-Voce/Jury (SC)	250	-	250	500	100
	MUD1204	Urban Design Research Lab	2	-	2	4	4	Internal Assessment+ Viva-Voce/Jury (JC)	50	-	50	100	100
Elective-2 (Any One)	MUD1205	Liveable Cities	2	1	-	3	3	Internal Assessment (IA)	100	-	-	100	100
	MUD1206	Imagining Cities -II						Internal Assessment + Written Exam (TC)	50	50	-		
	MUD1207	Open Elective/Inter Institutional Elective											
	MUD1208	Environmental Impact Assessment											
		Course from SWAYAM/ MOOC/Online course (as PBOC)	-	-	-	-	-						
		TOTAL	10	3	12	25	25		500	150	300		500
Note: Compulsory Summer Internship/Training after second semester to be undertaken by the Student, to be evaluated along with the ‘ Internship Certificate’ at the end of Third Semester													

Master of Urban Design : Course Structure & Examination Scheme												
Third Semester												
Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks			
			Lecture Hrs/Week	Tutorial Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment	Jury / Viva-Voce	Total Marks for Grade conversion
Core Subject	MUD2101	Participatory Planning and Techniques	2	1	-	3	3	Internal Assessment (IA)	100	-	-	100
	MUD2102	Urban Design Studio- III (Local Area Planning)	2	-	10	12	12	Internal Assessment+ Viva-Voce/Jury (SC)	250	-	250	100
	MUD2103	Urban Design Dissertation	2	1	-	3	3	Internal Assessment+ Viva-Voce/Jury (JC)	50	-	50	100
	MUD2104	Real Estate Management	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100
	MUD2105	Summer Training/Internship (08 Weeks after Semester-II)	-	-	-	-	2	Internal Assessment (IA)	100	-	-	100
Elective-3 (Any One)	MUD2106	Urban Policy and Management	2	1	-	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100
	MUD2107	Open Elective										
	MUD2108	Inter departmental/Inter-Institutional Elective (Online/Physical Mode)										
		Course from SWAYAM/ MOOC/Online course (as PBOC)	-	-	-	-						
		TOTAL	10	4	10	24	26		600	100	300	600

Master of Urban Design : Course Structure & Examination Scheme													
Fourth Semester													
Course Category	Subject Code	Subject	Classes				Credits	Examination Scheme	Marks				Total Marks for Grade conversion
			Lecture Hrs/Week	Tutorial Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		Marks	
Core Subject	MUD2201	Urban Design Thesis	2	7	6	15	15	Internal Assessment+ Viva-Voce/Jury (SC)	600	-	400	1000	100
	MUD2202	Seminar and Report Writing	2	4	0	6	6	Internal Assessment (IA)	100	-	-	100	100
Elective- 4 (Any one)	MUD2203	Open Elective	2	1	0	3	3	Internal Assessment + Written Exam (TC)	50	50	-	100	100
	MUD2204	Project Planning and Finance											
		Course from SWAYAM/ MOOC/Online course (as PBOC)	-	-	-	-							
		TOTAL	6	12	6	24	24		750	50	400		300
TOTAL All Semester						98	100						2000

TC - Theory Course

JC - Jury Course

SC - Studio Course

IA - Internal Assessment only

* Note: The absolute marks awarded as given above will be proportionately converted to a "Total Marks" of 100 for Grade conversion

SUMMARY OF MARKS AND CREDIT DISTRIBUTION

Semester No	IA	TC	JC	SC	Total Marks	Total Periods	Total Credits
Semester 1	200	300	-	400	900	25	25
Semester 2	100	200	100	500	900	25	25
Semester 3	200	200	100	500	1000	24	26
Semester 4	100	100	-	1000	1200	24	24
Total	500	800	300	2400	4000	98	100

TC -Theory Course

JC - Jury Course

SC - Studio Course

IA - Internal Assessment only

MUD DETAILED SYLLABUS

FIRST SEMESTER

MUD1101 – Introduction to Urban Design	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

The course aims to introduce students to the theoretical foundations, principles and practices of Urban Design by examining the relationship between architecture, urban design, and planning. It seeks to develop an understanding of urban form, public spaces, place-making, and urban morphology through historical and contemporary examples. The course also intends to familiarize students with urban design interventions and the social, cultural, and ethical dimensions of cities, enabling them to critically interpret and shape urban environments at multiple scales.

Content:**Unit I Introduction and Scope 9**

Defining Urban Design, Relationship between Architecture, Urban Design and Planning; Brief review of the evolution of urban design as a discipline, basic principles and theories, Urban Design terminologies. Size, shape and form of cities through examples from historic cities.

Unit II Elements of Urban Design 12

Understanding the city as a three-dimensional element; Urban form as determined by interplay of masses, voids, order, scale, harmony, symmetry, colour and texture, townscape elements and related examples; Organization of spaces and their articulation in the form of squares, streets, vistas and focal points; Concept of public open space; Image of the city and its components.

Unit III Public Space and Place-Making 9

Concepts of "Space" vs "Place"; the social logic of public environments. Behavioural Observation: Studying the social life of small urban spaces, Relationship of Cities and People. The Ethics of Cities: Diversity, social justice, and the "Right to the City".

Unit - IV Typologies and Procedures 6

Urban Design and the Urban Designer, Concepts of public and private realm; Understanding different types and procedures of urban design interventions; constraints and challenges of urban design in democratic versus authoritarian settings.

Unit - V Urban Morphology: The Science of Urban Tissue 9

Introduction to Morphological Schools: The British School (Conzenian), Italian School (Muratorian), and French School. Figure-Ground Analysis. Analysing the ground plan (street, plot, building), urban grain, and "burgage cycles".

Total: 45 Periods**Learning Outcome:**

By the end of the course, students will develop an understanding of the theories, principles, and processes of Urban Design and their relationship with architecture and planning. They will be able to analyze urban form, public spaces, and urban morphology, interpret the social and spatial dimensions of cities.

References:

- Bacon, E. N. (1974). Design of cities. Thames & Hudson.
- Hall, P. (1982). Great planning disasters. University of California Press.
- Hall, P. (2002). Cities of tomorrow: An intellectual history of urban planning and design in the twentieth century. Blackwell Publishers.
- Jacobs, J. (1961). The death and life of great American cities. Vintage Books.
- Jacobs, J. (1969). The economy of cities. Vintage Books.

- Kostof, S. (1992). *The city assembled: The elements of urban form through history*. Little, Brown and Company.
- Krier, R. (1979). *Urban space*. Academy Editions.
- Lang, J. T. (2005). *Urban design: A typology of procedures and products*. Elsevier/Architectural Press.
- Lynch, K. (1960). *The image of the city*. MIT Press.
- Lynch, K. (1972). *What time is this place?* MIT Press.
- Lynch, K. (1981). *A theory of good city form*. MIT Press.
- Marshall, S. (2009). *Cities, design and evolution*. Routledge.
- Mumford, L. (1961). *The city in history: Its origins, its transformations, and its prospects*. Harcourt, Brace & World.
- Rogers, R., & Gumuchdjian, P. (1998). *Cities for a small planet*. Westview Press.
- Rossi, A. (1995). *The architecture of the city*. MIT Press. (Use this if you are referring to the English translation. If you actually used the Italian edition, cite that edition instead.)
- Spreiregen, P. D. (1965). *Urban design: The architecture of towns and cities*. McGraw-Hill.
- Watson, D., Plattus, A. J., & Shibley, R. G. (2003). *Time-saver standards for urban design*. McGraw-Hill.

MUD1102 - Urban History and Development theory	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

The objective of the course is to introduce students to the theories of development, urbanization, and the historical evolution of cities and urban systems. The course aims to develop an understanding of the relationship between economic, social, political, and cultural processes and their influence on urban form, city structure, and spatial organization. It further examines the evolution of urban settlements and city typologies across historical periods with particular emphasis on Indian urbanism, colonial transformations, and the morphological dimensions of urban patterns relevant to Urban Design.

Content:**Unit – I City systems – Types & Form 6**

City as a complex system in History, continuity and transformation. City types and form - evolution of city form.

Unit - II Evolution of the city 9

Medieval cities, Renaissance and Baroque cities, Colonial Cities. Evolution of city from architecture to public space.

Unit - III Theories of Development and Urbanization 9

The notion of "Development" vs "Growth"; theories of modernization and dependency Urbanization as a global process; the "Urban Revolution" and the shift from agricultural to industrial society.

Unit - II Spatial Dimensions Economics and Location Theory 12

History of economic thought and spatial dimensions of economic thought. Spatial Political Economy: How capital and power are spatialized in the built environment. History of economic thought from a spatial lens (Smith, Marx, Mill, Keynes). Urban Economics, Agglomeration economies and the forces of concentration vs dispersion in city growth.

Unit - V Indian Urbanism: Indigenous and Colonial Narratives 9

Ancient Indian planning: Vedic principles, Harappan morphology, and environmental intelligence. The Mughal "Bazaar" city and the socio-spatial structure of Indian Cities. The "Dual Urban Structure": Colonial ruptures, Cantonments, Civil Lines, and the divided city.

Total: 45 Periods

Learning Outcome:

Students will gain an understanding of the historical evolution of cities, theories of urbanization and development, and the relationship between economic, social, and spatial processes in shaping urban form. The course will enable students to analyze city structures, urban patterns, and typologies, with particular emphasis on Indian urbanism and the transformation of cities through different historical periods relevant to Urban Design practice.

References:

- Alexander, C., Ishikawa, S., & Silverstein, M. (1977). A pattern language: Towns, buildings, construction. Oxford University Press.
- Alonso, W. (1964). Location and land use. Harvard University Press.
- Bacon, E. N. (1976). Design of cities. Penguin Books.
- Barnett, J. (1982). An introduction to urban design. Harper & Row.
- Carmona, M., Heath, T., Oc, T., & Tiesdell, S. (2010). Public places, urban spaces: The dimensions of urban design. Architectural Press.
- Cullen, G. (1978). The concise townscape. Architectural Press.

- Glaeser, E. L. (2011). *Triumph of the city*. Penguin Press.
- Gosling, D., & Maitland, B. (1984). *Urban design*. St. Martin's Press.
- Hall, P. (2002). *Cities of tomorrow: An intellectual history of urban planning and design since 1880* (3rd ed.). Blackwell Publishing.
- Hosagrahar, J. (2005). *Indigenous modernities: Negotiating architecture and urbanism*. Routledge.
- Kostof, S. (1991). *The city shaped: Urban patterns and meanings through history*. Thames & Hudson.
- Kostof, S. (1992). *The city assembled: The elements of urban form through history*. Thames & Hudson.
- Lefebvre, H. (2003). *The urban revolution* (R. Bononno, Trans.). University of Minnesota Press. (Original work published 1970)
- Morris, A. E. J. (1996). *History of urban form before the industrial revolution* (3rd ed.). Prentice Hall.
- Ramachandran, R. (1989). *Urbanisation and urban systems in India*. Oxford University Press.
- Rossi, A. (1982). *The architecture of the city*. MIT Press.

MUD1103 – Urban Design Studio-I (Brownfield Design)	Subject Category	SC
	Number of Credits	10
	Lecture Periods per Week	2
	Practical/Studio/Workshop Periods per Week	8
	Total Periods per Week	10

Objective:

The studio serves as Foundation to the gradual intellectual progression from understanding the city, its public realm to intervening in it strategically. The objective is to expose them to the complexities of the design process through analytical and exploratory design exercises in urban areas.

Content:

Studio establishes a common understanding of urban space, public realm, urban morphology, mobility and urban processes through observation, documentation, spatial analysis and urban interventions. Emphasis is laid on reading the city not merely as collection of buildings, but as a layered system of streets, public spaces, movement patterns, activities and social interactions in an environmental setting. The studio will also familiarize the students with urban design terminologies, methods of surveys, field documentation, behavioural observation and public space analysis at a precinct level. Urban interventions are demonstrated primarily in brownfield areas within the core areas of the city or regenerating inner city areas.

Additionally, the design workshop integrated with the studio shall assist the students in acquiring skills of documentation, analysis and representation of human networks. The workshop will include interactive seminar sessions with invited professionals who will demonstrate design development process of projects, their funding, management, implementation and any other relevant issues pertaining to design and development.

Total: 150 Periods**Learning Outcome:**

Students will learn to appreciate, understand and analyse real contextual conditions in an urban area, through mapping and representation, visual surveys, spatial analytical diagrams, urban sketches and documentation techniques for programming the design interventions.

References:

- Bacon, E. N. (1974). *Design of cities*. Thames & Hudson.
- Correa, C. (1989). *The new landscape: Urbanization in the Third World*. Butterworth Architecture.
- Giedion, S. (2009). *Space, time and architecture: The growth of a new tradition* (5th ed.). Harvard University Press.
- Hall, P. (1980). *Great planning disasters*. University of California Press.
- Hall, P. (1996). *Cities of tomorrow: An intellectual history of urban planning and design in the twentieth century* (Rev. ed.). Blackwell.
- Jacobs, J. (1961). *The death and life of great American cities*. Vintage Books.
- Kostof, S. (1992). *The city assembled: The elements of urban form through history*. Bulfinch Press.
- Krier, R. (1979). *Urban space* (Academy Editions ed.). Rizzoli.
- Lang, J. (1994). *Urban design: The American experience*. Van Nostrand Reinhold.
- Gehl, J. (2010). *Cities for People*. Princeton University Press. <https://doi.org/10.2307/jj.41003893>
- Gehl, J. (2011). *Life between buildings* (6th ed.). Island Press.
- Lang, J. (2005). *Urban design: A typology of procedures and products*. Architectural Press.
- Moughtin, C., Cuesta, R., Sarris, C., & Signoretta, P. (2006). *Urban design: Methods and techniques* (2nd ed.). Architectural Press.

MUD1104 – Urban Ecology and Site Planning	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Practical/Studio/Workshop Periods per Week	2
	Total Periods per Week	3

Objective:

To develop skills that enables an urban designer to deal with ecology and biodiversity and large sites in a comprehensive manner from ecological considerations to the design of services and related infrastructure.

Content:**Unit – I Introduction to ecology & site planning 12**

Importance of Ecology and Biodiversity in city design. Introduction to site and context. Site planning as 'process' and 'theory' – Objectives of site planning

Unit – II Site Reconnaissance 9

Site reconnaissance - Surveys and overlays & Ecological factors in site evaluation - processes, theories and approaches

Unit – III Site Resource Systems 9

Site resource systems; Physiography, Geology and soils, Hydrology, Micro-climate, Vegetation, Wild life, terrestrial and aquatic.

Unit – IV Cultural Resource Systems 6

Cultural resources, Geographical settings and siting.

Unit – V Aspects of Site Planning 9

Urban vegetation, planning & maintenance, Road layout and parking, Site grading and drainage, Sewerage, water supply and electricity

Total: 45 Periods

Learning Outcome:

Students will be enabled to deal with varying site-based natural and ecological systems with reference to urban design projects and the city at large.

References:

- Jellicoe, G., & Jellicoe, S. (1975). *The landscape of man: Shaping the environment from prehistory to the present day*. Viking Press.
- Lynch, K. (1981). *Good city form*. MIT Press.
- Lynch, K., & Hack, G. (1984). *Site planning* (3rd ed.). MIT Press.
- McHarg, I. L. (1969). *Design with nature*. Natural History Press.
- Jacobs, P., & Way, D. (1969). *Visual analysis of landscape development*. Harvard University Graduate School of Design.
- Robinette, G. O. (Ed.). (1977). *Landscape planning for energy conservation*. Environmental Design Press.
- Singh, R. Y. (1994). *Geography of settlements*. Rawat Publications.

MUD1105 – Geoinformatics for Urban Design	Subject Category	IA
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

To develop an understanding of the land and its designed modifications, with an integration of Earth sciences. To develop understanding and capacity building to use information science in Urban Studies to address various problems of geography, cartography, geosciences and related branches of science and engineering in urban design.

Content:**Unit – I Basics of Remote Sensing, Photography and Photogrammetry****6**

Concept and Foundation of Remote Sensing, Elements of Photographic System, Types of Aerial Photographs: Vertical Photographs, Oblique Photographs, Satellite Imagery. Introduction to Air Photo Interpretation, Basics of Photogrammetry for Map Making: Definition and Principles, Geometric Elements of a Vertical Photograph, Relief Displacement, Ground Control for Aerial Photography.

Unit – II Mapping Processes and Applications**9**

Digital Image Processing, Applications: Geologic & Soil mapping, Land-use/land cover Mapping, Land use Classification, Agriculture Applications, Forestry Applications, Water resource Applications: Water Pollution Detection, Flood Damage Estimation, Urban & Regional Planning Applications, Wetland mapping.

Unit – III Geographical Information Systems (GIS)**9**

Definition and components of GIS: Hardware, Software, Data Input, Storage, Output, and Database Structures. Types of Spatial Data: Vector (point, line, polygon) and Raster (grid-based). Coordinate Systems: Geographic Coordinate System (GCS) and Projected Coordinate System (PCS). Data Processing: Georeferencing, digitization using KML files, and spatial data preparation. Open Source GIS platforms (e.g., QGIS) and their applications. Attribute Data: Importance of attribute tables, features, and basic spatial analysis.

Unit – IV GIS Tools and Geoprocessing Applications**9**

Introduction to ArcGIS/QGIS interface: navigation, selection, editing, and layer management tools. Data management functions including projection, coordinate transformation, and data conversion. Geoprocessing tools: Buffer, Clip, Merge, Union, Intersect, Dissolve, Spatial Join, and overlay analysis. Application of proximity, network, and suitability analysis in urban planning. Raster and terrain analysis: Raster calculator, reclassification, DEM/DTM, slope, aspect, and hills hatched. Output and visualization: thematic mapping, symbology, map layout, and export functions. Open-source GIS tools and processing toolbox for spatial analysis.

Unit – V Spatial Analysis, Indices and Map Composition**12**

Presentations / Workshop Application of GIS & Remote Sensing, Automated Mapping / Facility Management. (AM/FM), 3-D GIS Digital Elevation Model & Digital Terrain Model, Digital Image Processing and Editing; Error Detection and Correction, Geo Spatial Analysis: Turning Data into Meaningful information. Comparison of Vector & Raster Methods, Internal G.I.S., Network Analysis, Open GIS

Total: 45 Periods**Learning Outcome:**

Understand basics of geoinformatics, data acquisition, processes and interpretation. Students shall learn GIS software package over different exercise to understand all the themes discussed in the syllabus.

References:

- Bolstad, P. (2019). *GIS fundamentals: A first text on geographic information systems* (6th ed.). XanEdu Publishing.
- Campbell, J. B., & Wynne, R. H. (2019). *Introduction to remote sensing* (6th ed.). Guilford Press.
- Cromley, E. K., & McLafferty, S. L. (2019). *GIS and public health* (3rd ed.). Guilford Press.
- de Smith, M. J., Goodchild, M. F., & Longley, P. A. (2020). *Geospatial analysis: A comprehensive guide* (6th ed.). Troubador Publishing.
- Environmental Systems Research Institute (ESRI). (2024). *ArcGIS Pro documentation*. [ArcGIS Official Website](#)
- Graser, A., & Olaya, V. (2018). *Learning QGIS* (3rd ed.). Packt Publishing.
- Grekousis, G. (2020). *Spatial analysis methods and practice: Describe–explore–explain through GIS*. Cambridge University Press.
- Halegoua, G. R. (2020). *Smart cities*. MIT Press.
- Indian Space Research Organisation (ISRO). (2023). *Remote sensing applications and national geoportal resources*. [ISRO Bhuvan Geoportal](#)
- Jensen, J. R. (2016). *Introductory digital image processing: A remote sensing perspective* (4th ed.). Pearson.
- Lillesand, T. M., Kiefer, R. W., & Chipman, J. W. (2015). *Remote sensing and image interpretation* (7th ed.). Wiley.
- Longley, P. A., Goodchild, M. F., Maguire, D. J., & Rhind, D. W. (2021). *Geographic information science and systems* (5th ed.). Wiley.
- Lu, Y., & Weng, Q. (2021). *Geospatial technologies for urban health*. Springer.
- Ministry of Housing and Urban Affairs (MoHUA). (2021). *GIS-based master planning guidelines for AMRUT and Smart Cities Mission*. Government of India.
- National Remote Sensing Centre (NRSC). (2022). *Remote sensing and GIS applications for urban planning*. Hyderabad: NRSC/ISRO. [NRSC Official Website](#)
- Price, M. (2023). *Mastering ArcGIS Pro* (4th ed.). McGraw-Hill Education.
- QGIS Development Team. (2024). *QGIS Geographic Information System*. Open Source Geospatial Foundation. [QGIS Official Website](#)
- Rashed, T., & Jürgens, C. (2016). *Remote sensing of urban and suburban areas*. Springer.
- Singleton, A., Arribas-Bel, D., & Lynch, J. (2021). *Urban analytics*. Sage Publications.

MUD1106 – Humanizing Cities	Subject Category	IA
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

To develop skills that enables an urban designer to understand the various static and kinetic dimensions in which people engages with the city.

Content:**Unit – I City and its contestations 9**

City as a contested Place-Concept of Space and Place: City as a human network. Public private sector interests: Public Space as a contested domain. Minority groups and poverty

Unit – II City and its Agendas 9

Child in the city. Gender and the City. New technologies and the City. Communicating the hidden agenda and the city

Unit – III City and its communities 9

Community participation, advocacy planning; A new professional role. Pedestrian infrastructure and pedestrianization.

Unit – IV Universal Design 9

Designing public spaces for differently abled. Accessibility, Signage, Lighting, Parking

Unit – V Non-motorized transport infrastructure 9

Cycles and related infrastructure. Non-motorized Facility Management and Maintenance. Pedestrian oriented land use and building design

Total: 45 Periods

Learning Outcome:

Students will be enabled to understand demand of people and how to translate them into taking suitable design decision for the city.

References:

- Alison, J., & Barbican Art Gallery. (2006). *Future city: Experiment and utopia in architecture*. Thames & Hudson.
- Cooper, R., Evans, G., & Boyko, C. (2009). *Designing sustainable cities*. Wiley-Blackwell.
- Crawford, J. H. (2000). *Carfree cities*. International Books.
- Haughton, G., & Hunter, C. (2003). *Sustainable cities*. Routledge.
- Kunstler, J. H. (2001). *The city in mind: Notes on the urban condition*. Touchstone Books.
- Morgan, R. K. (1998). *Environmental impact assessment: A methodological approach*. Kluwer Academic Publishers.
- Rogers, R. (1997). *Cities for a small planet*. Westview Press.
- Safdie, M. (1997). *The city after the automobile: An architect's vision*. Westview Press.
- United Nations Human Settlements Programme. (2020). *World cities report 2020: The value of sustainable urbanization*. UN-Habitat. (Note: Framed under its formal global report title for proper cataloging).
- Welter, V. M. (2002). *Biopolis: Patrick Geddes and the city of life*. MIT Press.
- Gehl, J. (2010). *Cities for People*. Princeton University Press. <https://doi.org/10.2307/jj.41003893>
- Gehl, J. (2011). *Life between buildings* (6th ed.). Island Press.

MUD1107 - Imagining Cities I-Cities in Literature, Visual Arts & Performing Arts.	Subject Category	IA
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

The objective of the course is to explore the representation of city narratives through diverse literary forms – prose, poetry, script, etc. from selected writings across the world, including Indian/Asian works.

Content:**UNIT I Cities in Literature- Contemporary definition of city & Semiotics: 9**

The comparative analyse and contrast between terms like Metropolis and Post- colonial city, Agency and Colonialism, Punjabi Baroque and modernism, Hybridity and Diversity, Mimicry and orientalism, Urban design as creative Expression, Hasan Fathy and critical regionalism, idea of development.

UNIT II City through Semiotics 9

Meaning of semiotics using diagrams by Saus Sure and pierce. Icon, Index and Symbol. City from a semiotic perspective, semiotics of national pavilion.

UNIT III Cities in articles- Global and Indian: 9

Understanding how the expression of cities is changing in articles published by urbanists, architects, designers and planners. Examples are Taffe model in colonies, Delhi durbar and spectacle, Junkspace by Rem Koolhaas, Memoir and the city, Planning mentality, Splintering Urbanism etc, global norms in urban forms in the age of tourism. Critique on representation of British dealings with India, Analysis and critique of articles published on India city example by Rahul Mehrotra, KT Ravindran etc.

UNIT IV Art theories, art movement, public art festivals and urbanism: 9

Definition of art theories by critics and philosophers where subject of the art work is Urbanism; “way of seeing” by John Berger. Art movement depicting the character about the city and their impact on the context, like Cubism, Dadaism, Arte Povera, Land art, Surrealism etc. Initiatives, challenges and outcome of a public art festival from the perspective of an urban designers. Example Kochi Biennale, Documents and 48 degree Celsius.

UNIT V Role of photography & aesthetics in urbanism: 9

Photography as “a social rite, a defence against anxiety and a tool of power”. Photography as national desire and how it has changed in the age of digital media.’ Susan Sontag perspective on photography and the world. Concepts of aesthetics and how it continue to impact social life and urbanism e.g. Walter Benjamin’s concept of “phantasmagoria”.

Total: 45 Periods**Learning Outcome:**

Students are exposed to a wide range of imaginaries and representations of the city through selected readings and discussions and through different media. This exposure forms the foundation of critical appraisal of urban patterns and city formations and leads to a deeper understanding of the city as context.

- References:**

- AlSayyad, N. (Ed.). (2001). *Consuming tradition, manufacturing heritage: Global norms in urban forms in the age of tourism*. Routledge.
- Bacon, E. N. (1974). *Design of cities*. Thames & Hudson.
- Boyer, M. C. (1983). *Dreaming the rational city: The myth of American city planning*. MIT Press.

- Caldeira, T. P. R. (1996). Fortified enclaves: The new urban segregation. *Public Culture*, 8(2), 303–328.
- Foucault, M. (1984). Of other spaces: Utopias and heterotopias. *Architecture /Mouvement/ Continuité*, 5, 46–49.
- Giedion, S. (1941). *Space, time and architecture: The growth of a new tradition*. Harvard University Press.
- Graham, S., & Marvin, S. (2001). *Splintering urbanism: Networked infrastructures, technological mobilities and the urban condition*. Routledge.
- Hall, P. (1980). *Great planning disasters*. University of California Press.
- Hall, P. (1996). *Cities of tomorrow: An intellectual history of urban planning and design in the twentieth century* (Rev. ed.). Blackwell.
- Harvey, D. (1989). *The condition of postmodernity: An enquiry into the origins of cultural change*. Blackwell.
- Hayden, D. (1995). *The power of place: Urban landscapes as public history*. MIT Press.
- Jacobs, J. (1961). *The death and life of great American cities*. Vintage Books.
- Jacobs, J. (1969). *The economy of cities*. Vintage Books.
- Kostof, S. (1992). *The city assembled: The elements of urban form through history*. Bulfinch Press.
- Krier, R. (1979). *Urban form and space*. Academy Editions.
- Lang, J. (1994). *Urban design: The American experience*. Van Nostrand Reinhold.
- Lang, J. (2005). *Urban design: A typology of procedures and products*. Architectural Press.
- Lynch, K. (1960). *The image of the city*. MIT Press.
- Lynch, K. (1984). *Good city form*. MIT Press.
- Ravindran, K. T. (n.d.). *Why planning failed*.
- Robinson, W. I. (2009). Saskia Sassen and the sociology of globalization: A critical appraisal. *Sociological Analysis*, 3(1), 5–29.
- Ross, E. (n.d.). *Can the subaltern speak?*
- Sassen, S. (1996). Whose city is it? Globalization and the formation of new claims. *Public Culture*, 8(2), 205–223.
- Sassen, S. (n.d.). *Valorisation & devalorization*.
- Say. (n.d.). *Between wonder, intuition and suggestions: Rasa in Ray*.
- Singh, K. (1990). The builder. In *Delhi: A novel*. Penguin Books.

MUD1108 – Communication in Urban Design	Subject Category	IA
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

To develop skills that can critically reflect upon and re-present the semester's work of the MUD Program in a creative, compelling format which can contribute to the urban design culture.

Content:**Unit – I Techniques of communication in design****6**

Introduction to different ways and effective techniques used for graphic, written and verbal communication in different stages and aspects in the field of urban design. Learning the aesthetic, technical and conceptual techniques which are essential for the creative outcome, enabling students with skills and tools to solve complex problems in various fields of urban design.

Unit – II Tools and software**6**

Experimenting with various media which can be further enriched with experimental learning. Application of software's like Photoshop, CorelDraw, Illustrator, movie maker can be part of the course.

Unit - III 2D and 3D Representation of cities**12**

Graphical Communication in 2D-Representation of Cities through Nolli's plan and other iconographic means. Map making through the ages, evolution of city representation. Graphical Communication in 3D- Latest techniques of physical model making, 3D printing, 3D Representation techniques in virtual mode

Unit – IV Literary & Artistic representation of cities**12**

Introduction of articles, poems, prose, stories, visual and performing arts, short movies, digital illustration can be introduced. Thematic representation of Cities in Literature and Cities in Cinema.

Unit – V Written and Verbal Communication**9**

Verbal Communication- through Extempore and debates. Written Skills- Writing articles about issues in the cities or cities in general. Write persuasive arguments probably stemming out of the Studio exercise, well-structured text and express critical standpoints.

Total: 45 Periods**Learning Outcome:**

Students shall learn about various communication techniques to express their ideas in urban design.

References:

- Evergreen, S. D. H. (2019). *Effective data visualization: The right chart for the right data*. Sage Publications.
- Punch, K. F. (2013). *Introduction to social research: Quantitative and qualitative approaches* (3rd ed.). Sage Publications.
- Beebe, S. A., Beebe, S. J., & Redmond, M. V. (2011). *Interpersonal communication: Relating to others* (6th ed.). Pearson.
- Hariharan, S., Sundararajan, N., & Shanmugapriya, S. P. (2010). *Soft skills*. MJP Publishers.
- Alex, K. (2010). *Soft skills: Know yourself and know the world*. S. Chand Publishing.
- Gopalaswamy, R., & Mahadevan, R. (2010). *The ACE of soft skills: Attitude, communication and etiquette for success*. Pearson Education.
- West, R., & Turner, L. H. (2010). *Understanding interpersonal communication: Making choices in changing times* (2nd ed.). Cengage Learning.

MUD1109 – Urban Conservation	Subject Category	IA
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

To develop skills and better understanding of environment and heritage of cities across world

Content:**Unit – I Notion of Heritage 6**

Understanding the notion of Heritage – tangible and intangible aspects of heritage in urban areas and an overview of urban renewal and its linkages to conservation

Unit – II Urban Conservation in India 9

Conservation and Development – Trajectory of Urban conservation in India. Urban Conservation principles, UNESCO Recommendations, International and national charters and legislations.

Unit – III Strategies for urban conservation 12

Conservation led regeneration and regeneration strategies of inner city areas. Government schemes and policy for urban conservation

Unit – IV Cultural resources in the city 9

City as living cultural resource. Use of heritage resources for sustainable urban development through policy directives, capacity building, exchange programmes and technical assistance.

Unit - V Challenges in urban conservation 9

Current implementation and management challenges in urban conservation. Scarcity of knowledge in planning and management of heritage resources in the urban context. Present context in Heritage

Total: 45 Periods

Learning Outcome:

Students finishing this course will be able to understand the Urban Heritage, Conservation and related management of the cities.

References:

1. Feilden, B. M. (1982). Conservation of historic buildings. Butterworth Co.
2. Feilden, B. M. (1989). Guidelines for conservation: A technical manual. Indian National Trust for Art and Cultural Heritage.
3. Glendinning, M. (2013). The conservation movement: A history of architectural preservation. Routledge.
4. Hollis, M. (2000). Surveying buildings. RICS Business Services Limited.
5. Indian National Trust for Art and Cultural Heritage. (1999). Conserving the heritage of our historic cities: Pre-seminar working document.
6. Menon, A. G. K. (Ed.). (1994). Conservation of immovable sites. Indian National Trust for Art and Cultural Heritage. (Note: Standard publication year added for this collection).
7. Oxley, R. (2003). Survey and repair of traditional buildings. Donhead Publishers.
8. Tandon, R. (2002). A case for national policy for heritage conservation & management. Indian National Trust for Art and Cultural Heritage.

SECOND SEMESTER

MUD1201 – Planning techniques for Urban Design	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

Students will acquire knowledge regarding methods and techniques used in the process of planning. They shall also learn more about the various survey methods in planning.

Content:**Unit – I Introduction to Planning 6**

Planning principles, terms and their definitions

Unit – II City classification 6

Classification of cities; city region; spheres of influence, urban rural fringe; internal structure of urban areas; density patterns; land use classification and Form based codes

Unit – III Basics of socio-economic surveys 12

Conceptual understanding of socio-economic surveys: data requirements for urban and regional planning; sources of primary and secondary data; questionnaire design, measurement scale and their application; sampling techniques; types of socio-economic surveys.

Unit – IV Survey Techniques 9

Overview of techniques of conducting surveys for land use, building use, density, structural condition of buildings, heights of building, land utilization and physical features of land

Unit – V Policies and Norms for planning in India 12

Planning norms in Indian cities, Formulation of spatial standards for residential, industrial, commercial and recreational areas; space standards for facility areas, utilities and networks; population, distance criteria; performance standards; case studies: residential and non-residential density patterns and analysis

Total: 45 Periods

Learning Outcome:

Students shall be equipped with knowledge of Urban Planning principles, techniques, theories and methods.

References:

- Department of the Environment, Transport and the Regions, & Commission for Architecture and the Built Environment. (2000). *By design: Urban design in the planning system: Towards better practice*. Thomas Telford.
- Institute of Town Planners, India. (n.d.). *Planning techniques* (Reader volume). ITPI.
- Kothari, C. R. (1986). *Research methodology: Methods and techniques*. Wiley Eastern.
- Krueckeberg, D. A., & Silvers, A. L. (1974). *Urban planning analysis: Methods and models*. John Wiley & Sons.
- Lee, D. B., Jr. (1968). *Models and techniques for urban planning*. Cornell Aeronautical Laboratory.
- Ministry of Urban Development. (1996). *Urban Development Plans Formulation and Implementation (UDPI) guidelines*. Government of India.
- Roberts, M. (1974). *An introduction to town planning techniques*. Hutchinson.
- Souther, J. W. (1959). *Technical report writing*. John Wiley & Sons.

MUD1202 – Urban Mobility	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

The aim of this course is to expose the student to urban mobility networks and how the movement corridors directly influence the urban design different classes of cities in India. At the same time a more nuanced understanding of issues related with urban mobility especially related to public transport, pedestrian spaces and emerging trends are to be provided in this course.

Content:**UNIT-I Urban Mobility Systems****9**

Introduction to Urban Mobility – Importance and role of transport in urban design, Accessibility vs. Mobility, Urban Transport and Types of Urban Mobility Systems. Evolution of mobility systems in Indian cities. Introduction to mobility data, travel behaviour, and multimodal integration.

UNIT-II Sustainable Urban Mobility**9**

Land Use and Transport Integration, Sustainable Planning and Design for Mobility, Urban Form and Movement Networks, Road Safety Principles and Safe Street Design, Environmental and Social Sustainability in Transport, Sustainable Urban Mobility Plan (SUMP), Complete Streets and Street Design Guidelines, Climate-responsive and low-carbon mobility approaches.

UNIT-III Transport Modes in cities**6**

Transport Modes in Cities – Pedestrian systems, Non-Motorized Vehicles (NMV), Intermediate Public Transport (IPT), Public Transport systems including BRT, MRTS, Metro Rail, LRT, and Suburban Rail. Emerging mobility systems such as electric mobility, shared mobility, and micro-mobility. Issues of public vs. private modes of travel.

UNIT-IV Transit Design and Smart Mobility**9**

Design for Transit – Transit Oriented Development (TOD), Last Mile Connectivity, Walkability and Pedestrian Environments, Universal Accessibility and Inclusive Mobility. Road Safety Audits and Traffic Calming Measures Mobility systems and ICT interfaces – Smart Transportation, Intelligent Transport Systems (ITS), Mobility-as-a-Service (MaaS), smart parking, and real-time transit information systems.

UNIT-V Case-Studies and design tool applications**12**

Case studies of successful mobility systems implemented in Indian and international cities. Accessibility in the context of universal design. Design tools and methods that support inclusive urban mobility. Application of Geoinformatics, GPS-based mobility mapping, space syntax, network analysis, and mobility data visualization in transport planning and urban design.

Total: 45 Periods**Learning Outcome:**

Students shall develop a critical understanding of urban mobility systems and their role in achieving livable, inclusive, and sustainable cities. The course will enable students to analyze movement networks, evaluate transport systems, and apply contemporary mobility planning tools and technologies in urban design practice.

References:

- Indian Roads Congress. (n.d.). *Guidelines for design of urban roads, pedestrian facilities, and complete streets* (Relevant IRC Codes).
- Institute for Transportation and Development Policy. (2022). *Complete streets and TOD standards*.

- Jain, A. K. (2017). *Urban transport: Planning and management*. APH Publishing.
- Kadiyali, L. R. (2017). *Traffic engineering and transport planning*. Khanna Publishers.
- Meyer, M., & Miller, E. (2019). *Urban transportation planning* (3rd ed.). McGraw-Hill.
- Ministry of Housing and Urban Affairs. (2016). *Transit oriented development guidance document*. Government of India.
- Ministry of Housing and Urban Affairs. (2023). *Complete streets toolkit*. Government of India.
- Ministry of Urban Development. (2006). *National urban transport policy*. Government of India.
- Ministry of Urban Development. (n.d.). *Comprehensive mobility plans of case cities*. Government of India.
- Sadik-Khan, J., & Solomonow, S. (2016). *Streetfight: Handbook for an urban revolution*. Viking.

MUD1203 – Urban Design Studio-II (Greenfield Design)	Subject Category	SC
	Number of Credits	12
	Lecture Periods per Week	2
	Practical/Studio/Workshop Periods per Week	10
	Total Periods per Week	12

Objective:

The studio builds upon analytical and theoretical foundation acquired from the first semester in resolving a design problem on a large Green Field site preferably outside an existing city, exploring concepts such as compact urbanism, mixed-use walkable neighborhoods, Transit oriented development and Climate resilient Urban Design.

Content:

The studio emphasis is on planning and design of a sustainable, resilient, inclusive and implementable urban development for emerging urban areas. The first part of the studio will be an introduction to city level studies, analysing the various factors that determine the morphology of the city and evolving building typologies. As far as practicable, the project should be a live problem carried out with the active participation of the development authorities and stake holders engaging students to analyse peri-urban growth dynamics, land-use distribution, city expansion, mobility systems and environmental systems. While undertaking green field interventions, greater emphasis would be laid on watershed patterns, flood plains, green corridors, ecological reserves, drainage networks and agricultural remnants to generate the urban form.

Total: 180 Periods

Learning Outcome:

Students shall learn Climate responsive thinking and implementation-oriented approaches for large scale Urban design interventions for green-field areas and future city development, while understanding city dynamics.

References:

- Bacon, E. N. (1974). Design of cities. Thames & Hudson.
- Hall, P. (1996). Cities of tomorrow: An intellectual history of urban planning and design in the twentieth century (Rev. ed.). Blackwell.
- Jacobs, J. (1961). The death and life of great American cities. Vintage Books.
- Kostof, S. (1992). The city assembled: The elements of urban form through history. Bulfinch Press.
- Krier, R. (1979). Urban form and space. Academy Editions.
- Lang, J. (1994). Urban design: The American experience. Van Nostrand Reinhold.
- Lang, J. (2005). Urban design: A typology of procedures and products. Architectural Press.
- Lynch, K. (1960). The image of the city. MIT Press.
- Lynch, K. (1972). What time is this place? MIT Press.
- Lynch, K. (1984). Good city form. MIT Press.
- Marshall, S. (2009). Cities design and evolution. Routledge.
- Moughtin, C., Cuesta, R., Sarris, C., & Signoretta, P. (2006). Urban design: Methods and techniques (2nd ed.). Architectural Press.
- Mumford, L. (1972). The city in history: Its origins, its transformations, and its prospects. Harcourt Brace Jovanovich.
- Rogers, R. (1998). Cities for a small planet. Icon Editions.
- Rossi, A. (1982). The architecture of the city (D. Ghirardo & J. Ockman, Trans.). MIT Press. (Note: Originally published in Italian in 1966).
- Spreiregen, P. D. (1965). Urban design: The architecture of towns and cities. McGraw-Hill.

MUD1204 – Urban Design Research Lab	Subject Category	JC
	Number of Credits	4
	Lecture Periods per Week	2
	Seminar/Practical/Workshop Periods per Week	2
	Total Periods per Week	4

Objective:

The objective of urban form laboratories is to allow free experimentation and in-depth inquiry into the patterns and processes of urbanism as well as connected production of urban form and space. These laboratories are to provide platforms for inter/multi-disciplinary engagement of participants from varying backgrounds towards engaging with selected aspects of built environment conditions and/or project future scenarios of urban form.

The laboratories will conduct short or long duration design experiments/research programs that will be offered to students.

Content:

- The research topic/areas shall have direct linkage with the studio program.
- The lab is also aimed to provide research platforms for inter/multi-disciplinary engagement of participants from varying backgrounds towards engaging with selected aspects of built environment conditions and/or project future scenarios of urban form.
- The Lab will extend possibilities of self-driven explorations on urban form as also collective pursuits of design and allied explorations.
- The expected outcome might be in form of research publications on the explorations.

Total: 60 Periods

Learning Outcome:

Students will be enabled to explore the aspects related to urban form and space within urban environments

References:

- Batty, M. (2001). Exploring isovist fields: Space and shape in architectural and urban morphology. *Environment and Planning B: Planning and Design*, 28(1), 123–150.
- Becker, L. M. (2015). *Writing successful reports and dissertations*. SAGE.
- Gaur, A. S., & Gaur, S. (2011). *Statistical methods for practice and research: A guide to data analysis using SPSS* (2nd ed.). Response Books.
- Hillier, B., & Hanson, J. (1984). *The social logic of space*. Cambridge University Press.

MUD1205 – Liveable Cities	Subject Category	IA
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

To broaden the knowledge about ecological and liveability aspects of a city for devising a sustainable future.

Content:**Unit – I Eco-city and its qualities** **9**

Introduction to eco-city, economic, social, and environmental qualities of an eco-city, carbon-neutral and renewable energy production, Public transportation systems, Resource conservation (water and energy), waste management and its reuse.

Unit – II Sustainable city factors **9**

Urban Farming, Urban Infill, Walkable Urbanism, Obstacles, Social factors of Sustainable Cities, discussion on international and national eco cities.

Unit – III Sustainable Communities **9**

Sustainable communities: Basic principles and strategies, systems thinking and strategies; race, class, and equity; place-based learning and planning; and social capital and community empowerment.

Unit – IV Healthy Community Systems **9**

Urban Eco-Design, Integrating Nature and Urban life, Building healthy Community Systems, Transforming Community Systems.

Unit – V Sustainable city development **9**

Sustainable city development: Sustainable Development Goals, Liveability, participatory planning, land use, poverty and racism, green economy, local food systems, nature in the city, healthy neighbourhoods, transportation/access, housing, energy systems, bio diversity etc., Green Urbanism, Learning from Existing Cities. Liveability indices, ranking of cities.

Total: 45 Periods

Learning Outcome:

Students will be able to comprehend their understanding of ecological qualities of a city in the perspective of co-existing with the demands for sustainable future.

References:

- Bacon, E. N. (1976). Design of cities (Rev. ed.). Penguin Books.
- Berke, P. R. (2002). Does sustainable development offer a new direction for planning? Challenges for the twenty-first century. *Journal of Planning Literature*, 17(1), 21–36.
- Blewitt, J. (2014). Understanding sustainable development (2nd ed.). Routledge.
- Dobbins, M. (2009). Urban design and people. John Wiley & Sons.
- Hempel, L. C. (1999). Conceptual and analytical challenges in building sustainable communities. In D. A. Mazmanian & M. E. Kraft (Eds.), *Toward sustainable communities: Transition and transformations in environmental policy* (pp. 43–74). MIT Press.
- Marshall, S. (2009). Cities design and evolution. Routledge.
- Newman, P., & Thornley, A. (2005). Planning world cities. Palgrave Macmillan.
- Kates, R. W., Parris, T. M., & Leiserowitz, A. A. (2005). What is sustainable development? Goals, indicators, values, and practice. *Environment: Science and Policy for Sustainable Development*, 47(3), 8–21. (Note: Corrected "Robert, KW" to the standard academic citation of Kates, R. W.).
- World Bank. (2010a). Cities and climate change: An urgent agenda.
- World Bank. (2010b). Eco2 cities: Ecological cities as economic cities.

MUD1206 – Imagining Cities II – Cities in Digital Media	Subject Category	IA
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

The objective of the course is to explore and discuss city imagery through various media. Students are exposed to a wide range of imaginaries and representations of the city through different media.

Content:**Unit – I City as theatre****12**

Theatre as a total work of art, City as Durbar: Theatre and power in Imperial Delhi, concept of relief stage, street theatre, stage craft. Small town imaginaries with example of 'Superman of Malegaon', the cinema of Satyajit Ray (Apu trilogy) and the discussion of 'Chamatkar' in the context of Urban spaces.

Unit – II Concept of utopia, Dystopia and heterotopia**12**

Examples from movies Brazil & Blade runner to emphasis on concept of memory, technology and bureaucracy, 'Quatsi trilogy' and globalization. Six principles by Foucault's "of other spaces". Contemporary examples as productive urban imaginaries.

Unit – III Machine and metropolis**9**

The Historical Digression, the ultimate technological fantasy in city, Analysis of Andreas Husseyn to discuss the role of technology, male domination and performative role of the vamp, division of labour.

Unit – IV New conditions in Contemporary Urbanism**6**

Salient features of "Still life" and "In the mood for love", essay by Ackbar Abbas describing Chinese Urbanism, Diegetic and Non diegetic, agency, inclusive urbanism and film Noir.

Unit – V Public spaces as expressive spaces**6**

Public spaces as spaces for expression- With examples from public spaces in the French New Wave, 'cleo from 5 to 7' into a female flaneuse.

Total: 45 Periods**Learning Outcome:**

Students are sensitized to a deeper understanding of the city as context.

References:

- Abbas, A. (1997). Hong Kong: Culture and the politics of disappearance. University of Minnesota Press.
- Colebrook, C. (2002). Gilles Deleuze: Perception, time and becoming. In Desire, ideology and simulacra (pp. 42–65). Edinburgh University Press.
- Krier, R. (1979). Urban form and space. Academy Editions.
- Lang, J. (1994). Urban design: The American experience. Van Nostrand Reinhold.
- Lang, J. (2005). Urban design: A typology of procedures and products. Architectural Press.
- Lynch, K. (1960). The image of the city. MIT Press.
- Lynch, K. (1972). What time is this place? MIT Press.
- Lynch, K. (1984). Good city form. MIT Press.
- Marshall, S. (2009). Cities design and evolution. Routledge.

- Mumford, L. (1972). The city in history: Its origins, its transformations, and its prospects. Harcourt Brace Jovanovich.
- Schirmbeck, E. (1987). Idea, form, and architecture: Design principles in contemporary architecture. Van Nostrand Reinhold.
- Spreiregen, P. D. (1965). Urban design: The architecture of towns and cities. McGraw-Hill.
- Vasudevan, R. S. (2014). The exhilaration of dread: Genre, narrative form and film style in contemporary urban action films. City Flicks: Cinema, Urban Worlds and Modernities in India and Beyond, 22, 1–24.

MUD1207 – Open Elective / Inter-Institutional Elective	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

MUD1208 – Environmental Impact Assessment	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective

To introduce students to environmental assessment frameworks and sustainability principles in the context of urban design and planning. The course aims to develop an understanding of the environmental implications of urban development projects, urban ecological systems, environmental regulations, and assessment methodologies that support climate-responsive, inclusive, and sustainable urban environments.

Content:

Unit–I Urban Environment and Sustainability Fundamentals 6

Introduction to urban ecology, environmental systems, and sustainability principles in urban design. Relationship between urbanization and environmental change. Concepts of environmental quality, carrying capacity, resilience, and climate-responsive urbanism. Introduction to Environmental Impact Assessment (EIA) and Sustainability Assessment in urban development.

Unit–II Environmental Assessment Methods in Urban Design 12

Environmental inventory and baseline studies for urban areas. Physical, biological, socio-economic, and cultural environmental assessment. Urban environmental indicators and spatial analysis techniques. EIA methodologies – checklist, matrix, overlay, network, and GIS-based approaches. Public participation, stakeholder engagement, and environmental justice in urban projects.

Unit–III Impact Assessment for Urban Development Projects 9

Environmental impacts of transportation corridors, housing developments, industrial areas, waterfronts, and infrastructure projects. Assessment of urban heat island effects, air pollution, noise pollution, stormwater runoff, and ecological fragmentation. Impact prediction techniques and mitigation measures. Preparation of Environmental Impact Statements (EIS) and environmental management plans.

Unit–IV Environmental Governance, Policies, and Urban Regulations 9

Environmental laws, policies, and institutional frameworks relevant to urban planning and design. Environmental Protection Act, Air Act, Water Act, Noise Pollution Rules, Solid Waste Management Rules, EIA Notification, Coastal Regulation Zone (CRZ), and climate adaptation policies. Environmental auditing, compliance monitoring, and sustainable urban development frameworks.

Unit–V Sustainable Urban Systems and Environmental Planning Tools 9

Integrated urban environmental management systems. Municipal solid waste management, recycling, circular economy approaches, and waste-to-energy systems. Blue-green infrastructure, water-sensitive urban design, and nature-based solutions. Application of GIS, remote sensing, geospatial analysis, and environmental mapping tools in urban design and planning.

Total: 45 Periods

Learning Outcome

Students shall develop an understanding of environmental assessment methods, sustainability principles, and environmental governance frameworks relevant to urban design and planning. The course enables students to critically evaluate environmental impacts of urban projects and propose sustainable and climate-responsive urban design strategies.

References

- Canter, L. W. (2018). Environmental impact assessment. McGraw-Hill Education.
- Central Pollution Control Board. (2021). Guidelines for environmental monitoring and urban waste management. Government of India.
- de Smith, M. J., Goodchild, M. F., & Longley, P. A. (2020). Geospatial analysis: A comprehensive guide (6th ed.). Troubador Publishing.
- Farr, D. (2018). Sustainable urbanism: Urban design with nature. Wiley.
- Forman, R. T. T. (2014). Urban ecology: Science of cities. Cambridge University Press. (Note: Corrected publication year to 2014 for its primary definitive print edition).
- Glasson, J., Therivel, R., & Chadwick, A. (2024). Introduction to environmental impact assessment (6th ed.). Routledge.
- Jain, R. K., Urban, L. V., Stacey, G. S., & Balbach, H. E. (2016). Environmental planning and impact analysis. CRC Press.
- Ministry of Environment, Forest and Climate Change. (2020). Environmental impact assessment notification and guidelines. Government of India.
- Oke, T. R., Mills, G., Christen, A., & Voogt, J. A. (2017). Urban climates. Cambridge University Press.
- United Nations Environment Programme. (2022). Sustainable cities and global environment outlook reports.

THIRD SEMESTER

MUD2101 – Participatory Planning and Techniques	Subject Category	IA
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

The objective of this course is to sensitize students to the diverse stakeholders, communities and institutional actors involved in shaping urban spaces. It aims to develop an understanding of participatory planning as an essential approach in contemporary urban design, where negotiation, collaboration and community engagement become central to decision-making. The course enables students to understand stakeholder interests, power relations, governance frameworks and participatory methods used in Indian and international contexts. It further equips students with practical tools such as stakeholder mapping, participatory appraisal, focus group discussions, community workshops and design charrettes to translate community inputs into inclusive urban design strategies.

Content:**UNIT-I Foundations of Participatory Planning in Urban Design 9**

- Meaning, scope and relevance of participatory planning in urban design.
- Participation as consultation, collaboration, co-production and empowerment.
- Identification of diverse stakeholders: residents, vendors, children, women, elderly people, workers, informal groups, local businesses, RWAs, NGOs, CBOs, ward officials, elected representatives and parastatal agencies.
- Understanding top-down, bottom-up and negotiated approaches to urban design decision-making.
- Role of participation in shaping inclusive public realms, neighbourhoods, streets, open spaces, housing areas and local area plans.
- Ethical concerns in participation: representation, consent, exclusion, power imbalance, community fatigue, conflict and expectation management..

UNIT-II Stakeholders, Power and Governance in Indian Urban Contexts 9

- Understanding urban stakeholders and their interests, Stakeholder influence-interest matrix.
- Micro-spatial politics: streets, vending, parking, parks, housing societies, gated communities, informal settlements and market areas.
- Participation and urban inequality: class, caste, gender, age, disability, informality and tenure.
- Governance structures affecting participation: municipal corporations, ward committees, area sabhas, RWAs, development authorities and special purpose vehicles.
- 74th Constitutional Amendment and decentralised urban governance.
- Local Area Planning and ward-level participatory processes.
- Participatory dimensions of Indian urban programmes: JnNURM, HRIDAY, Smart Cities Mission, AMRUT and other urban renewal initiatives.
- Role of CBOs, NGOs, SHGs, resident groups, professional bodies and citizen collectives.
- Participation in large infrastructure projects: metro, roads, riverfronts, redevelopment, TOD and urban renewal.

UNIT-III Participatory Methods and Field Techniques 6

- Preparing for community engagement: defining purpose, scale, stakeholder groups, timeline and expected outputs.
- Designing engagement questions: open-ended, spatial, visual and behavioural questions.
- Field-based participatory techniques like Stakeholder interviews, Focus group discussions, Community meetings, Participatory mapping, Transect walks, Social mapping, Resource mapping, Behaviour mapping, Activity mapping, Photo documentation, Public-space audit, Safety audit, Accessibility audit, Child-friendly and gender-sensitive audits, Timeline mapping and problem-tree analysis
- Quantitative and qualitative data in participatory planning.
- Visual tools in participation: maps, models, cards, photographs, icons, ranking exercises and preference surveys.
- Digital participation tools: online surveys, GIS-based mapping, participatory dashboards, mobile apps and hybrid engagement formats.

- Documentation formats: field notes, consent forms, stakeholder registers, issue-opportunity matrices and engagement reports.

UNIT-IV Design Charrettes, Public meetings and Co-design Processes**9**

- What is a design charrette?
- Planning events, public meetings, open houses, community design studios and co-design labs.
- Difference between consultation workshop, visioning workshop, conflict-resolution workshop, public meetings and design charrette.
- Structure of an engagement event: preparation, invitations, venue, seating, facilitation, ice-breaking, mapping exercises, group discussion, prioritisation and feedback.
- How to conduct a comfortable, honest and productive engagement event.
- Facilitation skills: listening, neutrality, managing dominant voices, encouraging silent groups, conflict mediation and time management.
- Tools for co-design: model-making, map annotation, card sorting, priority ranking, visual preference surveys, scenario building and design games.
- Translating community inputs into design brief, spatial principles, urban design guidelines and implementation phasing.
- Communicating back to the community: validation meetings, feedback loops and “you said–we did” formats.
- Participation and tactical urbanism: temporary interventions, pop-up public spaces, street trials, placemaking and demonstration projects.
- Action-based research and community engagement projects

UNIT-V Participatory Planning Applications in Urban Design Practice**12**

- Participation in neighbourhood planning and Local Area Planning.
- Participation in housing and community development.
- Participation in street design, public-space design, mobility planning and place-making.
- Participation in informal settlements, resettlement, urban renewal and heritage areas.
- Child-friendly, gender-sensitive and age-friendly participatory design.
- Participation in environmental planning: water, open spaces, urban greenery, climate resilience and disaster preparedness.
- Comparative case studies from India and abroad.
- Evaluation of participatory processes: inclusiveness, transparency, representativeness, accountability, feasibility and design impact.
- Measuring success: participation indicators, stakeholder satisfaction, spatial outcomes, implementation outcomes and long-term stewardship.
- Preparing a final participatory urban design framework.

Total: 45 Periods**Learning Outcome:**

The course will enable students to understand participation as an essential method for preparing more inclusive, people-centred and context-responsive urban design proposals. By integrating this course with the **Local Area Planning (LAP) Studio** in the same semester, students can directly apply participatory techniques such as stakeholder mapping, community interviews, transect walks, participatory mapping, focus group discussions and design charrettes within their studio site. This integration will help students move beyond physical analysis and policy review to understand lived experiences, local conflicts, user aspirations and everyday spatial practices. The participatory inputs can then be translated into LAP-level proposals, design guidelines, public realm improvements, street strategies, open-space networks and implementation frameworks, making the studio output more grounded, inclusive and socially responsive.

References:

- Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners*, 35(4), 216–224.
- Constitution (Seventy-Fourth Amendment) Act, 1992, Government of India (1993).
- Forester, J. (1999). *The deliberative practitioner: Encouraging participatory planning processes*. MIT Press.
- Healey, P. (1997). *Collaborative planning: Shaping places in fragmented societies*. Macmillan Press.

- Innes, J. E., & Booher, D. E. (2010). Planning with complexity: An introduction to collaborative rationality for public policy. Routledge.
- Institute for Transportation and Development Policy India. (n.d.). Publications on streets, public realm and participatory street design. ITDP India.
- Ministry of Housing and Urban Affairs. (2015a). Atal Mission for Rejuvenation and Urban Transformation (AMRUT) mission guidelines. Government of India.
- Ministry of Housing and Urban Affairs. (2015b). Heritage City Development and Augmentation Yojana (HRIDAY) scheme guidelines. Government of India.
- Ministry of Housing and Urban Affairs. (2015). Smart Cities Mission guidelines. Government of India.
- Ministry of Urban Development. (2014). Urban Regional Development Plans Formulation and Implementation (URDPFI) guidelines. Government of India.
- National Institute of Urban Affairs. (n.d.). Reports on urban governance, citizen participation and city planning. NIUA.
- Society for Participatory Research in Asia. (n.d.). Participatory urban planning. PRIA.
- Sanoff, H. (2000). Community participation methods in design and planning. John Wiley & Sons.
- United Nations Human Settlements Programme. (2001). Building bridges through participatory planning. UN-Habitat.
- Wates, N. (2014). The community planning handbook: How people can shape their cities, towns & villages in any part of the world (2nd ed.). Routledge.

MUD2102 – Urban Design Studio – III (Local Area Planning)	Subject Category	SC
	Number of Credits	12
	Lecture Periods per Week	2
	Practical/Studio/Workshop Periods per Week	10
	Total Periods per Week	12

Objective:

The studio aims to enable students to understand Local Area Planning as a bridge between city-level planning and neighbourhood-level urban design action. It will train students to study a city, identify an appropriate ward or local area, and analyse its physical, social, environmental, economic and governance dimensions. The studio will strengthen students' ability to conduct participatory fieldwork, stakeholder engagement and public meetings as part of the urban design process. It will also help students translate community concerns into spatial strategies, design guidelines, public realm proposals and implementable projects with phasing and indicative cost estimation.

Content:

The Local Area Planning Studio is intended to train students to prepare a human-centric, participatory and implementation-oriented Local Area Plan at the ward/neighbourhood scale. The studio will focus on understanding the relationship between city-level structure and local everyday life, where streets, open spaces, markets, housing areas, mobility systems, community facilities and public infrastructure are studied through both spatial analysis and community experience. Students will engage with stakeholders, conduct public meetings, identify local issues and aspirations, and translate them into urban design strategies. The studio shall culminate in a Local Area Plan framework and a smaller implementable project with preliminary cost estimation.

Total: 180 Periods**Learning Outcome:**

Students will be able to prepare a human-centric Local Area Plan by integrating city-level understanding, ward-level analysis, everyday life mapping and participatory engagement. They will learn to translate community concerns and spatial issues into urban design strategies, detailed proposals and small implementable projects with preliminary cost estimation.

References:

- Carmona, M. (2021). *Public places urban spaces: The dimensions of urban design* (3rd ed.). Routledge.
- Project for Public Spaces. (2000). *How to turn a place around: A handbook for creating successful public spaces*.
- Gehl, J. (2010). *Cities for People*. Princeton University Press. <https://doi.org/10.2307/jj.41003893>
- Gehl, J. (2011). *Life between buildings* (6th ed.). Island Press.
- Sanoff, H. (2000). *Community participation methods in design and planning*. John Wiley & Sons.
- Tibbalds, F. (2001). *Making people-friendly towns: Improving the public environment in towns and cities*. Spon Press.
- Wates, N. (2000). *The community planning handbook: How people can shape their cities, towns and villages*. Earthscan.

MUD2103 – Urban Design Dissertation	Subject Category	JC
	Number of Credits	3
	Lecture Periods per Week	2
	Seminar/Practical/Workshop Periods per Week	1
	Total Periods per Week	3

Objective:

To allow students to explore research areas which are contemporary and can address global as well as local issues, critical analysis and interpretation of urban phenomena and data. It will guide both studio and non-studio based enquiries of students towards structured, systematic and targeted research yielding qualitative and quantitative outputs.

Content:

- The research topic/areas shall have direct linkage with the Thesis.
- The students shall be allowed to have free experimentation and in-depth inquiry into the patterns and processes of urbanism as well as the connected production of urban form and space.
- The lab is also aimed to provide research platforms for inter/multi-disciplinary engagement of participants from varying backgrounds towards engaging with selected aspects of built environment conditions and/or project future scenarios of urban form.
- The expected outcome shall be in the form of research papers/ research projects with active engagement with the research organisations or alike.
- Students shall be encouraged to collaborate with National and international agencies who work on research related with Urban studies like UN-HABITAT, Centre for Policy Research (CPR), India Institute of Human Settlement (IIHS, DUSP(MIT) etc. to see the current trend of research and streamline their work accordingly.

Total: 45 Periods**Learning Outcome:**

Students will appreciate the complexity of urban phenomena and will be better equipped to decode and interpret them. This will in turn help them in developing a more evidence-based design approach.

References:

1. Batty, M. (2001). Exploring isovist fields: Space and shape in architectural and urban morphology. *Environment and Planning B: Planning and Design*, 28(1), 123–150.
2. Becker, L. M. (2015). *Writing successful reports and dissertations*. SAGE.
3. Gaur, A. S., & Gaur, S. (2011). *Statistical methods for practice and research: A guide to data analysis using SPSS* (2nd ed.). Response Books.
4. Hillier, B., & Hanson, J. (1984). *The social logic of space*. Cambridge University Press.
5. McClelland, D. (2003). *Photoshop 7 bible* (Professional ed.). Wiley Publishing.
6. Tal, D. (2009). *Google SketchUp for site design: A guide for modeling site plans, terrain and architecture*. John Wiley & Sons.

MUD2104 – Real Estate Management	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

To understand the gamut of real estate development, particularly in the Indian context and the extent of market driven concerns in urban development process.

Content:**Unit – I Real Estate Scenario in India 6**

Real Estate scenario of India, contribution to GDP, stakeholders and participants. The RERA Act – promulgation, applicability and role of legislation in sustainable Real Estate

Unit – II Real Estate Asset Classes 6

Real Estate Asset Classes – Residential, Commercial, Retail, Hospitality, Education, Logistics and Warehousing, Senior Living, Co-working and Co-living spaces, Cap' values.

Unit – III Real Estate field verticals 12

Real Estate field verticals (end-to-end services): Advisory, Land procurement, Transaction (Sale and Lease, Bid Process management), Capital Markets, Project / Construction Management, Asset / Property Management (Housekeeping and Facilities' management).

Unit – IV Real Estate advisory studies 12

Real Estate advisory studies – Highest and Best Use option, Market demand assessment, Feasibility (market and Financial). Real Estate project proposals – EoI, RFP and Development agreement for entrepreneurial and PPP modes

Unit – V Methods of property valuation 9

Property Valuation – methods of Valuation, reach and relevance to real estate sector and Taxation and Registration – influencing factors, Ready Reckoner Rate/s

Total: 45 Periods**Learning Outcome:**

Students will be able to view a built or unbuilt entity in its stake at the city level, beyond being a mere physical identity. Students will also be able to develop a rational perspective while proposing urban interventions and pave ways for sustainable development.

References:

- Banerjee, D. N., & Parks, J. A. (1998). Parks' principles & practice of valuation. Eastern Law House.
- Best practices in property valuation for banks and financial institutions. (2025). BlueRose Publishers.
- Damodaran, A. (2025). Investment valuation: Tools and techniques for valuation of any asset (4th ed., Indian Adaptation). John Wiley & Sons.
- Jain, A. K. (2013). Real estate management: Business process and perspectives. Discovery Publishing House.
- Kakule, M. (2022). Property valuation by income approach. Qurate Books.
- Real estate valuation: Principles & practice. (2021). Notion Press.
- Royal Institution of Chartered Surveyors. (2024). RICS valuation – Global standards.

MUD2105 – Summer Internship/Training	Subject Category	IA
	Number of Credits	2
	Lecture Periods per Week	-
	Tutorial Periods per Week	-
	Total Periods per Week	-

Objective:

To get exposed to the practise of Urban Design/Urban development and engage in participatory development.

Content:

Summer Internship/Training for a period of minimum 8 weeks after second semester to be undertaken by the students and a copy of the 'Internship Certificate' needs to be submitted at the beginning of the Third Semester. Summer Internship at the end of Second Semester (during the summer break) is an opportunity to connect to the practising world, where the students can engage and co-learn with Urban development practitioners/Experts, Development agencies, Urban Designers, Urban local bodies like Municipal Corporations, Research and/or Academic Institutions, Development Authorities, Non-partisan groups, NGO's and alike so as to learn more about the organic or guided city development and social initiatives.

Since the nature of work is varying among these stakeholders of Urban development, Faculty may conduct a Workshop to discuss the wide range of issues emerging in the Urban Design and related practises. Students are expected to prepare a report/presentation and present it during evaluation at the end of the Third Semester.

Learning Outcome:

Students will be able to get exposed to multi-disciplinary issues of varying scales of urban development and also get the opportunity to engage in the process of co-learning.

MUD2106 – Urban Policy and Management	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

This course aims to inform the student about the process of formulation of urban design policies, integration and implementation of the same in city planning, to inform the student about the process of formulation of urban design policies, integration and implementation of the same in city planning.

Content:**UNIT-I Role of urban design in city planning****9**

Role of urban design in city planning; historical overview and case examples of policy; visioning process; urban design plans, policies and developmental strategies.

UNIT-II Conservation & Development**9**

Conservation and Development - Urban conservation in India, Conservation principles, charters and legislations, Conservation led regeneration and regeneration strategies of inner city areas, Overview of urban renewal and conservation

UNIT-III Impact of Development Controls**9**

Case studies of impact of development controls and zoning; analysis of urban design issues; current innovations in development regulations; alternative types of zoning.

UNIT-IV Urban design plan implementation**9**

Implementation of urban design plans, policies and concepts – tools and methods; local-level plans; design guidelines; design review and concept of design review boards. Government project implementation vs private projects implementation methods and strategies

UNIT-V Participatory Design**9**

Role of Government, private parties and other stakeholders; participatory design and implementation methods

Total: 45 Periods**Learning Outcome:**

Students would be exposed to issues related to two important dimensions of cities- Housing and heritage as well as associated legal, policy and management frameworks.

References:

- Barnett, J. (1974). Urban design as public policy. McGraw-Hill.
- Barnett, J. (1982). Introduction to urban design. Harper & Row.
- Bureau of Indian Standards. (2010). National building code of India 2015. (Note: The NBC was undergoing key revisions around this timeframe, formally compiled as NBC 2016).
- Delhi Development Authority. (n.d.). Master plan for Delhi.
- Frug, G. E. (1999). City making: Building communities without building walls. Princeton University Press.
- Hall, T. (2008). Turning a town around: A proactive approach to urban design. Blackwell Publishing.
- Jacobs, A. B. (1980). Making city planning work. American Planning Association.
- Lang, J. (2005). Urban design: A typology of procedures and products. Architectural Press.
- Mumbai Metropolitan Region Development Authority. (n.d.). Regional plan for Mumbai metropolitan region.
- Urban Development Department. (n.d.). Revised master plan for Bengaluru. Government of Karnataka.

MUD 2107 – Open Elective	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

MUD 2108 – Inter Departmental / Inter-Institutional Elective (Online/Physical Mode)	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

FOURTH SEMESTER

MUD2201 – Urban Design Thesis	Subject Category	SC
	Number of Credits	15
	Lecture Periods per Week	2
	Practical/Studio/Workshop Periods per Week	7
	Guidance/Reviews	6
	Total Periods per Week	15

Objective:

As the culmination of academic work, to provide an opportunity to carry out an independent design or research on a topic defined by the student.

Content:

The design thesis is an independent design on a topic defined by the student, leading to the development of a clear design proposal to be supervised by a faculty team and evaluated by an external jury. The tutorial will assist the students to strengthen the theoretical base of the thesis and analyse relevant successful design demonstrations through case studies. The thesis by research is independent research on a topic defined by a student, to be completed in the form of a comprehensive report under the supervision of an advisor and evaluated by an external jury. The tutorial will assist the student in research methodologies, conducting of surveys, identifying case studies etc.

Total: 225 Periods

Learning Outcome:

Students demonstrate cumulative learning of theoretical pursuits and design techniques for chosen areas of enquiry and intervention in urban areas.

MUD2202 – Seminar and Report Writing	Subject Category	JC
	Number of Credits	6
	Lecture Periods per Week	2
	Seminar/Practical/Workshop Periods per Week	4
	Total Periods per Week	6

Objective:

The course will run parallel to the design/research thesis with intent to help students to progressively present their Thesis in the form of seminar and refine technical writing in the form of thesis report.

Content:

- The course will help students to write technically about the various theoretical explorations undertaken in the thesis.
- This thesis report will include the title page, abstract, table of content, list of tables, illustrations, graphs, diagrams, introduction, literature review, methodology, precedents – exemplars – best practice, design: site, analysis, design, exploration, options, conclusions, further studies, bibliography, annexes and appendices.
- Report writing techniques will be part of the learning.
- The above list is just indicative. Students may use different terminology to name the different parts/sections of their research or the general structure may differ from the above mentioned due to the nature of the research.
- Evaluation will be based on Seminars conducted at critical stages of the Thesis

Total: 90 Periods

Learning Outcome:

Students shall learn to present their Thesis in the form of Seminar at critical stages and also learn report writing skills essential to publish their design and research work.

References:

- Anderson, J., & Poole, M. (1998). Thesis and assignment writing (3rd ed.). John Wiley & Sons.
- Borden, I., & Ruedi Ray, K. (2006). The dissertation: An architecture student's handbook (2nd ed.). Architectural Press.
- Fink, A. (1998). Conducting research literature reviews: From paper to the internet. Sage.
- Murray, R. (2005). Writing for academic journals. Open University Press.

MUD2203 – Open Elective	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

MUD2204 – Project Planning and Finance	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	2
	Tutorial Periods per Week	1
	Total Periods per Week	3

Objective:

The objective of the course is to educate the students about the various methodologies, policies and financial frameworks of urban development projects.

Content:**UNIT-I Introduction to Development Planning****9**

Introduction to Development Planning and management; Society, State and Market; Privatization, Liberalization and Decentralization; Equity and Development

UNIT-II Project Planning – Introduction & Methodologies**12**

Introduction to project planning, theories, concepts and management. Overview of the various methodologies of planning. Project formulation, definition, Norms, standards, aspects and methods of project appraisal

UNIT-III Project Management**6**

Concepts of Project management, systems, frameworks and techniques, Implementation strategies, scheduling, activities, progress reviews, corrective actions etc

UNIT-IV Economic feasibility and Project Funding**9**

Economic and financial feasibility concepts and methods: Project funding, estimation, economic feasibility and methods of recovery. Mandatory legal and environmental approvals

UNIT-V Case-studies and special projects**9**

Special projects such as Special economic zones, export processing zones, townships etc. Case studies of successful projects and planning schemes are encouraged to be used as learning models.

Total: 45 Periods**Learning Outcome:**

Students will be equipped with necessary procedures to propose, evaluate and manage urban design projects at various scales including finance options and partnership models for implementation.

References:

- Callahan, M. T., Quackenbush, D. G., Rowings, J. E. (1992). Construction project scheduling. McGraw-Hill.
- Chitkara, K. K. (2019). Construction project management: Planning, scheduling and controlling (7th ed.). McGraw-Hill Education India.
- Cleland, D. I., & Ireland, L. R. (2002). Project management: Strategic design and implementation (4th ed.). McGraw-Hill. (Note: Cleland's standard middle initial is corrected to I).
- Desai, V. (2020). Project management and entrepreneurship. Himalaya Publishing House.
- Fisk, E. R. (1978). Construction project administration. John Wiley & Sons.
- Gray, C. F., & Larson, E. W. (2017). Project management: The managerial process (7th ed.). McGraw-Hill Education.
- Kwaku, A. A. (1997). Construction project administration. Addison-Wesley Longman. (Note: Reconstructed from the obscured text "K Wakye, A.A" at the tail end of the entry).
- Nicholas, J. M., & Steyn, H. (2020). Project management for engineering, business and technology (6th ed.). Routledge.
- Patel, B. (2012). Project management (2nd ed.). Vikas Publishing House.
- Peurifoy, R. L., Schexnayder, C. J., Shapira, A., & Schmitt, R. (2018). Construction planning, equipment, and methods (9th ed.). McGraw-Hill Education.



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School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

***Revised Annexure – VI:
Revised Course Structure and
Detailed Syllabus 2026 of MBEM***

	Master of Building Engineering and Management: Course Structure & Examination Scheme													
First Semester														
S.No	Course Category	Subject Code.	Subject	Classes				Credits	Examination Scheme	Marks				
				Lecture Hrs/Wee	Tutorial Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		* Marks	Total Marks for Grade conversion
1	Core Subject	MBEM1101	Project Planning and Scheduling Studio	2	0	8	10	10	Internal Assessment+ Viva-Voce	200	-	200	400	100
2		MBEM1102	Construction Management, Tools and Techniques	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
3		MBEM1103	Quantitative Techniques and Operational Research	2	1	0	3	3	Internal Assessment	100	-	0	100	100
4		MBEM1104	Construction Technology and advanced building Materials	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
5		MBEM1105	Advanced Building Services	2	1	0	3	3	Internal Assessment	100	-	0	100	100
6	Institute Elective-1 (Any One)	MBEM1106	Automation and Mechanization in Construction	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		MBEM1107	Risk management	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		MBEM1108	Inter departmental/Inter-Institutional Elective (Online/Physical Mode)	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
			TOTAL				25	25		550	150	200		600

Second Semester														
S.No	Course Category	Subject Code.	Subject	Classes				Credits	Examination Scheme	Marks				
				Lecture Hrs/Week	Tutorial Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		* Marks	Total Marks for Grade conversion
											Written Exam	Jury / Viva-Voce		
1	Core Subject	MBEM1201	Construction Project Cost Planning, Control and Monitoring	2	0	8	10	10	Internal Assessment+ Viva-Voce	200	-	200	400	100
2		MBEM1202	Project Cost Management	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
3		MBEM1203	Construction Occupational Health and Safety Administration	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
4		MBEM1204	Construction Contracts,Specifications and Legal Issues	2	0	1	3	3	Internal Assessment + Written Exam	50	50	0	100	100
5		MBEM1205	Digital Tools In Construction	2	0	1	3	3	Internal Assessment	100	0	0	100	100
6	Institute Elective-2 (Any One)	MBEM1206	Research Methodology	2	0	1	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		MBEM1207	Construction Quality Assurance and Quality Control	2	0	1	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		MBEM1208	Construction Material Management	2	0	1	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		MBEM1209	Inter departmental/Inter-Institutional Elective (Online/Physical Mode)	2	0	1	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		Note: Compulsory Summer Professional Training/Internship for Eight weeks after second semester, evaluated during III semester.												
			TOTAL				25	25		500	200	200		600

Third Semester														
S.No	Course Category	Subject Code.	Subject	Classes				Credits	Examination Scheme	Marks				
				Lecture Hrs/Week	Tutorial Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		* Marks	Total Marks for Grade conversion
1	Core Subject	MBEM2101	Construction Contract Procurement Management studio	4	0	6	10	10	Internal Assessment+ Viva-Voce	200	-	200	400	100
2		MBEM2102	Dissertation	2	0	2	4	4	Internal Assessment+ Viva-Voce	100	0	100	200	100
3		MBEM2103	Construction Procurement	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
4		MBEM2104	Project Finance Management	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
5	Institute Elective-3 (Any One)	MBEM2105	Digital Twin in Built Environment	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		MBEM2106	Building Adaptation & Asset management	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		MBEM2107	Construction Innovation and Entrepreneurship	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		MBEM2108	Inter departmental/Inter-Institutional Elective (Online/Physical Mode)	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
6	Industrial Training	MBEM2109	Summer Training/Internship (08 Week after Semester-II)	0	0	0	0	2	Internal Assessment	100	0	0	100	100
			TOTAL				23	25		550	150	300		600

Fourth Semester														
S.No	Course Category	Subject Code.	Subject	Classes				Credits	Examination Scheme	Marks				
				Lecture Hrs/Week	Tutorial Hrs/Week	Studio Hrs/Week	Total Hrs/Week			Internal Assessment	External Assessment		* Marks	Total Marks for Grade conversion
1	Core Subject	MBEM2201	Thesis	2	0	17	19	19	Internal Assessment+ Viva-Voce	600	0	400	1000	100
2		MBEM2202	Project Quality and Human Resource Management	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
3	Institute Elective-4 (Any one)	MBEM2203	Environmental Impact Assessment	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
		MBEM2204	Lean Construction	2	1	0	3	3	Internal Assessment + Written Exam	50	50	0	100	100
			TOTAL				25	25		700	100	400		300

			TOTAL All Semester				98	100						2100
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* Note: The absolute marks awarded as given above will be proportionately converted to a "Total Marks" of 100

Master of Building Engineering and Management

Detailed Syllabus for
Two Year Post Graduate Degree Programme in
Building Engineering and Management

Effective from the Academic Year 2026-27



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FIRST SEMESTER

MBEM1101 - Project Planning and Scheduling Studio	Subject Category	SC
	Number of Credits	10
	Lecture Periods per Week	2
	Tutorials per week	-
	Studio/Lab/Workshop/Practical's	8
	Total Periods per Week	10

Objectives: The objective of this course is to provide students with a comprehensive understanding of construction project management principles and practices, covering the complete project life cycle from project inception to post-construction stages. The course aims to familiarize students with project stakeholders, organizational structures, and project management processes while developing knowledge in project formulation, feasibility analysis, techno-economic evaluation, and statutory clearances. It also intends to equip students with skills in construction time management through work breakdown structures, activity sequencing, resource and duration estimation, and preparation of project schedules using techniques such as CPM, PERT, Gantt charts, and network diagrams. Further, the course emphasizes monitoring and control of project schedules, application of quantitative techniques, and the use of modern computer applications and project management software for effective planning, execution, and control of construction projects.

Unit I – Fundamentals of Construction Projects

This unit introduces the concept of a project and explains the characteristics and various types of construction projects. It covers the project life cycle and discusses the different phases involved, namely inception, planning and design, execution/construction, commissioning and handover, and post-construction maintenance. The unit also highlights the roles and responsibilities of various stakeholders in the construction industry, project team organisation, and the influence of organisational structures on project execution.

Unit II – Introduction to Construction Project Management

This unit focuses on the fundamentals of construction project management, including its objectives and functions. It explains the various project management processes and their interactions with special emphasis on project integration management. The unit introduces the major project management knowledge areas such as scope, time, cost, quality, resource, risk, procurement, communication, and stakeholder management. The role and responsibilities of a project manager in construction projects are also discussed.

Unit III – Project Formulation and Feasibility Studies

This unit deals with project formulation and feasibility analysis in construction projects. It includes the generation and screening of project ideas, project identification, and preliminary feasibility studies covering market, technical, financial, economic, and ecological aspects. The unit explains the preparation of pre-feasibility reports, techno-economic feasibility reports, and detailed project reports (DPR). It also discusses various project clearances and approvals required from environmental, statutory, and local authorities.

Unit IV – Construction Time Management and Scheduling

This unit introduces the principles of construction time management and project scheduling. It covers identification of work packages, preparation of work breakdown structures (WBS), sequencing of activities, resource estimation, and duration estimation techniques. The unit also explains the preparation and analysis of project schedules using tools and techniques such as Gantt charts, Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), precedence diagrams, and other networking methods.

Unit V – Monitoring, Control and Computer Applications in Project Management

This unit explains the methods of monitoring and controlling construction projects with emphasis on schedule updating and revision. It discusses resource allocation, optimization techniques, and the relationship between time and cost in construction projects. The unit also introduces quantitative techniques and computer applications used in construction management. Further, it provides an overview of project management software, along with case studies related to project scheduling and control.

Total: 160 class hours expected

Outcome:

Upon successful completion of this course, the students will be able to understand the various phases involved in the construction project life cycle and the roles and responsibilities of stakeholders and project team members in the construction industry. Students will be able to apply project management principles, processes, and knowledge areas in construction projects, and develop skills in project formulation through feasibility studies, project estimation, techno-economic analysis, and preparation of detailed project reports. They will also be capable of preparing work breakdown structures, sequencing activities, estimating resources and durations, and developing project schedules using CPM, PERT, Gantt charts, and other network techniques. Further, students will gain the ability to monitor and control project schedules, apply quantitative techniques, and utilize computer applications and project management software for effective planning and management of construction projects.

References Books

1. Project Management Institute. (2025). *A guide to the project management body of knowledge (PMBOK® Guide)* (7th ed.). Project Management Institute.
2. Sears, S. K., Clough, R. H., Sears, G. A., & Rounds, J. L. (2015). *Construction project management: A practical guide to field construction management* (6th ed.). John Wiley & Sons.
3. Chitkara, K. K. (2014). *Construction project management: Planning, scheduling and controlling* (3rd ed.). Tata McGraw-Hill Education.
4. Newitt, J. S. (2009). *Construction scheduling: Principles and practices* (2nd ed.). Prentice Hall of India.
5. Mubarak, S. A. (2015). *Construction project scheduling and control* (3rd ed.). John Wiley & Sons.
6. Peurifoy, R. L., Schexnayder, C. J., Shapira, A., & Schmitt, R. L. (2011). *Construction planning, equipment, and methods* (8th ed.). Tata McGraw-Hill Education.

MBEM1102 - Construction Management, Tools and Techniques	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with a comprehensive understanding of construction management principles and practices in the context of the Indian construction industry. The course aims to develop knowledge of the roles and responsibilities of construction managers, project management functions, management styles, and strategic tools such as SWOT analysis. It further intends to equip students with skills in project planning, scheduling, and resource management for effective execution of construction projects. Students will gain an understanding of planning and scheduling techniques including bar charts, milestone charts, work breakdown structures, and network-based project management methods. The course also emphasizes project monitoring and control techniques such as crashing, resource levelling, and updating, along with construction site management practices, communication and reporting systems, application of Management Information Systems (MIS), and training requirements for construction professionals to ensure efficient and successful project delivery.

Unit I – Introduction to Construction Management

This unit introduces the construction industry in India and its contribution to economic growth and infrastructure development. It explains the importance of management in construction projects and highlights the role, responsibilities, authority, and functions of a Construction Manager. Students will understand the composition and functioning of the construction team, causes of project failures, and the application of management functions and styles in construction organizations. The unit also introduces SWOT analysis as a strategic tool for evaluating construction projects and organizations.

Unit II – Project Planning Process

This unit focuses on the fundamentals of construction project planning and the various stages involved in project development. It covers the plan development process, time planning, work scheduling, and resource planning techniques required for effective project execution. The unit emphasizes the importance of systematic planning, scheduling, and controlling in achieving project objectives related to time, cost, and quality.

Unit III – Management Techniques

This unit deals with planning and scheduling techniques used in construction management. It explains the principles, objectives, advantages, and stages of planning for construction projects. Students are introduced to various scheduling methods such as Bar Charts and Milestone Charts, along with concepts like controlling, project life cycle curve, job layout, and Work Breakdown Structure (WBS). The unit aims to develop the ability to organize and manage construction activities efficiently.

Unit IV – Project Management through Networks

This unit introduces network-based project management techniques used for planning and controlling complex construction projects. It covers the objectives, advantages, terminology, and types of project networks. Students learn the rules for drawing project networks and methods such as Fulkerson's rule for numbering events. The unit develops analytical skills for sequencing project activities and understanding dependencies between construction operations.

Unit V – Project Controlling and Construction Site Management

This unit focuses on project monitoring and control techniques to ensure successful project completion within planned time and resources. Topics include project monitoring, control, crashing, resource levelling, and updating of project schedules. The unit also covers construction site management practices such as site mobilization and demobilization, management of resources based on fund availability, communication and reporting techniques, and the application of Management Information Systems (MIS) in construction. It further emphasizes the importance of training for construction managers, engineers, and supervisors for effective site administration and coordination.

Total: 48 class hours expected

Outcome:

Upon successful completion of these units, students will gain a comprehensive understanding of construction management principles, project planning processes, and modern project management techniques used in the construction industry. They will learn the roles and responsibilities of construction managers and project teams, along with the importance of management functions and strategic analysis in construction organizations. Students will develop skills in project planning, scheduling, resource allocation, and work organization using techniques such as Bar Charts, Milestone Charts, Work Breakdown Structures (WBS), and network methods. They will also acquire the ability to prepare and analyze project networks, sequence activities, and manage project execution effectively. Further, students will understand project monitoring and control techniques including crashing, resource levelling, updating schedules, and construction site management practices involving communication, coordination, MIS applications, and efficient utilization of resources for successful completion of construction projects.

References Books

1. Peurifoy, R. L., Schexnayder, C. J., Shapira, A., & Schmitt, R. L. (2018). *Construction planning, equipment, and methods* (9th ed.). McGraw Hill Education.
2. Chitkara, K. K. (2014). *Construction project management: Planning, scheduling and controlling* (3rd ed.). Tata McGraw Hill Education.
3. Punmia, B. C., & Khandelwal, K. K. (2016). *Project planning and control with PERT and CPM*. Laxmi Publications.
4. Sengupta, B., & Guha, H. (2010). *Construction management and planning*. Tata McGraw Hill Education.
5. Hendrickson, C. (2008). *Project management for construction*. Prentice Hall.
6. Jha, K. N. (2015). *Construction project management: Theory and practice* (2nd ed.). Pearson Education.
7. Uher, T. E., & Loosemore, M. (2004). *Fundamentals of building contract management* (or *Fundamentals of construction management and organisation*, depending on the edition used). UNSW Press.
8. Koontz, H., & O'Donnell, C. (2012). *Principles of management*. McGraw Hill Education.
9. Kerzner, H. (2017). *Project management: A systems approach to planning, scheduling, and controlling* (12th ed.). Wiley India.

MBEM1103 - Quantitative Methods and Operations Research	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to introduce students to the principles and applications of Operations Research as a scientific and analytical approach for solving managerial and engineering problems. The course aims to develop understanding of various Operations Research models, decision-making techniques, optimization methods, and quantitative tools used in project and construction management. It also intends to equip students with skills in applying analytical techniques for time, cost, quality, resource, risk, and procurement management. Further, the course emphasizes the use of computer applications and statistical software such as SPSS and Minitab for solving complex problems and improving decision-making efficiency in the construction industry.

Unit I – Introduction to Operations Research

This unit introduces the fundamental concepts of Operations Research (OR) and its evolution as a scientific approach for decision-making and problem-solving. It covers the history, definitions, scope, and phases involved in the OR approach along with its applications in managerial and engineering problems. Students will understand the advantages and limitations of OR studies and gain awareness of various computer software tools used for performing OR-based analysis and decision-making.

Unit II – Operations Research Models and Decision-Making Techniques

This unit focuses on important Operations Research models and analytical tools used for solving managerial and organizational problems. Students will learn techniques such as Acceptance and Allocation Models, Analytic Hierarchy Process (AHP), Fish Bone Analysis, Control Charts, Decision Trees, and Failure Modes and Effects Analysis (FMEA). The unit also introduces Pareto Analysis and other decision-support methods that help in identifying critical factors influencing project performance and quality.

Unit III – Quantitative Models and Analytical Techniques

This unit deals with quantitative and mathematical models used in Operations Research for optimization and forecasting. It covers forecasting methods, fuzzy set theory, game theory, inventory models, network models, replacement and sequencing models, simulation techniques, vendor rating systems, and queuing models. The unit aims to develop analytical and problem-solving skills for handling complex operational and managerial situations in engineering and construction projects by using Python, Excel Solver, and Power BI, etc.

Unit IV – Operations Research Applications in Construction Management

This unit explains the application of Operations Research techniques in various areas of construction management and project decision-making. Students will learn how OR tools are applied in time management, cost control, quality management, resource optimization, risk management, contract administration, procurement management, and value engineering. The unit also highlights the role of OR in building performance evaluation and improving overall project efficiency and effectiveness.

Unit V – Computer Applications and Construction Industry Applications

This unit introduces the use of computer applications and statistical software such as SPSS, Minitab, and other analytical tools for solving complex mathematical and statistical problems involved in Operations Research. Students will learn data analysis, interpretation, and decision-support techniques using software applications.

The unit also emphasizes the practical application of Operations Research methods in the construction industry through case studies and real-time project management scenarios.

Total: 48 class hours expected Outcome:

Upon successful completion of this course, students will be able to understand the concepts, scope, and applications of Operations Research in engineering and management decision-making. They will develop the ability to apply various OR models and analytical techniques such as AHP, decision trees, forecasting, inventory models, simulation, queuing models, and network models for solving practical problems. Students will also gain skills in applying Operations Research techniques to construction management areas including time, cost, quality, resource, risk, and procurement management. Further, they will be capable of using computer software tools such as SPSS and Minitab for data analysis, optimization, and decision support in construction and project management applications.

Reference Books

1. Taha, H. A. (2017). *Operations research: An introduction* (10th ed.). Pearson Education India.
2. Hillier, F. S., & Lieberman, G. J. (2015). *Introduction to operations research* (10th ed.). Tata McGraw-Hill Education.
3. Vohra, N. D. (2017). *Quantitative techniques in management* (6th ed.). Tata McGraw-Hill Education.
4. Tam, C. M. (1996). *Decision making and operations research techniques for construction management*. City University of Hong Kong Press.
5. *Quantitative techniques for decision making in construction*. (2004). Hong Kong University Press.

MBEM1104 - Construction Technology, and advanced building Materials	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: This course intends to give an overview of the modern concrete construction techniques that can be used for the construction of various types of structures, the understanding of which is essential for the construction managers. This course basically aims to identify the various parameters that govern the selection of a particular structural solution for a given building in the given set of parameters. It covers the various geo-technical aspects of soil mechanics required for designing the sub-structure for various buildings. It includes the study of various types of foundation system, their design consideration, application, construction processes and the required construction equipment. It also intends to study the various systems that can be used for construction of super structures in modern buildings and how various services are integrated in a given system.

Unit I – Site Investigation and Modern Concrete Technology

This unit introduces the importance of site investigation and the various stages involved in identifying construction variables and constraints for a project. It covers soil investigation, sub-soil exploration, soil classification, soil testing methods, and determination of soil bearing capacity. Students will also study soil test reports for different projects. The unit further focuses on modern concrete technology including Ready Mix Concrete (RMC), precast and prestressed concrete systems, advanced formwork systems, reinforcement technologies, and construction chemicals along with their applications, advantages, limitations, and impacts on construction cost, quality, and time.

Unit II – Substructure, Superstructure and Building facades

This unit deals with construction practices related to substructure and superstructure systems. Topics include foundation design based on soil characteristics, types of foundations, foundations in special conditions, basement construction, and waterproofing techniques. It also covers different floor slab systems, their characteristics, behaviour, and applications in building construction. The unit introduces various building facades and materials used.

Unit III – Large Span, High-Rise, Steel and Composite Construction

This unit introduces modern structural systems used in large-span and high-rise buildings. Students will learn about space frames, pneumatic structures, shell structures, folded plates, and suspended membrane structures along with their applications and construction technologies. The unit also covers evolution and construction of high-rise buildings, structural systems, planning, scheduling, implementation, and special equipment used in tall building construction. Further, it introduces steel and composite construction systems, pre-engineered buildings, detailing, service integration, and cost and quantity modelling for different building systems.

Unit IV – Advanced and low carbon Construction Materials

This unit focuses on advanced and low carbon construction materials and their applications in the construction industry. It covers concrete technology including mix design, special concretes, mass concreting, maintenance, repair, and future trends. Students will study various construction materials including plastics, asphalt, bitumen, rubber, ceramics, glass, iron and steel products, non-ferrous metals, paints, varnishes, and related materials along with their properties, specifications, and uses. The unit further discusses impact of construction materials

on environment and alternative materials in construction with their benefits, specifications, applications, standards, and future trends in sustainable construction practices.

Unit V – Specifications, Construction Planning and Material Management

This unit explains the importance of construction specifications and their relationship with drawings and construction practices. It covers types of specifications, principles and procedures of specification writing, and contractual provisions related to materials and processes. Students will study specifications from IS Codes, British Standards, and ASTM Standards. The unit also focuses on the role of construction managers in planning and executing projects using modern materials and technologies through preparation of Work Breakdown Structures (WBS), sequencing and scheduling activities, preparation of tender documents, implementation, control, and management of cost, time, quality, and resources in construction projects.

Total: 48 class hours expected

Outcome:

Upon successful completion of these units, students will be able to understand and evaluate site conditions through soil investigation, sub-soil exploration, and interpretation of soil test reports for appropriate foundation and construction decisions. They will gain knowledge of modern concrete technologies, advanced formwork systems, reinforcement techniques, and construction chemicals along with their applications in improving construction quality, time, and cost efficiency. Students will develop an understanding of substructure and superstructure systems, repair and rehabilitation techniques for concrete structures, and the use of construction equipment in various building projects. They will also acquire knowledge of large-span structures, high-rise buildings, steel and composite construction systems, and their planning, scheduling, and implementation requirements. Further, students will understand the properties, specifications, applications, and sustainability aspects of modern and green construction materials, and develop the ability to prepare construction specifications, tender documents, and project plans while considering cost, quality, resource management, and construction management practices for successful project execution.

Reference Books

1. Neville, A. M. (2012). *Properties of concrete* (5th ed.). Pearson Education India.
2. Santhakumar, A. R. (2006). *Concrete technology*. Oxford University Press.
3. Bryan, T. (2005). *Construction technology: Analysis and choice* (2nd ed.). John Wiley & Sons.
4. Chudley, R., & Greeno, R. (2006). *Advanced construction technology* (4th ed.). Pearson Prentice Hall.
5. Chudley, R., & Greeno, R. (2008). *Building construction handbook* (7th ed.). Elsevier/Heinemann. (Commonly cited in place of "Construction Technology"; verify title if using a specific edition.)
6. Peurifoy, R. L., Schexnayder, C. J., Shapira, A., & Schmitt, R. L. (2011). *Construction planning, equipment, and methods* (8th ed.). Tata McGraw-Hill Education.
7. Wahl, I. (2009). *Building anatomy: An illustrated guide to how structures work*. Tata McGraw-Hill Education.
8. Sandaker, B. N. (2008). *On span and space: Exploring structures in architecture*. Routledge.
9. Brown, M. M. (2003). *The architecture of steel*. University of Pittsburgh Press.
10. *Architecture and construction in steel*. (1993). Taylor & Francis. (Author/editor should be verified.)
11. *Planning and control of high-rise building construction*. (2010). Concordia University. (Author should be verified.)
12. Brannigan, F. L. (2007). *Fire fighting operations in high-rise and standpipe-equipped buildings*. PennWell Books. (Verify edition if applicable.)
13. Sears, S. K., Sears, G. A., & Clough, R. H. (2008). *Construction project management: A practical guide to field construction management*. John Wiley & Sons.
14. Kalin, M. (2011). *Construction specifications writing: Principles and procedures* (6th ed.). John Wiley & Sons.
15. Spiegel, R., & Meadows, D. (2010). *Green building materials: A guide to product selection and specification* (3rd ed.). John Wiley & Sons

MBEM1105 - Advanced Building Services	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with comprehensive knowledge of building services and civil infrastructure systems required for modern buildings and urban developments. The course aims to develop an understanding of water supply, sanitation, storm water drainage, electrical systems, illumination, firefighting, HVAC, vertical transportation, security systems, and building automation systems. It also intends to familiarize students with the planning, design considerations, construction practices, energy-efficient solutions, and relevant codes and standards associated with these services. Further, the course emphasizes the coordination and management of infrastructure services through project management techniques for efficient, safe, and sustainable building performance.

Unit I – Water Supply, Sanitation and Storm Water Drainage Services

This unit introduces the planning, design, and construction aspects of water supply, sanitation, and storm water drainage systems for buildings and urban infrastructure. It covers sources of water supply, calculation of water demand, water quality and purification methods, water distribution systems, and domestic hot and cold water supply systems. Students will learn about materials and fixtures used in plumbing systems, sewage quantity estimation, sewer design, sewage treatment plants, and storm water drainage layouts. The unit also emphasizes design considerations and construction practices for water and sanitation systems at domestic, institutional, and city levels.

Unit II – Electrical Services and Illumination

This unit focuses on electrical services used in buildings and infrastructure projects. Topics include principles of electricity, power distribution systems, substations, standby power systems, cables, bus bars, switches, sockets, distribution boards, transformers, DG sets, and electrical safety measures. The unit also introduces illumination engineering, laws of lighting, lighting design considerations for daylighting and artificial lighting, and types of interior and exterior lighting systems. Students will gain exposure to lighting design software and methods for designing efficient and safe electrical and lighting installations.

Unit III – Fire Fighting and HVAC Services

This unit deals with fire safety systems and Heating, Ventilation, and Air Conditioning (HVAC) services in buildings. Students will study the causes and spread of fire, fire detection and firefighting equipment, smoke control systems, fire-resistant design, and fire escape planning for high-rise buildings. The HVAC portion covers principles of air conditioning, occupant comfort, sizing and selection of HVAC systems, all-air and all-water systems, energy requirements, performance evaluation mechanisms, and applicable codes and standards. The unit emphasizes integration of safety and environmental comfort in building services design.

Unit IV – Vertical Transportation, Security and Building Automation Systems

This unit introduces vertical transportation systems such as elevators, escalators, and walkways along with their specifications, design considerations, selection criteria, and energy requirements. It also covers building security systems, planning and design strategies for secure buildings, and installation of various security devices. Further, the unit focuses on Building Automation Systems (BAS) and Building Management Systems (BMS), including their components, functioning, and applications in controlling and optimizing building services. The concept of intelligent buildings and innovative energy-efficient solutions for building services are also discussed.

Unit V – Civil Infrastructure Services and Project Coordination

This unit focuses on the planning, design, construction, and maintenance of civil infrastructure services associated with different types of buildings and external development works. Students will understand the coordination of architectural, structural, and building service systems through project management techniques. The unit emphasizes integration and management of various infrastructure services to ensure efficient project execution, resource utilization, and sustainable building performance.

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to understand and design basic water supply, sanitation, storm water drainage, electrical, illumination, fire fighting, and HVAC systems for various types of buildings. They will gain knowledge of vertical transportation systems, security systems, and building automation technologies used in intelligent buildings. Students will develop the ability to select appropriate materials, equipment, layouts, and energy-efficient solutions for building services while considering safety, comfort, operational efficiency, and sustainability. Further, they will be capable of coordinating civil infrastructure services with architectural and structural systems and applying project management techniques for planning, execution, and maintenance of building service systems and external development works.

Reference Books

1. Hall, F., & Greeno, R. (2015). *Building services handbook* (8th ed.). Butterworth-Heinemann.
2. Grondzik, W. T., Kwok, A. G., Stein, B., & Reynolds, J. S. (2014). *Mechanical and electrical equipment for buildings* (12th ed.). John Wiley & Sons.
3. Janis, R. R., & Tao, W. K. Y. (2009). *Mechanical and electrical systems in buildings* (4th ed.). Pearson Prentice Hall.
4. Moss, K. J. (2002). *Energy management in buildings*. Taylor & Francis.
5. Indian Buildings Congress. (2009). *Practical handbook on energy conservation in buildings*. Indian Buildings Congress.
6. Rangwala, S. C. (2017). *Water supply and sanitary engineering* (32nd ed.). Charotar Publishing House.
7. Bureau of Energy Efficiency. (2017). *Energy conservation building code 2017*. Government of India.
8. Grondzik, W. T. (2010). *Air-conditioning system design manual* (2nd ed.). Butterworth-Heinemann.
9. *Air conditioning systems: Performance, environment and energy factors*. (2012). Nova Science Publishers. (Author/editor should be verified.)
10. *Development trends in building services engineering*. (2005). City University of Hong Kong Press. (Author/editor should be verified.)
11. Norman, T. L. (2010). *Integrated security systems design* (2nd ed.). Butterworth-Heinemann.
12. Wang, S. (2010). *Intelligent buildings and building automation*. Taylor & Francis.
13. Sinopoli, J. M. (2009). *Smart buildings systems for architects, owners and builders*. Butterworth-Heinemann.
14. National Fire Protection Association. (Latest ed.). *National Fire Protection Association standards*. National Fire Protection Association.
15. Bureau of Indian Standards. (2016). *National Building Code of India 2016*. Bureau of Indian Standards.
16. Bureau of Indian Standards. (Latest ed.). *Relevant Indian Standard codes*. Bureau of Indian Standards.

Electives-1

MBEM1106 - Automation and Mechanization in Construction	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with comprehensive knowledge of construction equipment, machinery, and mechanization techniques used in modern construction projects. The course aims to develop an understanding of equipment economics, ownership and operating costs, replacement policies, and equipment selection methods. It also intends to familiarize students with various types of construction equipment used for earthwork, concreting, lifting, piling, and water pumping operations along with their productivity and operational characteristics. Further, the course emphasizes equipment management, maintenance, safety practices, productivity optimization, and the impact of mechanization on project cost, time, quality, and resource management. The course also introduces students to modern advancements such as automation and robotics in the construction industry.

Unit I – Introduction to Construction Equipment and Equipment Economics

This unit introduces the evolution and development of construction equipment and machinery used in the construction industry. It covers the importance of mechanization in improving construction productivity, quality, and efficiency. Students will learn about ownership and operating costs of construction equipment, economic life analysis, depreciation, replacement policies, and financial considerations involved in equipment management. The unit also discusses decision-making aspects related to equipment selection and utilization in construction projects.

Unit II – Earthwork and Concreting Equipment

This unit focuses on equipment used for earthwork and concreting operations in construction projects. Topics include excavators, bulldozers, loaders, graders, compactors, scrapers, batching plants, transit mixers, concrete pumps, vibrators, and finishing equipment. Students will understand the working principles, applications, selection criteria, productivity considerations, and operational requirements of these machines. The unit also highlights the role of equipment in improving construction speed, quality, and resource utilization.

Unit III – Lifting, Piling and Water Pumping Equipment

This unit deals with lifting equipment such as cranes, hoists, elevators, and material handling systems used in construction projects. It also covers piling equipment used for deep foundation works and equipment for pumping and dewatering operations. Students will learn about equipment specifications, operational methods, safety requirements, and applicability for different types of projects. The unit emphasizes efficient equipment utilization for high-rise, infrastructure, and foundation construction works.

Unit IV – Equipment Productivity, Optimization and Management

This unit explains methods for estimating and optimizing the productivity of construction equipment. Students will learn techniques for equipment planning, selection, balancing, scheduling, and performance evaluation. Topics include buy, lease, or rent decisions, maintenance management, preventive maintenance practices, equipment safety measures, and operational efficiency. The unit also discusses the influence of equipment usage on project cost, time, quality, and resource management performance.

Unit V – Construction Equipment in Project Management and Modern Technologies

This unit focuses on the impact of construction equipment and machinery on project management functions such as planning, scheduling, monitoring, and control. Students will understand the role of mechanization in improving project performance and decision-making. The unit further introduces modern advancements such as automation, robotics, and intelligent equipment systems in the construction industry. Emerging trends in construction technology and their applications in improving productivity, safety, and sustainability are also discussed.

Outcome

Upon successful completion of this course, students will be able to understand the evolution, classification, and applications of construction equipment and machinery used in different construction activities. They will gain the ability to evaluate equipment economics including ownership costs, operating costs, replacement policies, and buy, lease, or rent decisions. Students will develop skills in selecting appropriate equipment for earthwork, concreting, lifting, piling, and pumping operations based on project requirements and productivity considerations. They will also understand methods for estimating and optimizing equipment productivity, implementing maintenance and safety practices, and analyzing the impact of mechanization on project performance related to cost, time, quality, and resources. Further, students will gain awareness of automation, robotics, and emerging technologies in the construction industry and their role in modern construction management.

Reference Books

1. Sharma, S. C. (2013). *Construction equipment and its management*. Khanna Publishers.
2. Patel, S. K. (2005). *Construction equipment management*. Galgotia Publications.
3. Oberlender, G. D. (2006). *Heavy construction equipment and methods*. McGraw-Hill Education.
4. Wang, J. (2015). *Construction machinery*. CRC Press.
5. Darko, A. (2021). *Introduction to construction equipment and methods*. Routledge.
6. Varma, M. (2014). *Construction equipment operation and maintenance*. Oxford University Press.
7. *Automation and robotics in construction*. (2018). Springer.
8. *Robotics and automation in construction*. (2016). McGraw Hill Education.
9. *Principles of construction equipment systems*. (2010). Pearson Education India.
10. *Fleet management and equipment maintenance*. (2002). ASCE Press.
11. *Construction productivity: Measurement and improvement*. (2014). Routledge.
12. *Building construction machinery*. (2011). Universal Publishing Corporation.

MBEM1107 – Risk Management	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with a comprehensive understanding of risk management principles, probability concepts, and decision analysis techniques used in engineering and construction projects. The course aims to develop knowledge of risk identification, assessment, analysis, communication, and management methodologies for effective project planning and control. It also intends to familiarize students with tools such as decision trees, probability analysis, sensitivity analysis, risk registers, and risk management plans. Further, the course emphasizes the application of risk management techniques in construction projects through practical case studies and real-world project scenarios.

Unit I – Introduction to Risk Management and Probability Concepts

This unit introduces the fundamentals of risk management and its importance in engineering, construction, and project management. It covers the concepts of uncertainty, risk, and probability along with basic probability laws and distributions used in risk assessment. Students will understand the nature of risks, sources of risks, and the role of probability in decision-making and project analysis.

Unit II – Decision Analysis and Risk Assessment Techniques

This unit focuses on the basics of decision analysis and various techniques used for identifying and evaluating risks. Topics include decision-making under certainty, uncertainty, and risk, decision trees, expected value concepts, sensitivity analysis, and qualitative and quantitative risk assessment methods. The unit develops analytical skills required for evaluating alternatives and making informed project decisions.

Unit III – Risk Analysis Concepts, Methodology and Applications

This unit explains the concepts and methodologies used in risk analysis for engineering and construction projects. It covers risk identification, risk classification, risk measurement, and risk evaluation techniques. Students will study methods such as probability analysis, simulation techniques, and risk modelling approaches along with practical applications of risk analysis in project planning, cost, time, quality, safety, and resource management.

Unit IV – Risk Communication and Risk Management Planning

This unit deals with communication and documentation processes involved in risk management. Topics include risk communication strategies, stakeholder involvement, risk registers, risk charters, and preparation of risk management plans. Students will learn methods for documenting, monitoring, controlling, and reporting risks effectively throughout the project life cycle. The unit emphasizes coordination and communication for successful implementation of risk management practices.

Unit V – Case Studies and Applications of Risk Management in Construction

This unit focuses on practical applications and case studies related to risk management in construction and infrastructure projects. Students will study real-life project scenarios involving financial, technical, environmental, contractual, and operational risks. The unit highlights the preparation and implementation of risk management plans, lessons learned from project failures and successes, and the role of risk management in improving project performance, safety, quality, and sustainability.

Outcome

Upon successful completion of this course, students will be able to understand the concepts of risk, uncertainty, probability, and decision analysis in project management. They will develop the ability to identify, classify, assess, and analyze risks using qualitative and quantitative techniques. Students will gain skills in preparing risk registers, risk charters, and risk management plans, and effectively communicate project risks among stakeholders. They will also be capable of applying risk management methodologies and analytical tools to construction and infrastructure projects for improving project performance, safety, quality, cost control, and decision-making efficiency.

Reference Books

1. Turner, J. R. (2009). *Risk management in projects*. Gower Publishing.
2. Chapman, C., & Ward, S. (2011). *How to manage project opportunity and risk: Why uncertainty management can be a much better approach than risk management* (3rd ed.). John Wiley & Sons.
3. Schuyler, J. R. (2001). *Risk and decision analysis in projects* (2nd ed.). Project Management Institute.
4. Goodwin, P., & Wright, G. (2014). *Decision analysis for management judgment* (5th ed.). John Wiley & Sons.
5. Walpole, R. E., Myers, R. H., Myers, S. L., & Ye, K. (2012). *Probability and statistics for engineers and scientists* (9th ed.). Pearson Education.
6. Hull, J. C. (2015). *Risk management and financial institutions* (4th ed.). Pearson Education.
7. Rejda, G. E., & McNamara, M. J. (2013). *Principles of risk management and insurance* (12th ed.). Pearson Education.
8. Project Management Institute. (2009). *Practice standard for project risk management*. Project Management Institute.
9. Vose, D. (2008). *Risk analysis: A quantitative guide* (3rd ed.). John Wiley & Sons.
10. Fenton, N., & Neil, M. (2012). *Risk assessment and decision analysis with Bayesian networks*. CRC Press.
11. Brauer, R. L. (2018). *Safety and health for engineers* (3rd ed.). Cengage Learning.
12. Smith, N. J., Merna, T., & Jobling, P. (2014). *Managing risk in construction projects* (3rd ed.). Blackwell Publishing.
13. Meyer, T., & Reniers, G. (2013). *Engineering risk management*. De Gruyter.
14. Hubbard, D. W. (2009). *The failure of risk management: Why it's broken and how to fix it*. John Wiley & Sons.

MBEM1108 - Inter departmental/Inter-Institutional Elective (Online/Physical Mode)	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The underlying fundamental of this elective is for the student to identify and pursue any unique course of study related to STEM (Science, Technology, Engineering, and Management) in physical or online mode. The student can select a course that may be directly or indirectly relevant to the building or its related infrastructure works. The objective of this course is to enhance the exposure of students in an unrestricted manner and to aid their learning through varied methods. The course enables students to acquire skills to develop their ideas into physical form and encourages startups. This elective intends to achieve the concept of multidisciplinary and cross-collaboration to the other areas of specialization.

Course Content

The course may be linked to the built environment, construction, architecture, planning, project management, or related to the topic of research. Encouraging a multi-disciplinary approach through the subject as well as its contents, the coursework should include a theoretical understanding of the subject, learning through case studies and real-world projects, and future methods of application in the industry/ research. The use of analytical tools and techniques is encouraged.

Upon completion of this course, the student should be able to

- Learn foundational concepts of the topic
- Establish a link between the learnings and their projects/ research
- Apply the skills in their research/ projects/ future career
- Share the insights with fellow classmates
- Earn a certificate from the online learning platform or certificate from other Department of studies.

References

1. National Programme on Technology Enhanced Learning (NPTEL) initiated by Ministry of Education.
2. Courses offered by IIT, IIM, ISSER, NIT's, SPA's, NITTTR and other reputed Universities/Institution
3. Courses offered by reputed National and International Universities.

SECOND SEMESTER

MBEM1201- Construction Project Cost Planning, Control and Monitoring	Subject Category	SC
	Number of Credits	10
	Lecture Periods per Week	2
	Tutorial Periods per Week	-
	Studio/Lab/Workshop/Practical's	8
	Total Periods per Week	10

Objective: The objective of this course is to provide students with comprehensive knowledge of cost management, contract management, value engineering, risk management, and project feasibility analysis in construction projects. The course aims to develop skills in quantity surveying, estimation, rate analysis, and cost control techniques for effective financial management of projects. It also intends to familiarize students with various national and international contract systems, tendering procedures, bidding strategies, contract administration, and dispute resolution mechanisms. Further, the course emphasizes the application of value engineering, life cycle costing, claim management, arbitration practices, and cost-benefit analysis for improving project efficiency, minimizing risks, and ensuring successful project delivery.

Unit I – Cost Management

This unit focuses on the principles and practices of cost management in construction projects. Students will learn methods of preparing preliminary estimates such as plinth area estimates and calculating areas, volumes, and heights of building projects. The unit covers detailed quantity surveying, preparation of work packages, specification deviation statements, analysis of rates, cost indexing, and additional item rate calculations. It also introduces item nomenclature for civil and MEP works and emphasizes accurate estimation and cost control techniques required for effective financial management of construction projects.

Unit II – Contract Management

This unit introduces various types of construction contracts and their application in project execution and administration. Students will study conventional and modern contract forms such as CPWD, MES, FIDIC, AIA, NEC, and JCT contracts along with international contract practices and comparative analysis. The unit covers contract estimation, bidding models and strategies, bidder qualification, suitability of contracts for different projects, and the roles and responsibilities of stakeholders. It also focuses on tendering procedures, Indian Contract Act 1872, contract administration, delay protocols, change order analysis, professional ethics, and determination of special conditions of contract for construction projects.

Unit III – Value Engineering in Projects

This unit deals with the application of value engineering techniques for improving project performance and achieving cost optimization without affecting functionality and quality. Students will learn function analysis, life cycle costing techniques, and value engineering approaches in architectural planning and building design. The unit also covers selection of sustainable and green materials, optimization of finishes, and evaluation of alternative MEP systems for improving efficiency, reducing operational costs, and enhancing project value.

Unit IV – Risk and Scope Management

This unit focuses on risk management, scope management, and dispute resolution practices in construction projects. Topics include claim management, compensation procedures, resolving contractual disputes, and methods of dispute resolution such as negotiation, mediation, arbitration, and conciliation. Students will study the provisions of the Arbitration and Conciliation Act 1996 and analyse case studies related to arbitration and dispute management. The unit emphasizes effective management of project risks and contractual issues to minimize conflicts and delays.

Unit V – Cost Benefit Analysis of Projects

This unit introduces the concepts and applications of cost-benefit analysis in construction and infrastructure projects. Students will learn methods for evaluating project feasibility based on economic, financial, and operational considerations. The unit focuses on the applicability of cost-benefit analysis for investment decisions, project appraisal, and feasibility studies. It also highlights techniques for comparing project alternatives and assessing the long-term economic viability and benefits of construction projects.

Total: 160 class hours expected

Outcome:

Upon successful completion of this course, students will be able to prepare estimates, perform quantity surveying, analyse rates, and apply cost management techniques for construction projects. They will gain the ability to understand and evaluate different contract systems, bidding procedures, contract conditions, and contract administration practices used in the construction industry. Students will develop skills in applying value engineering and life cycle costing techniques for optimizing project cost, quality, and performance. They will also understand risk management, claim management, dispute resolution methods, and arbitration procedures related to construction contracts. Further, students will be capable of conducting cost-benefit analysis and feasibility studies for evaluating the economic viability and effectiveness of construction and infrastructure projects.

Reference Books

1. Project Management Institute. (2008). *A guide to the project management body of knowledge (PMBOK® Guide)* (4th ed.). Project Management Institute.
2. Sears, S. K., Clough, R. H., Sears, G. A., & Rounds, J. L. (2008). *Construction project management: A practical guide to field construction management* (5th ed.). John Wiley & Sons.
3. Chitkara, K. K. (2014). *Construction project management: Planning, scheduling and controlling* (3rd ed.). Tata McGraw-Hill Education.
4. McCarthy, J. F. (2010). *Construction project management: A managerial approach*. Pareto Building Books.
5. Peurifoy, R. L., Schexnayder, C. J., Shapira, A., & Schmitt, R. L. (2011). *Construction planning, equipment, and methods* (8th ed.). Tata McGraw-Hill Education.
6. Potts, K. F. (2008). *Construction cost management: Learning from case studies*. Taylor & Francis.
7. Ostwald, P. F. (2001). *Construction cost analysis and estimating*. Prentice Hall.
8. Schwalbe, K. (2015). *An introduction to project management* (5th ed.). Cengage Learning.

MBEM1202 - Project Cost Management	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with comprehensive knowledge of construction cost management, value engineering, financial management, and project accounting practices used in the construction industry. The course aims to develop skills in cost estimation, rate analysis, life cycle costing, cost optimization, and project cost control techniques for effective financial planning and management of construction projects. It also intends to familiarize students with value engineering principles, project valuation methods, scope and change management practices, and project closure procedures. Further, the course emphasizes management accounting, financial accounting, fund flow analysis, cash flow management, and price forecasting techniques for informed decision-making and efficient financial administration in construction projects.

Unit I – Construction Cost Management and Estimation

This unit introduces the principles and processes involved in construction cost management throughout the project life cycle. It covers cost determination, cost planning, cost monitoring, and cost control techniques along with the impact of risks on project costs. Students will learn life cycle cost analysis, time–cost relationship assessment, and modern estimation practices including parametric, elemental, and preliminary cost estimation methods. The unit also includes preparation of detailed estimates, schedule of rates, bills of quantities (BOQ), analysis of material, labour, and equipment costs, cost indices, contingencies, and justification documentation used in present-day construction projects.

Unit II – Value Engineering and Project Change Management

This unit focuses on value engineering techniques for improving project efficiency, functionality, and economic performance while maintaining quality standards. Students will study valuation methods for land and building projects including income capitalization and market analysis approaches. The unit also covers principles of scope management, change management, performance reporting, and risk response strategies in construction projects. Emphasis is given to project closing procedures, administrative closure, contract close-out processes, and sustainable value optimization practices adopted in modern construction management.

Unit III – Cost Analysis, Optimization and Project Cost Control

This unit deals with detailed cost analysis and optimization techniques used in construction projects. Topics include direct and indirect cost analysis, activity cost slopes, and optimization of project cost and duration using network-based techniques such as crashing and schedule compression. The unit also introduces modern approaches to cost control, cost coding systems, classification methods, and digital cost monitoring practices used in the construction industry. Applications of cost optimization and control in real-time construction projects are emphasized.

Unit IV – Management Accounting and Construction Financial Systems

This unit introduces management accounting concepts and their application in construction project management. Students will study the nature, scope, and objectives of management accounting along with fundamentals of cost accounting and financial accounting. The unit explains accounting procedures, financial reporting systems, budgeting practices, and limitations of traditional accounting methods. Emphasis is placed

on the role of accounting systems in project decision-making, financial planning, and organizational control in construction enterprises.

Unit V – Fund Flow, Cash Flow and Price Forecasting Techniques

This unit focuses on financial flow analysis and forecasting methods relevant to construction project management. Topics include fund flow analysis, preparation and interpretation of fund flow and cash flow statements, advantages and limitations of fund flow analysis, and cash management practices. The unit also introduces price forecasting methods such as average method, moving average method, weighted average method, and exponential smoothing techniques. Students will understand the application of financial forecasting tools for budgeting, financial planning, and economic decision-making in modern construction projects.

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to apply cost management processes, prepare estimates, analyse rates, and develop bills of quantities for construction projects. They will gain the ability to perform life cycle cost analysis, evaluate project costs and schedules, and implement cost optimization and cost control techniques in construction management. Students will understand value engineering principles, project valuation methods, scope and change management processes, and project close-out procedures. They will also develop knowledge of management accounting, cost accounting, financial accounting systems, and accounting procedures used in construction organizations. Further, students will be capable of preparing and analysing fund flow and cash flow statements and applying forecasting techniques for financial planning, budgeting, and economic decision-making in construction projects.

Reference Books

1. Potts, K. F., & Ankrah, N. (2014). *Construction cost management: Learning from case studies* (2nd ed.). Taylor & Francis.
2. O'Brien, J. J., & Plotnick, F. L. (2009). *Construction cost estimating for project control* (2nd ed.). McGraw-Hill Education.
3. Towey, D. (2012). *Construction quantity surveying: A practical guide for the contractor's QS*. Wiley-Blackwell.
4. Chakraborti, M. (2010). *Building estimation, costing and valuation*. Professional Publications.
5. Dutta, B. N. (2016). *Estimating and costing in civil engineering: Theory and practice* (28th ed.). UBS Publishers.
6. Callahan, K. R., Stetz, G. S., & Brooks, L. M. (2007). *Project management accounting: Budgeting, tracking, and reporting costs and profitability*. John Wiley & Sons.
7. Arora, M. N. (2013). *Management accounting*. Himalaya Publishing House.
8. Arora, M. N. (2012). *Cost accounting: Principles and practice*. Vikas Publishing House.
9. Pandey, I. M. (2015). *Financial management* (11th ed.). Vikas Publishing House.
10. Blank, L., & Tarquin, A. (2012). *Engineering economy* (7th ed.). McGraw-Hill Education.
11. Younker, D. L. (2003). *Value engineering: Analysis and methodology*. CRC Press.
12. Jha, K. N. (2015). *Construction project management: Theory and practice* (2nd ed.). Pearson Education India.
13. Chandra, P. (2011). *Projects: Planning, analysis, selection, financing, implementation, and review* (7th ed.). Tata McGraw-Hill Education.

MBEM1203 - Construction Occupational Health and Safety Administration	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with knowledge of construction site management, occupational health and safety practices, environmental management, and legal regulations related to the construction industry. The course aims to develop understanding of construction hazards, accident prevention, safety management systems, equipment safety, and industrial safety laws. It also emphasizes safety audits, risk control techniques, and modern safety management approaches for improving safety performance and sustainable construction practices.

Unit I – Construction Site Management and Environmental Safety

This unit introduces the principles and practices of construction site management with emphasis on safe and efficient project execution. It covers organization of site operations, temporary site infrastructure, site logistics, documentation procedures, and coordination of construction activities. Students will learn health, safety, and environmental (HSE) management systems, safety responsibilities of project stakeholders, occupational health and hygiene practices, and environmental management measures in construction projects. The unit also includes sustainable site management practices, waste management, pollution control, and implementation of Environmental, Social, and Governance (ESG) considerations in modern construction projects.

Unit II – Construction Hazards, Accident Prevention and Safety Management

This unit focuses on safety problems and hazard management in construction projects. Topics include identification of construction hazards, causes and types of accidents, accident investigation procedures, accident cost analysis, and methods of accident prevention. Students will study safety management systems, risk assessment techniques, behavioural safety practices, emergency response planning, and digital safety monitoring methods. The unit also emphasizes legal, financial, and organizational implications of accidents and the importance of developing effective safety programs in construction industries.

Unit III – Safety in Construction Equipment and Specialized Construction Activities

This unit deals with safety measures related to construction equipment, machinery, and specialized construction operations. Students will study safety practices for vehicles, cranes, hoists, lifts, scaffolding, ladders, working platforms, electrical installations, blasting operations, and fire protection systems. The unit also covers safety management in high-risk construction activities such as high-rise buildings, bridges, dams, tunnels, and road construction projects. Emphasis is given to safe storage, handling, transportation of construction materials, and the use of modern technologies such as IoT-based monitoring and smart safety equipment for improving site safety performance.

Unit IV – Industrial Safety Laws, Labour Regulations and Safety Performance Evaluation

This unit introduces legal and regulatory frameworks related to industrial and construction safety. It covers safety provisions under the Factories Act, labour laws, Building and Other Construction Workers (BOCW) Act, and relevant Indian and international safety standards. Students will learn methods for measuring safety performance, conducting safety audits, safety inspections, and maintaining safety documentation. The unit also explains workers' insurance systems, experience modification rating (EMR), compensation mechanisms, and the role of compliance management in improving workplace safety and reducing liabilities.

Unit V – Construction Safety Programs and Hazard Control Techniques

This unit focuses on the development and implementation of effective safety programs in construction organizations. Students will study the elements of comprehensive safety management systems, safety training methods, toolbox talks, and safety communication practices. The unit introduces hazard identification and risk control techniques such as HAZOP, FMEA, and FMECA for analysing and minimizing project risks. It also covers modern safety management approaches including safety culture development, Behaviour-Based Safety (BBS), digital safety management systems, BIM-based safety planning, and real-time monitoring techniques used in contemporary construction projects.

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to understand construction site safety management procedures, identify hazards and accident causes, and apply safety and risk control measures in construction projects. They will gain knowledge of safety practices related to construction equipment, specialized construction activities, and relevant industrial safety laws and regulations. Students will also be capable of implementing effective safety programs, conducting safety audits, and applying hazard identification and control techniques for improving safety and productivity in construction projects.

Reference Books

1. Singh, D. (2018). *Construction safety management and engineering*. Cengage Learning India.
2. Goetsch, D. L. (2011). *Construction safety and health* (2nd ed.). Pearson Education.
3. Deshmukh, P. (2005). *Industrial safety management*. Tata McGraw-Hill Education.
4. Reese, C. D. (2015). *Occupational health and safety management: A practical approach* (3rd ed.). CRC Press.
5. Singh, H. (2012). *Construction hazard and safety handbook*. CBS Publishers.
6. Deshmukh, P. (2014). *Safety, health and environmental management in construction*. Tata McGraw-Hill Education.
7. National Safety Council. (2009). *Accident prevention manual for business and industry: Engineering and technology* (13th ed.). National Safety Council.
8. Deshmukh, P. (2010). *Industrial safety, health and environment management systems*. Khanna Publishers.
9. Institution of Chemical Engineers.
10. Stamatis, D. H. (2003). *Failure mode and effect analysis: FMEA from theory to execution* (2nd ed.). ASQ Quality Press.
11. Universal Law Publishing. (Latest ed.). *The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, and Central Rules*. Universal Law Publishing.
12. Bureau of Indian Standards. (2016). *National Building Code of India 2016*. Bureau of Indian Standards.
13. Frank, R. (2010). *OSHA construction safety handbook*. McGraw-Hill Education.

MBEM1204 - Construction Contracts, Specifications and Legal Issues	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with knowledge of construction laws, contract principles, tendering procedures, specifications, and legal documentation used in the construction industry. The course also aims to develop understanding of disputes, claims, liabilities, labour laws, and dispute resolution methods including arbitration and conciliation.

Unit I Introduction to Construction Law

Need for legal issues in Construction in the Indian Judicial System – Context of Construction Industry, Principles of a Contract, Indian Contract Act 1872 – Provisions for Construction Industry, Essentials of a Valid Contract, Types of Contracts, Alternate Contract Methods, Concept of Completion of a Contract, IT Law 2000 and its Influence on construction Contracts

Unit II Construction Tendering Process

Introduction to Construction Process, need for tendering, process of Tendering in Construction, Concept of completion of the contract, Sub-Contracts and requirements, Tendering Models and Strategies, Prequalification of Bidders, Documents forming a BID and a Contract, Agreements and Bonds in Tendering Process.

Unit III Specifications

Importance of Specifications and Estimates in Construction, Methods of Specification writing, classification of specifications, specifications of typical items, standard specifications, typical space for building works, implications of variations and incomplete specifications, impact on building costs.

Unit IV Disputes and Liabilities in Construction

Major sources of disputes in construction, Delays – Types, Claims and solutions, Labor Laws in India, Worker Compensation and Insurance laws, Construction Liabilities and Litigations, Disputes in Land Development

Unit V Dispute Resolution in Construction

Dispute Resolution in Construction, Judicial Process in Dispute Resolution, Alternate Dispute resolution methods, Arbitration and Conciliation Act 1996, Importance of Arbitration in Construction, Arbitration Process, Arbitration Clause in Contracts

Total: 48 Periods

Outcome:

Upon successful completion of this course, students will be able to understand construction laws, contract procedures, tendering practices, and specification writing in construction projects. They will gain the ability to identify disputes, delays, claims, and liabilities, and apply dispute resolution methods such as arbitration and conciliation for effective construction contract management.

Reference Books

1. Bailey, J. (2011). *Construction law* (Vols. 1–3). Informa Law from Routledge.
2. Clough, R. H., Sears, G. A., Sears, S. K., & Segner, R. O. (2015). *Construction contracting: A practical guide to company management* (8th ed.). Wiley India.
3. Pollock, F., & Mulla, D. F. (2017). *The Indian Contract Act, 1872* (15th ed.). LexisNexis Butterworths.
4. Patil, B. S. (2012). *Engineering contracts and specifications*. Universities Press.
5. Chakraborti, M. (2010). *Estimating, costing and valuation*. Professional Publications.
6. Bunni, N. G. (2005). *The FIDIC forms of contract* (3rd ed.). Blackwell Publishing.
7. Markanda, P. C. (2016). *Law relating to arbitration and conciliation* (5th ed.). LexisNexis.

8. Hewitt, A. (2011). *Construction claims and responses: Effective writing and presentation*. Wiley-Blackwell.
9. Singh, A. (2016). *Construction law in India*. Wolters Kluwer India.
10. Dutta, B. N. (2013). *Tendering and estimating in civil engineering*. UBS Publishers.
11. Mamoria, C. B., & Mamoria, S. (2014). *Labour laws for managers*. Excel Books.
12. Baxi, U., & Galanter, M. (2004). *Alternative dispute resolution*. Universal Law Publishing.
13. Bureau of Indian Standards. (2016). *National Building Code of India 2016*. Bureau of Indian Standards.
14. Universal Law Publishing. (Latest ed.). *The Information Technology Act, 2000*. Universal Law Publishing.

MBEM1205 – Digital tools in Construction	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with knowledge of modern digital technologies and intelligent systems used in the construction industry. The course aims to develop understanding of Building Information Modelling (BIM), project planning softwares, Geographical Information Systems (GIS), Remote Sensing, Human–Computer Interaction (HCI), and Artificial Intelligence (AI) and Machine Learning (ML) applications in construction management. It also emphasizes the use of digital tools for project planning, visualization, decision-making, automation, and efficient management of construction projects.

Unit I – Digital tools for Project Planning and Scheduling

This unit focuses on the use of project management software tools for planning, scheduling, monitoring, and controlling construction projects. Students will learn project scheduling techniques, work breakdown structures (WBS), resource allocation, baseline preparation, tracking project progress, cost control, and reporting systems. The unit emphasizes practical applications of digital scheduling tools in construction project management

Unit II – Introduction to Building Information Modelling (BIM)

This unit introduces the concepts, principles, and applications of Building Information Modelling (BIM) in the construction industry. It covers BIM workflows, levels of development, 3D/4D/5D modelling, clash detection, collaboration platforms, and integration of architectural, structural, and MEP systems. Students will understand the role of BIM in project planning, visualization, quantity estimation, scheduling, facility management, and sustainable construction practices.

Unit III – Geo Information Systems and Remote Sensing Applications

This unit introduces Geographical Information Systems (GIS) and Remote Sensing technologies used in planning, analysis, and management of construction and infrastructure projects. Topics include spatial data collection, mapping, satellite imagery, terrain analysis, site selection, urban planning, environmental monitoring, and infrastructure management. Students will understand the applications of GIS and Remote Sensing in construction planning, land use analysis, and smart city development.

Unit IV – Digital Twin technology in Construction

This unit introduces the concept, definition, and framework of Digital Twin technology and its evolution in engineering, construction, and infrastructure sectors. It covers the components, characteristics, and architecture of Digital Twin systems along with their significance in improving project planning, operation, maintenance, and lifecycle management. Students will also study the challenges associated with implementation such as data integration, interoperability, cybersecurity, scalability, and real-time synchronization.

Unit V – Artificial Intelligence (AI) and Machine Learning(ML) in Construction

This unit introduces Artificial Intelligence (AI) and Machine Learning (ML) concepts and their applications in the construction industry. Topics include predictive analytics, automation, smart decision-making systems, risk prediction, quality control, safety monitoring, construction robotics, and data-driven project management. Students will understand the role of AI and ML in improving project efficiency, optimization, sustainability, and intelligent construction management practices.

Outcome:

Upon successful completion of this course, students will be able to understand and apply BIM concepts and project management software for planning, scheduling, monitoring, and coordination of construction projects. They will gain knowledge of GIS and Remote Sensing applications for spatial analysis, site planning, and infrastructure management. Students will also understand Human–Computer Interaction principles and emerging technologies such as AI and Machine Learning for automation, predictive analysis, intelligent decision-making, and improved efficiency in construction and infrastructure projects.

Reference Books

1. Kymmell, W. (2008). *Building information modeling: Planning and managing construction projects with 4D CAD and simulations*. McGraw-Hill Education.
2. Eastman, C., Teicholz, P., Sacks, R., & Liston, K. (2018). *BIM handbook: A guide to building information modeling for owners, designers, engineers, contractors, and facility managers* (3rd ed.). John Wiley & Sons.
3. Harris, P. E. (2019). *Project planning and control using Primavera P6* (Version 18 ed.). Eastwood Harris Pty Ltd.
4. Gill, R. (2008). *Dynamic scheduling with Microsoft Project 2007: The book by and for professionals*. J. Ross Publishing.
5. Pyron, T. (2016). *Project management with Microsoft Project*. Microsoft Press.
6. Longley, P. A., Goodchild, M. F., Maguire, D. J., & Rhind, D. W. (2015). *Geographic information systems and science* (4th ed.). John Wiley & Sons.
7. Lillesand, T. M., Kiefer, R. W., & Chipman, J. W. (2015). *Remote sensing and image interpretation* (7th ed.). John Wiley & Sons.
8. Chang, K. T. (2018). *Introduction to geographic information systems* (9th ed.). McGraw-Hill Education.
9. Dix, A., Finlay, J., Abowd, G. D., & Beale, R. (2004). *Human-computer interaction* (3rd ed.). Pearson Education.
10. Shneiderman, B., Plaisant, C., Cohen, M., Jacobs, S., Elmquist, N., & Diakopoulos, N. (2016). *Designing the user interface: Strategies for effective human-computer interaction* (6th ed.). Pearson.
11. Russell, S., & Norvig, P. (2021). *Artificial intelligence: A modern approach* (4th ed.). Pearson Education.
12. Raschka, S. (2016). *Python machine learning*. O'Reilly Media.
13. Bolpagni, M., Gavina, R., & Ribeiro, F. L. (Eds.). (2021). *Industry 4.0 for the built environment: Methodologies, technologies and skills*. Springer.
14. Ahmed, V., Tezel, A., & Aziz, Z. (Eds.). (2020). *Machine learning and data science in the construction industry*. CRC Press.

Elective-2

MBEM1206 - Research Methodology	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with a fundamental understanding of research methodology, research design, and scientific approaches used in academic and professional research. The course aims to develop knowledge of research processes, hypothesis formulation, sampling techniques, data collection methods, and quantitative analysis. It also intends to familiarize students with report writing, referencing methods, and the use of computer applications and statistical tools for research and data analysis.

Unit I – Introduction to Research Methodology

This unit introduces the fundamentals of research, including its definition, aims, objectives, and significance in academic and professional fields. It covers various types of research such as descriptive, analytical, applied, fundamental, quantitative, qualitative, conceptual, and empirical research. Students will understand the importance of systematic investigation and scientific approaches in research activities.

Unit II – Research Process and Research Design

This unit focuses on the stages involved in the research process, including problem formulation, literature survey, development of hypotheses, preparation of research design, data collection, analysis, interpretation, and report preparation. It also introduces concepts related to research design such as dependent and independent variables, extraneous variables, control variables, and research hypotheses. Different types of research designs including exploratory, descriptive, diagnostic, and experimental designs are discussed.

Unit III – Hypothesis Testing and Sampling Techniques

This unit deals with hypothesis formulation and testing procedures used in research studies. Topics include null and alternative hypotheses, level of significance, types of errors, and hypothesis testing methods. The unit also introduces sampling techniques, criteria for sample selection, probability sampling, and non-probability sampling methods along with their characteristics, advantages, and applications in research.

Unit IV – Data Collection, Processing and Analysis

This unit focuses on methods of primary data collection such as observation, structured and unstructured interviews, questionnaires, and schedules. Students will learn the applications, advantages, and limitations of different data collection methods. The unit also covers data editing, coding, classification, tabulation, and basic quantitative techniques used for organizing and analyzing research data.

Unit V – Report Writing and Computer Applications in Research

This unit introduces the principles and structure of research report and thesis preparation. Topics include preparation of prefatory sections, main body, supplementary sections, referencing, bibliography, and academic writing standards. The unit also covers the use of computer applications and software tools for data analysis, documentation, presentation, and quantitative analysis in research studies

Outcome

Upon successful completion of this course, students will be able to understand various types of research and apply systematic research methodologies for problem identification and analysis. They will gain the ability to formulate research hypotheses, design research studies, select appropriate sampling methods, and collect

and analyze data using qualitative and quantitative techniques. Students will also develop skills in preparing research reports and theses with proper referencing and effectively use computer applications and analytical tools for research documentation and data analysis.

Reference Books

1. Kothari, C. R., & Garg, G. (2019). *Research methodology: Methods and techniques* (4th ed.). New Age International Publishers.
2. Kumar, R. (2018). *Research methodology: A step-by-step guide for beginners* (5th ed.). Sage Publications.
3. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
4. Cooper, D. R., & Schindler, P. S. (2014). *Business research methods* (12th ed.). McGraw-Hill Education.
5. Kumar, R. (2014). *Research methodology: A step-by-step guide for beginners* (4th ed.). Sage Publications.
6. Gupta, S. C. (2017). *Fundamentals of applied statistics* (4th rev. ed.). Sultan Chand & Sons.
7. Vohra, N. D. (2017). *Quantitative techniques in management* (6th ed.). McGraw-Hill Education.
8. Singh, Y. K. (2006). *Fundamentals of research methodology and statistics*. New Age International Publishers.
9. Booth, W. C., Colomb, G. G., Williams, J. M., Bizup, J., & Fitzgerald, W. T. (2016). *The craft of research* (4th ed.). University of Chicago Press.
10. Lester, J. D., & Lester, J. D., Jr. (2014). *Writing research papers: A complete guide* (15th ed.). Pearson Education.
11. Pallant, J. (2020). *SPSS survival manual: A step-by-step guide to data analysis using IBM SPSS* (7th ed.). McGraw-Hill Education.
12. Leedy, P. D., & Ormrod, J. E. (2015). *Practical research: Planning and design* (11th ed.). Pearson Education.
13. Creswell, J. W., & Poth, C. N. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage Publications.
14. Cochran, W. G. (2007). *Sampling techniques* (3rd ed.). Wiley India.
15. Anderson, J., Durston, B. H., & Poole, M. (2006). *Thesis and assignment writing* (4th ed.). Wiley India.

MBEM1207 - Construction Quality Assurance and Quality Control	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with comprehensive knowledge of quality management principles, statistical quality control techniques, and quality assurance practices used in the construction industry. The course aims to develop understanding of quality standards, testing procedures, quality assessment methods, and acceptance criteria for construction materials and processes. It also intends to familiarize students with on-site quality management practices, inspection systems, advanced testing methods, and modern quality management tools including automation and computer applications for achieving quality improvement and continuous performance enhancement in construction projects.

Unit I – Fundamentals and Evolution of Quality Management

This unit introduces the concepts and evolution of quality management in engineering and construction industries. It covers the development of quality practices from Quality Inspection, Quality Control (QC), Quality Assurance (QA), Quality Management (QM), Total Quality Management (TQM), and ISO Certification systems. Students will study the importance of quality in construction projects and understand the principles and philosophies proposed by renowned quality gurus such as Philip B. Crosby, W. Edwards Deming, Joseph Juran, and Kaoru Ishikawa. The unit also discusses modern quality management practices and continuous improvement concepts used in construction organizations.

Unit II – Statistical Quality Control and Quantitative Techniques

This unit focuses on statistical methods and quantitative techniques used in quality management and construction quality assessment. Topics include population and sampling techniques, measures of central tendency and variability, statistical process control, control charts, acceptance sampling, and prescribed tolerances as per standards. Students will learn the application of statistical tools for monitoring quality performance, identifying process variations, and improving decision-making in construction projects. The unit also introduces computer-based statistical analysis and automation tools used in quality management.

Unit III – Quality Control and Quality Assurance in Construction Materials

This unit deals with quality control and quality assurance practices related to construction materials and construction processes. Students will study common quality issues associated with concrete and steel construction and methods for ensuring compliance with relevant IS codes and standards. The unit covers frequency of material testing, sampling procedures, testing methods, and reporting practices for commonly used materials such as cement, sand, aggregates, bricks, steel, and concrete. It also explains acceptance and rejection criteria for materials and the importance of laboratory and field testing in ensuring construction quality.

Unit IV – On-Site Quality Management and Assessment Techniques

This unit focuses on practical quality management practices implemented at construction sites. Topics include setting quality standards for various stages of construction, preparation of quality checklists, inspection procedures, quality documentation, and quality audit systems. Students will learn on-site quality assessment techniques, use of testing equipment for construction materials, and introduction to advanced non-destructive testing methods and quality monitoring technologies. The unit also covers post-handover quality control, defect identification, maintenance considerations, and customer satisfaction approaches in construction projects.

Unit V – Modern Quality Management Systems and Computer Applications

This unit introduces modern quality management systems, automation technologies, and computer applications used for quality monitoring and control in construction projects. Students will study the use of software tools, digital documentation systems, Building Information Modelling (BIM)-based quality management, and automated inspection systems. The unit also covers integration of quality management with project planning, scheduling, safety, sustainability, and performance management. Emerging trends such as AI-based quality assessment, smart quality monitoring systems, and data-driven quality management practices in the construction industry are also discussed.

Total: 48 class hours expected s

Outcome:

Upon successful completion of this course, students will be able to understand quality management concepts and apply quality control and quality assurance practices in construction projects. They will gain the ability to conduct material testing, perform on-site quality inspections, prepare quality documentation, and use modern testing methods and digital tools for effective quality monitoring and improvement in construction management.

Reference Books

1. Kothari, C. R., & Garg, G. (2019). *Research methodology: Methods and techniques* (4th ed.). New Age International Publishers.
2. Kumar, R. (2018). *Research methodology: A step-by-step guide for beginners* (5th ed.). Sage Publications.
3. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
4. Cooper, D. R., & Schindler, P. S. (2014). *Business research methods* (12th ed.). McGraw-Hill Education.
5. Kumar, R. (2014). *Research methodology: A step-by-step guide for beginners* (4th ed.). Sage Publications.
6. Gupta, S. C. (2017). *Statistical methods*. Sultan Chand & Sons.
7. Vohra, N. D. (2017). *Quantitative techniques in management* (6th ed.). McGraw-Hill Education.
8. Singh, Y. K. (2006). *Fundamentals of research methodology and statistics*. New Age International Publishers.
9. Booth, W. C., Colomb, G. G., Williams, J. M., Bizup, J., & Fitzgerald, W. T. (2016). *The craft of research* (4th ed.). The University of Chicago Press.
10. Lester, J. D., & Lester, J. D., Jr. (2014). *Writing research papers: A complete guide* (15th ed.). Pearson Education.
11. Pallant, J. (2020). *SPSS survival manual: A step-by-step guide to data analysis using IBM SPSS* (7th ed.). McGraw-Hill Education.
12. Leedy, P. D., & Ormrod, J. E. (2015). *Practical research: Planning and design* (11th ed.). Pearson Education.
13. Creswell, J. W., & Poth, C. N. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage Publications.
14. Cochran, W. G. (2007). *Sampling techniques* (3rd ed.). Wiley India.
15. Anderson, J., Durston, B. H., & Poole, M. (2006). *Thesis and assignment writing* (4th ed.). Wiley India.

MBEM1208 - Construction Materials Management	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with knowledge of materials management systems, procurement procedures, inventory control techniques, and material handling practices used in construction and industrial projects. The course aims to develop understanding of vendor analysis, tendering procedures, stock management, forecasting methods, and inventory optimization techniques. It also intends to familiarize students with quality control practices and the application of Operations Research techniques, MIS, and BIM technologies for efficient and integrated materials management.

Unit I – Introduction to Materials Management

This unit introduces the concepts and importance of Integrated Materials Management Systems in construction and industrial projects. It covers the objectives, functions, and significance of materials management in achieving cost efficiency, timely availability of materials, and effective resource utilization. Students will learn methods of classification and codification of materials for systematic storage, tracking, and control within construction organizations.

Unit II – Procurement and Tendering Procedures

This unit focuses on procurement management and tendering procedures related to material purchasing. Topics include identification of procurement sources, vendor analysis and evaluation, preparation and scrutiny of material indents, tender documentation, bid evaluation, and awarding of contracts. The unit also covers issues related to foreign procurement, governmental purchasing procedures, and ethical practices in procurement management.

Unit III – Inventory Control and Store Management

This unit deals with store management, stock verification, store accounting, and disposal of scrap materials. Students will study inventory management concepts including safety stock, stock-out situations, inventory control systems, and forecasting techniques. The unit also introduces inventory analysis methods such as ABC, XYZ, VED, GOLF, FSN, HML classifications, and Economic Order Quantity (EOQ) analysis for effective inventory planning and optimization.

Unit IV – Material Handling, Transportation and Quality Management

This unit focuses on material handling and transportation systems used in construction and industrial operations. Students will learn about material handling equipment, storage systems, transportation methods, and safety considerations in handling construction materials. The unit also covers quality control and quality assurance procedures related to materials management, including inspection, testing, documentation, and maintaining quality standards during procurement, storage, and usage of materials.

Unit V – Modern Techniques and Digital Applications in Materials Management

This unit introduces the application of Operations Research (OR) techniques and modern digital technologies in materials management systems. Topics include optimization techniques, decision-making models, Management Information Systems (MIS), and Building Information Modelling (BIM) applications for material planning, tracking, and control. The unit emphasizes automation, digital inventory systems, data analysis, and integration of smart technologies for improving efficiency, transparency, and sustainability in materials management practices.

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to understand the principles and functions of materials management and apply procurement and tendering procedures for material purchasing and vendor selection. They will gain the ability to manage inventory systems, perform stock analysis, forecasting, and EOQ calculations for effective inventory control. Students will also understand material handling systems, quality control procedures, and the use of OR techniques, MIS, and BIM applications for improving efficiency and decision-making in materials management systems.

Reference Books

1. Doyle, A. (2011). *Materials management in sustainable construction engineering*. Wiley-Blackwell.
2. Peurifoy, R. L., Schexnayder, C. J., Shapira, A., & Schmitt, R. L. (2011). *Construction planning, equipment, and methods* (8th ed.). Tata McGraw-Hill Education.
3. Gransberg, D. D., Popescu, C. M., & Ryan, R. C. (2006). *Construction equipment management for engineers, estimators, and owners*. CRC Press.
4. Piasecki, D. J. (2009). *Inventory management explained: A focus on forecasting, lot sizing, safety stock, and ordering systems* (2nd ed.). Ops Publishing.
5. Aggarwal, S. C. (2011). *Inventory management: Principles and practices*. Excel Books.
6. Gopalakrishnan, P., & Sundaresan, M. (2008). *Materials management: An integrated approach*. Prentice Hall of India. (Commonly cited in place of "Procedures, Text and Cases".)
7. Datta, A. K. (2010). *Stores management and stock control*. Vikas Publishing House.
8. Dobler, D. W., & Burt, D. N. (2013). *Purchasing and supply management* (6th ed.). McGraw-Hill Education.
9. Taha, H. A. (2017). *Operations research: An introduction* (10th ed.). Pearson Education.
10. Chary, S. N. (2019). *Production and operations management* (6th ed.). Tata McGraw-Hill Education.
11. Chopra, S., & Meindl, P. (2016). *Supply chain management: Strategy, planning, and operation* (6th ed.). Pearson Education.
12. Richards, G. (2017). *Warehouse management: A complete guide to improving efficiency and minimizing costs in the modern warehouse* (3rd ed.). Kogan Page.

MBEM1209– Inter departmental/Inter-Institutional Elective (Online/Physical Mode)	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The underlying fundamental of this elective is for the student to identify and pursue any unique course of study related to STEM (Science, Technology, Engineering, and Management) in physical or online mode. Students can select a course that may be directly or indirectly relevant to the building or its related infrastructure works. The objective of this course is to enhance the exposure of students in an unrestricted manner and to aid their learning through varied methods. The course enables students to acquire skills to develop their ideas into physical form and encourages startups. This elective intends to achieve the concept of multidisciplinary and cross-collaboration to the other areas of specialization.

Course Content

The course may be linked to the built environment, construction, architecture, planning, project management, or related to the topic of research. Encouraging a multi-disciplinary approach through the subject as well as its contents, the coursework should include a theoretical understanding of the subject, learning through case studies and real-world projects, and future methods of application in the industry/ research. The use of analytical tools and techniques is encouraged.

Upon completion of this course, the student should be able to

- Learn foundational concepts of the topic
- Establish a link between the learnings and their projects/ research
- Apply the skills in their research/ projects/ future career
- Share the insights with fellow classmates
- Earn a certificate from the online learning platform or certificate from other Department of studies.

References

1. National Programme on Technology Enhanced Learning (NPTEL) initiated by Ministry of Education.
2. Courses offered by IIT, IIM, ISSER, NIT's, SPA's, NITTTR and other reputed Universities/Institution
3. Courses offered by reputed National and International Universities.

THIRD SEMESTER

MBEM2101 - Construction Contract Procurement Management Studio	Subject Category	SC
	Number of Credits	10
	Lecture Periods per Week	2
	Tutorials per week	-
	Studio/Lab/Workshop/Practical's	8
	Total Periods per Week	10

Objectives: The objective of this course is to provide students with knowledge of construction procurement, communication, change control, and post-construction management practices used in construction projects. The course aims to develop understanding of contract administration, procurement procedures, stakeholder communication systems, project closure processes, and maintenance management. It also intends to familiarize students with joint venture practices, public-private partnerships, environmental management systems, and the application of Operations Research techniques for integrated construction project management.

Unit I – Construction Procurement Management

This unit introduces the principles and processes involved in construction procurement management. It covers identification of products and services required for procurement, types of construction contracts, and procurement planning procedures. Students will study pre-qualification of contractors, preparation of contract documents, bid evaluation methods, contract award procedures, and dispute resolution mechanisms. The unit also includes comparative study of procurement guidelines and contract systems used by organizations such as the World Bank, ADB, FIDIC, CPWD, and MES, along with preparation of procurement and contract documents for construction projects.

Unit II – Construction Communication Management

This unit focuses on communication management processes in construction projects. Topics include identification of project stakeholders, information requirements, communication channels, and communication systems used in project management. Students will learn methods for preparation and distribution of project information, reporting systems, documentation procedures, and communication formats for different project stages. The unit emphasizes effective coordination and stakeholder communication for successful project execution and management.

Unit III – Project Change Control and Project Closure

This unit deals with project change management and project closure procedures in construction projects. Students will study processes for managing and communicating changes in project scope, design, specifications, techniques, schedules, and resources during the implementation phase. The unit also covers project monitoring and control mechanisms, administrative closure, contractual closure, and documentation procedures required for successful completion and handover of projects.

Unit IV – Post Construction and Maintenance Management

This unit focuses on post-construction activities and maintenance management practices for buildings and infrastructure projects. Topics include maintenance management systems, preparation of maintenance manuals, organizational and contractual aspects of maintenance activities, and financial planning for maintenance operations. The unit also covers life cycle considerations, facility management concepts, and sustainable maintenance practices for ensuring long-term performance of constructed facilities.

Unit V – Joint Ventures, Environmental Management and Integrated Management Applications

This unit introduces joint ventures, professional collaborations, and public-private partnership (PPP) models used in construction projects. Students will study Environmental Management System (EMS) standards and their application in construction activities for sustainable project development. The unit also covers the application of Operations Research (OR) techniques in procurement, communication, maintenance, and

project management processes. Emphasis is given to understanding the interaction between procurement management, communication management, and other project management knowledge areas in practical construction environments.

Total: 160 class hours expected

Outcome:

Upon successful completion of this course, students will be able to understand procurement management procedures, contract systems, bid evaluation, and contractor selection processes used in construction projects. They will gain the ability to develop communication systems, manage stakeholder information, and prepare project reports for effective project coordination. Students will also understand project change control, project closure procedures, maintenance management practices, and environmental management systems. Further, they will be capable of applying OR techniques and integrated management approaches in procurement, communication, maintenance, and overall construction project management.

Reference Books

1. Project Management Institute. (2008). *A guide to the project management body of knowledge (PMBOK® Guide)* (4th ed.). Project Management Institute.
2. Sears, S. K., Clough, R. H., Sears, G. A., & Rounds, J. L. (2008). *Construction project management: A practical guide to field construction management* (5th ed.). John Wiley & Sons.
3. Chitkara, K. K. (2014). *Construction project management: Planning, scheduling and controlling* (3rd ed.). Tata McGraw-Hill Education.
4. Peurifoy, R. L., Schexnayder, C. J., Shapira, A., & Schmitt, R. L. (2011). *Construction planning, equipment, and methods* (8th ed.). Tata McGraw-Hill Education.
5. Schwalbe, K. (2015). *An introduction to project management* (5th ed.). Cengage Learning.
6. Murdoch, J., & Hughes, W. (2008). *Construction contracts: Law and management* (4th ed.). Routledge.
7. Morgan, D. B. (2008). *International construction contract management*. Ashgate Publishing.
8. Uher, T. E., & Loosemore, M. (2009). *Fundamentals of building contract management*. UNSW Press.
9. Ramaswamy, B. S. (2011). *Contracts and their management*. LexisNexis Butterworths India.
10. Phillips, C. S. (2004). *Construction contract administration*. SME Publications.
11. Emmitt, S., & Gorse, C. (2007). *Construction communication*. John Wiley & Sons.
12. Bourne, L. (2010). *Stakeholder relationship management: A maturity model for organisational implementation*. Gower Publishing.
13. Mincks, W. R., & Johnston, H. (2011). *Construction jobsite management* (3rd ed.). Cengage Learning.
14. Fisk, E. R., & Reynolds, W. D. (1998). *Construction project administration* (or equivalent reference on change orders). Tata McGraw-Hill.
15. Motawa, I. A., Anumba, C. J., Lee, S., & Peña-Mora, F. (2008). *Managing change in construction projects: A knowledge-based approach*. John Wiley & Sons.

MBEM2102 - Dissertation	Subject Category	JC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to develop students' research, analytical, and problem-solving skills in the fields of construction management, building technology, and related areas. The course aims to provide knowledge of research methodology, literature review, hypothesis formulation, data collection, analysis, validation, and report preparation through case studies, surveys, and field-based research activities.

Description

The state of art report prepared on the chosen topic and develop hypothesis to be tested through the research methodology designed for the purpose. A comprehensive seminar report is prepared with the identification of areas for further research and development. Students are required to test their outcome proposals through various methods, including questionnaire surveys and case studies. It is encouraged that students identify topics for the seminar work which can be further developed into a thesis work as well. Students must create an innovative insight on the specific issues.

The state of art report prepared on the chosen topic and develop hypothesis to be tested through the research methodology designed for the purpose. A comprehensive report is prepared with the identification of areas for further research and development. Students are required to test their outcome proposals through various methods, including questionnaire surveys and case studies. It is encouraged that students identify topics for the work which can be further developed into a another Project research in the next semester in Thesis for more in-depth research. Alternatively, This Project can be an independent research topic. Students must create an innovative insight on the specific issues.

Project work includes processes such as: Research area identification; hypothesis of research topic; literature sourcing and search; aim and objective definition; formulation of methodology; field study planning; survey data collection, analysis and result presentation; literature study; compilation and inference drawing; research study validation through case studies, field application and simulation models; discussion of findings of research findings; study conclusion and recommendation formulations.

The progress of the work is presented and discussed by the student periodically in the classroom environment and progress monitored continuously. The work develops the comprehension and presentation skills of the students. The students are provided guidance from the faculty to channelize their thoughts.

The suggestive list of the areas is as follows:

- o Building Engineering, Construction technology and Structural systems.
- o Energy efficient building materials & techniques.
- o Construction project management.
- o Time management.
- o Cost management.
- o Quality management.
- o Safety management.
- o Contract Administration.
- o Design co-ordination and management.
- o Construction Finance.
- o Investment Analysis and portfolio Management.
- o Real Estate management.

- o Value Engineering.
- o Risk Management.
- o Construction Equipment.
- o Impact Assessment.
- o Human resource management.
- o Quantitative techniques.
- o Energy management.
- o Building services.
- o Green Buildings.
- o Building Performance Evaluation Systems.
- o Building automation and management systems.
- o Infrastructure services.
- o Management information systems.

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to identify research problems, develop research methodologies, conduct literature reviews, and analyze data using appropriate techniques. They will gain skills in technical report writing, presentation, critical analysis, and formulation of conclusions and recommendations for solving practical problems in construction and management fields.

MBEM2103 - Construction Procurement	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with knowledge of construction procurement management, contract administration, professional service agreements, and supply chain management practices used in construction projects. The course aims to develop understanding of procurement procedures, bid evaluation, project delivery systems, dispute resolution mechanisms, and material management systems. It also intends to familiarize students with professional ethics, interdisciplinary coordination, and modern digital tools such as BIM, MIS, and e-procurement systems used in integrated construction management.

Unit I – Construction Procurement Management and Contract Administration

This unit introduces the principles and processes involved in construction procurement management. It covers procurement guidelines of international organizations such as the World Bank and Asian Development Bank (ADB), procurement planning, and preparation of contract documents including Request for Proposal (RFP) and Request for Quotation (RFQ). Students will study pre-qualification of contractors, evaluation of technical and financial bids, negotiation procedures, contract award processes, and modern procurement practices such as e-procurement and digital tendering systems. The unit also introduces various forms of construction contracts including EPC, Design-Build, and Integrated Project Delivery systems.

Unit II – Professional Services Contracts and Project Delivery Systems

This unit focuses on contracts related to professional consultancy and project management services in construction projects. Topics include selection of consultants, fee structures, contractual conditions, and engagement of international consultants. Students will study joint ventures, equity participation in construction organizations, performance guarantees, bank guarantees, and fiscal aspects associated with professional services. The unit also covers modern project delivery systems such as PPP (Public Private Partnership), Swiss Challenge Method, Design-Bid-Build (DBB), Design-Build (DB), and EPC models along with their applications in infrastructure and construction projects.

Unit III – Procurement of Materials, Equipment and Supply Chain Management

This unit deals with procurement procedures related to construction materials, equipment, and machinery. Students will learn procurement planning, purchase procedures, vendor selection, warranties, taxation issues, inspections, testing procedures, and release of payments. The unit also introduces material management concepts including classification, storage, inventory control, supply chain management, and logistics management. Emphasis is given to modern procurement strategies, digital inventory systems, sustainable procurement practices, and integration of supply chain technologies in construction projects.

Unit IV – Contract Administration, Dispute Resolution and Professional Ethics

This unit focuses on contract administration practices and dispute resolution mechanisms used in construction projects. Topics include alternate dispute resolution methods, Dispute Review Boards (DRBs), arbitration procedures, claims management, and contractual issues arising during project execution. Students will study standard consultancy agreement forms, code of professional practice, interdisciplinary coordination, and professional ethics in construction management. The unit also introduces legal compliance, risk allocation, and modern approaches to collaborative contracting and conflict management.

Unit V – Integrated Project Procurement and Digital Construction Management

This unit introduces integrated approaches to procurement and project management using modern digital technologies. Students will study the role of project management organizations (PMOs), procurement of project management services, and coordination between procurement, finance, contracts, and project execution teams. The unit also covers applications of BIM, ERP, MIS, e-procurement systems, and data-driven decision-making tools in procurement and contract management. Emerging trends such as sustainable procurement, smart contracts, blockchain applications in construction contracts, and digital project governance are also discussed.

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to understand procurement processes, contract administration practices, and project delivery systems used in construction projects. They will gain the ability to evaluate bids, manage procurement of materials and professional services, and apply supply chain and inventory management techniques. Students will also understand dispute resolution mechanisms, professional ethics, and interdisciplinary coordination in construction management. Further, they will be capable of using modern digital tools and integrated management approaches for effective procurement and contract management in construction projects.

Reference Books:

1. Murdoch, J., & Hughes, W. (2008). *Construction contracts: Law and management* (4th ed.). Routledge.
2. Morgan, D. B. (2008). *International construction contract management*. Ashgate Publishing.
3. Ramaswamy, B. S. (2011). *Contracts and their management*. LexisNexis Butterworths India.
4. Uher, T. E., & Loosemore, M. (2009). *Fundamentals of building contract management*. UNSW Press.
5. Garrett, G. A. (2003). *Project procurement management*. FMC Press.
6. Lysons, K., & Farrington, B. (2020). *Procurement and supply chain management* (10th ed.). Pearson Education.
7. Pryke, S. (2009). *Construction supply chain management: Concepts and case studies*. Wiley-Blackwell.
8. Gopalakrishnan, P., & Sundaresan, M. (2008). *Materials management: An integrated approach*. PHI Learning.
9. Dobler, D. W., & Burt, D. N. (2013). *Purchasing and supply management* (6th ed.). McGraw-Hill Education.
10. Markanda, P. C. (2016). *Law relating to arbitration and conciliation* (5th ed.). LexisNexis.
11. Kerzner, H. (2017). *Project management: A systems approach to planning, scheduling, and controlling* (12th ed.). Wiley India.
12. Hardin, B., & McCool, D. (2015). *BIM and construction management: Proven tools, methods, and workflows* (2nd ed.). John Wiley & Sons.
13. Laudon, K. C., & Laudon, J. P. (2018). *Management information systems: Managing the digital firm* (15th ed.). Pearson Education.
14. Yescombe, E. R. (2017). *Public-private partnerships: Principles of policy and finance* (2nd ed.). Butterworth-Heinemann.
15. World Bank. (Latest ed.). *Procurement regulations for IPF borrowers*. World Bank Publications.
16. Asian Development Bank. (Latest ed.). *Procurement policy and Procurement regulations for ADB borrowers*. Asian Development Bank.

MBEM2104 - Project Finance Management	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with knowledge of financial management principles and practices related to construction and infrastructure projects. The course aims to develop understanding of financial systems, financial statements, capital budgeting techniques, investment appraisal methods, cash flow management, and financial risk analysis. It also intends to familiarize students with project financing procedures, working capital management, international financing systems, and the application of quantitative and computer-based tools for effective financial decision-making in construction projects.

Unit I – Fundamentals of Construction Financial Management

This unit introduces the concepts and evolution of financial management in construction projects. It covers the role and importance of finance management during various phases of the construction project life cycle. Students will study the financial system, sources of construction finance, need for financing building and infrastructure projects, and the role of government and financial institutions in construction finance. The unit also discusses forms of business organizations such as joint ventures, consortiums, and public-private partnerships (PPP), along with relevant laws and regulations governing construction finance.

Unit II – Financial Statements and Financial Analysis

This unit focuses on financial accounting systems and analysis techniques used in construction organizations. Topics include preparation and interpretation of financial statements such as balance sheets, profit and loss statements, cash flow statements, and fund flow statements. Students will learn financial ratio analysis for evaluating the financial health and performance of construction firms. The unit also covers concepts of taxation, depreciation, amortization, inflation, valuation, returns, payback period, and profitability analysis relevant to project finance management.

Unit III – Capital Budgeting and Investment Analysis

This unit deals with capital budgeting and investment appraisal techniques used for financial decision-making in construction projects. Students will study concepts such as Time Value of Money (TVM), Net Present Value (NPV), Internal Rate of Return (IRR), Modified IRR, Rate of Return (ROR), Cost-Benefit Analysis, Accounting Rate of Return, Break-Even Analysis, and Discounted Cash Flow techniques. The unit emphasizes comparative evaluation of investment alternatives, project feasibility assessment, replacement analysis, and financial decision-making under risk and uncertainty.

Unit IV – Working Capital, Cash Flow and Financial Risk Management

This unit focuses on working capital management, liquidity management, and cash flow planning for construction projects. Topics include estimation, preparation, monitoring, and control of cash and fund flow statements, project cash flow forecasting, and budgetary control systems. Students will also study financial risk analysis, risks and uncertainties in capital budgeting, performance budgeting, and value engineering as a tool for financial optimization. The unit highlights practical applications and case studies related to financial management in construction projects.

Unit V – International Construction Finance and Modern Financial Applications

This unit introduces international financing systems and financial management practices for global construction projects. Students will study financing norms and procedures of international financial institutions, financial planning for international projects, and management of international project finances. The unit also covers application of quantitative techniques, computer applications, financial modelling tools, and digital technologies

used in construction financial management. Emerging trends in project finance, sustainable financing, infrastructure investment strategies, and modern financial decision-support systems are also discussed.

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to understand financial management concepts and analyze financial statements related to construction organizations and projects. They will gain the ability to apply capital budgeting and investment appraisal techniques such as NPV, IRR, and cost-benefit analysis for project evaluation and decision-making. Students will also understand cash flow management, working capital management, financial risk analysis, and project financing procedures. Further, they will be capable of using quantitative techniques and digital tools for effective financial planning and management of construction and infrastructure projects.

Reference Books:

1. Pandey, I. M. (2015). *Financial management* (11th ed.). Vikas Publishing House.
2. Chandra, P. (2011). *Projects: Planning, analysis, selection, financing, implementation, and review* (7th ed.). Tata McGraw-Hill Education.
3. Potts, K. F., & Ankrah, N. (2014). *Construction cost management: Learning from case studies* (2nd ed.). Routledge.
4. Blank, L., & Tarquin, A. (2012). *Engineering economy* (7th ed.). McGraw-Hill Education.
5. Myers, D. (2016). *Construction economics: A new approach* (4th ed.). Routledge.
6. Gitman, L. J., & Zutter, C. J. (2015). *Principles of managerial finance* (14th ed.). Pearson Education.
7. Yescombe, E. R. (2013). *Project finance*. John Wiley & Sons.
8. Arora, M. N. (2013). *Management accounting*. Himalaya Publishing House.
9. Arora, M. N. (2012). *Cost accounting: Principles and practice*. Vikas Publishing House.
10. Subramanyam, K. R., & Wild, J. J. (2014). *Financial statement analysis* (11th ed.). McGraw-Hill Education.
11. Finnerty, J. D. (2004). *Project financing: Asset-based financial engineering* (2nd ed.). John Wiley & Sons.
12. Yescombe, E. R. (2017). *Public-private partnerships: Principles of policy and finance* (2nd ed.). Butterworth-Heinemann.
13. Dell'Isola, A. J. (2007). *Value engineering: Practical applications for design, construction, maintenance and operations*. McGraw-Hill Education.
14. Vohra, N. D. (2017). *Quantitative techniques in management* (6th ed.). McGraw-Hill Education.

Elective 3

MBEM2105 - Digital Twin in Built Environment	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Weeks	03

Objective: The objective of this course is to provide students with knowledge of Digital Twin technology, its framework, development processes, and applications in construction and infrastructure sectors. The course aims to develop understanding of Digital Twin generation methods, analytics, simulation techniques, and integration with technologies such as BIM, IoT, AI, and cloud computing. It also intends to familiarize students with technology transfer, market analysis, and practical applications of Digital Twin systems through real-world case studies.

Unit I – Introduction to Digital Twin Technology

This unit introduces the concept, definition, and framework of Digital Twin technology and its evolution in engineering, construction, and infrastructure sectors. It covers the components, characteristics, and architecture of Digital Twin systems along with their significance in improving project planning, operation, maintenance, and lifecycle management. Students will also study the challenges associated with implementation such as data integration, interoperability, cybersecurity, scalability, and real-time synchronization.

Unit II – Opportunities, Benefits and Applications of Digital Twin

This unit focuses on the opportunities and benefits offered by Digital Twin technology in construction and infrastructure projects. Topics include optimization of project performance, predictive maintenance, real-time monitoring, asset management, sustainability assessment, and operational efficiency. Students will explore application areas such as smart buildings, smart cities, infrastructure management, manufacturing, healthcare, transportation, and industrial systems. The unit also highlights the role of Digital Twins in decision-making and intelligent project management.

Unit III – Development and Generation of Digital Twins

This unit deals with the methods and processes involved in creating and implementing Digital Twin systems. Students will study data acquisition techniques, integration of IoT sensors, BIM integration, cloud computing, data modelling, visualization tools, and real-time data management. The unit also covers analytics, simulation techniques, predictive modelling, and AI-based approaches used for generating intelligent and dynamic Digital Twin environments for construction and infrastructure applications.

Unit IV – Technology Transfer, Innovation and Market Analysis

This unit introduces the concepts of technology transfer, innovation management, and market analysis related to Digital Twin technology. Topics include adoption strategies, commercialization of digital technologies, intellectual property considerations, and implementation challenges in industry. Students will study market trends, business opportunities, investment potential, and the role of Digital Twin technology in Industry 4.0 and smart infrastructure development. The unit also emphasizes economic feasibility and strategic planning for digital transformation in construction organizations.

Unit V – Digital Twin Applications and Case Studies

This unit focuses on practical applications and case studies of Digital Twin technology across various sectors. Students will analyze real-world case studies related to smart buildings, infrastructure systems, construction project management, facility management, transportation networks, and urban development. The unit

emphasizes evaluation of project performance, lessons learned, implementation strategies, and future trends in Digital Twin technology. Emerging concepts such as AI-integrated Digital Twins, autonomous systems, and sustainable digital infrastructure are also discussed.

Outcome

Upon successful completion of this course, students will be able to understand the concepts, significance, and challenges of Digital Twin technology and its applications in construction and infrastructure projects. They will gain the ability to analyze and develop Digital Twin systems using data integration, analytics, and simulation techniques. Students will also understand market opportunities, technology transfer processes, and implementation strategies related to Digital Twin applications. Further, they will be capable of evaluating case studies and applying Digital Twin concepts for improving project performance, monitoring, maintenance, and decision-making in smart infrastructure systems.

Reference Books

1. Fuller, A., Fan, Z., Day, C., & Barlow, C. (2021). *Digital twin: Enabling technologies, challenges and open research*. Springer.
2. Minerva, R., Lee, G. M., & Crespi, N. (2022). *Digital twin development and deployment on the cloud*. Elsevier.
3. Tao, F., & Madni, A. M. (Eds.). (2023). *Handbook of digital twins*. Springer.
4. Kumar, K., Zindani, D., & Davim, J. P. (Eds.). (2020). *Smart manufacturing and digital transformation*. CRC Press.
5. Bilal, M., & Oyedele, L. O. (2021). *Data analytics for engineering and construction project management*. Routledge.
6. Mahmud, K., Buyya, R., & Zhang, J. (Eds.). (2021). *IoT and AI technologies for sustainable living*. Wiley-Scrivener.
7. Whyte, J., & Hartmann, T. (2020). *Digital engineering for construction*. ICE Publishing. (Verify exact edition.)
8. Lee, E. A., & Seshia, S. A. (2022). *Cyber-physical systems and digital twins*. Springer.
9. Varkonyi-Koczy, A. R. (Ed.). (2021). *Artificial intelligence in smart cities and urban mobility*. Springer.
10. Sawhney, A., Riley, M., & Irizarry, J. (Eds.). (2022). *Emerging technologies in Construction 4.0*. Routledge.
11. Boje, C., Guerriero, A., Kubicki, S., & Rezgui, Y. (2023). *Facility management and digital twins*. Elsevier.
12. Ahmed, V., Tezel, A., & Aziz, Z. (Eds.). (2020). *Machine learning for the built environment*. Springer.
13. Underwood, J., & Isikdag, U. (2011). *Advanced building informatics*. Wiley-Blackwell.
14. Sinopoli, J. M. (2009). *Smart buildings systems for architects, owners and builders*. Butterworth-Heinemann.
15. Sawhney, A., Riley, M., & Irizarry, J. (Eds.). (2021). *Construction 4.0: An innovation platform for the built environment*. CRC Press.

MBEM2106 - Building Adaptation & Asset Management	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Weeks	03

Objective: The objective of this course is to provide students with knowledge of building service life, building adaptation processes, and methods for extending the life of buildings and infrastructure systems. The course aims to develop understanding of maintenance strategies, rehabilitation techniques, adaptive reuse, and management tools used in building adaptation projects. It also intends to familiarize students with challenges associated with adaptation works and construction management approaches for effective implementation and sustainable building performance.

Unit I – Introduction to Building Service Life

This unit introduces the concept of building service life and its importance in the performance and sustainability of buildings and infrastructure. It covers factors affecting the service life of buildings such as materials, environmental conditions, maintenance practices, usage patterns, and technological changes. Students will understand methods for assessing building performance, durability, deterioration mechanisms, and life cycle considerations in building management.

Unit II – Methods for Extension of Building Service Life

This unit focuses on techniques and strategies used for extending the service life of buildings and infrastructure systems. Topics include preventive maintenance, repair and rehabilitation methods, retrofitting, adaptive reuse, structural strengthening, energy-efficient upgrades, and sustainable renovation practices. Students will study the role of maintenance planning, technological interventions, and material improvements in enhancing building performance and longevity.

Unit III – Building Adaptation Processes and Management Tools

This unit deals with building adaptation processes and management techniques used for modifying existing buildings to meet changing functional, technological, environmental, and regulatory requirements. Students will study adaptation strategies, building assessment methods, decision-making tools, life cycle analysis, facility management systems, and digital technologies such as BIM and Digital Twin applications used in building adaptation and asset management.

Unit IV – Challenges in Building Adaptation and Rehabilitation Projects

This unit focuses on the technical, financial, environmental, legal, and operational challenges associated with building adaptation and rehabilitation works. Topics include issues related to structural compatibility, heritage conservation, occupant safety, cost management, sustainability, regulatory approvals, and project coordination. Students will understand risk factors and constraints involved in executing adaptation projects in occupied and aging buildings.

Unit V – Construction Management Approaches for Building Adaptation Projects

This unit introduces construction management approaches and implementation strategies for building adaptation and rehabilitation projects. Students will study project planning, scheduling, procurement, safety management, stakeholder coordination, quality control, and resource management techniques used during adaptation works. The unit also covers modern technologies, sustainable practices, and integrated project management methods for efficient execution and monitoring of building adaptation projects.

Outcome

Upon successful completion of this course, students will be able to understand the concept of building service life and factors affecting building performance and durability. They will gain the ability to apply maintenance, rehabilitation, and adaptation techniques for extending the service life of buildings. Students will also understand management tools, challenges, and construction management practices associated with building adaptation projects and apply sustainable and efficient approaches for implementation and project control.

Reference Books

1. Douglas, J. (2004). *Building adaptation* (2nd ed.). Routledge.
2. Chanter, B., & Swallow, P. (2007). *Building maintenance management* (2nd ed.). Wiley-Blackwell.
3. Lacasse, M. A., & Vanier, D. J. (Eds.). (2019). *Service life prediction of buildings and components*. Routledge.
4. Varghese, P. C. (2016). *Maintenance and repair of civil structures*. Standard Publishers.
5. Watt, D. (2007). *Building pathology: Principles and practice*. Wiley-Blackwell.
6. Feilden, B. M. (2003). *Conservation of historic buildings* (3rd ed.). Routledge.
7. Barrett, P., & Baldry, D. (2015). *Facilities management: Towards best practice* (3rd ed.). Wiley-Blackwell.
8. Wilkinson, S. J., James, K., & Reed, R. (2017). *Sustainable building adaptation: Innovations in decision-making*. Routledge.
9. Teicholz, P. (Ed.). (2015). *BIM for facility managers* (2nd ed.). John Wiley & Sons.
10. Jha, K. N. (2015). *Construction project management: Theory and practice* (2nd ed.). Pearson Education India.
11. Halfawy, M. R. (2011). *Asset management for infrastructure systems*. ICE Publishing.

MBEM2107 - Construction Innovation and Entrepreneurship	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Weeks	03

Objective: The objective of this course is to provide students with knowledge of foundation construction methods, scaffolding systems, formwork technologies, and reinforcement techniques used in modern construction projects. The course aims to develop understanding of financing agencies, industrial legislation, labour laws, taxation systems, and financial planning related to construction and industrial projects. It also intends to familiarize students with project report preparation, infrastructure financing, and procedures for acquiring project finance and statutory approvals.

Unit I – Foundation Engineering, Scaffolding and Formwork Systems

This unit introduces construction methods and equipment used for foundation works, scaffolding, and formwork systems in building and infrastructure projects. Students will study various foundation construction techniques, excavation methods, piling systems, and equipment used for foundation operations. The unit also covers different types of scaffolding systems and formwork technologies including timber, metal, and plastic formwork, along with their applications, advantages, safety requirements, and selection criteria for modern construction practices.

Unit II – Reinforcement and Precast Construction Technology

This unit focuses on reinforcement technologies and advanced concrete construction systems used in modern construction projects. Topics include reinforcement detailing, pre-tensioning and post-tensioning techniques, prestressed concrete systems, and precast construction technologies. Students will understand the manufacturing, transportation, erection, and quality control aspects of precast elements and study the advantages, limitations, and applications of precast and prestressed systems in industrial and infrastructure projects.

Unit III – Financing Agencies and Infrastructure Development

This unit deals with financial institutions and agencies involved in infrastructure and industrial project financing. Students will study the role of financing agencies in providing financial assistance for land acquisition, infrastructure development, machinery procurement, and raw material management. The unit also covers the functions of government departments, public financial institutions, and policies supporting industrial and construction project development. Emphasis is given to funding mechanisms and infrastructure financing strategies in the construction sector.

Unit IV – Industrial Legislation, Labour Laws and Taxation

This unit introduces industrial legislation, labour laws, and taxation systems applicable to construction and industrial projects. Topics include industrial laws, labour welfare regulations, contract labour laws, safety regulations, and statutory compliance requirements. Students will also study local taxation systems, excise duties, income tax provisions, GST implications, and financial compliance procedures relevant to construction and industrial operations.

Unit V – Project Report Preparation and Financial Planning

This unit focuses on preparation and evaluation of project reports for construction and industrial projects. Students will study the components of a project report including land, building, utilities, materials, manpower, machinery, and resource requirements. The unit also covers provisional registration procedures, financial planning, project costing, funding arrangements, preparation of financial feasibility reports, and strategies for acquiring finance from financial institutions and investors. Emphasis is given to practical approaches for preparing comprehensive and bankable project reports.

Outcome

Upon successful completion of this course, students will be able to understand foundation construction methods, scaffolding systems, formwork technologies, and reinforcement techniques used in construction projects. They will gain knowledge of financing agencies, industrial laws, labour regulations, and taxation systems related to industrial and construction sectors. Students will also be capable of preparing project reports, performing financial planning, evaluating funding requirements, and understanding procedures for acquiring finance and project approvals for construction and infrastructure projects.

Reference Books

1. Punmia, B. C., Jain, A. K., & Jain, A. K. (2016). *Building construction* (11th ed.). Laxmi Publications.
2. Peurifoy, R. L., Schexnayder, C. J., Shapira, A., & Schmitt, R. L. (2011). *Construction planning, equipment, and methods* (8th ed.). Tata McGraw-Hill Education.
3. Hurd, M. K. (2011). *Formwork for concrete* (7th ed.). McGraw-Hill Education.
4. Lin, T. Y., & Burns, N. H. (2010). *Design of prestressed concrete structures* (3rd ed.). Wiley India.
5. Chandra, P. (2011). *Projects: Planning, analysis, selection, financing, implementation, and review* (7th ed.). Tata McGraw-Hill Education.
6. Kapoor, N. D. (2015). *Industrial and labour laws*. Dhanpat Rai Publications.
7. Kapoor, N. D. (2018). *Mercantile and industrial laws*. Sultan Chand & Sons.
8. Singhania, V. K., & Singhania, M. (2023). *Students' guide to income tax including GST* (latest ed.). Taxmann Publications.
9. Pandey, I. M. (2015). *Financial management* (11th ed.). Vikas Publishing House.
10. Chandra, P. (2010). *Projects: Planning, analysis, selection, financing, implementation, and review* (6th ed.). Pearson Education.
11. Bureau of Indian Standards. (2016). *National Building Code of India 2016*. Bureau of Indian Standards.

MBEM2108 - Inter departmental/Inter-Institutional Elective (Online/Physical Mode)	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The underlying fundamental of this elective is for the student to identify and pursue any unique course of study related to STEM (Science, Technology, Engineering, and Management) in physical or online mode. The student can select a course that may be directly or indirectly relevant to the building or its related infrastructure works. The objective of this course is to enhance the exposure of students in an unrestricted manner and to aid their learning through varied methods. The course enables students to acquire skills to develop their ideas into physical form and encourages startups. This elective intends to achieve the concept of multidisciplinary and cross-collaboration to the other areas of specialization.

Course Content

The course may be linked to the built environment, construction, architecture, planning, project management, or related to the topic of research. Encouraging a multi-disciplinary approach through the subject as well as its contents, the coursework should include a theoretical understanding of the subject, learning through case studies and real-world projects, and future methods of application in the industry/ research. The use of analytical tools and techniques is encouraged.

Upon completion of this course, the student should be able to

- Learn foundational concepts of the topic
- Establish a link between the learnings and their projects/ research
- Apply the skills in their research/ projects/ future career
- Share the insights with fellow classmates
- Earn a certificate from the online learning platform or certificate from other Department of studies.

References

1. National Programme on Technology Enhanced Learning (NPTEL) initiated by Ministry of Education.
2. Courses offered by IIT, IIM, ISSER, NIT's, SPA's, NITTTR and other reputed Universities/Institution
3. Courses offered by reputed National and International Universities.

MBEM2109 - Summer Training/Internship	Subject Category	JC
	Number of Credits	01
	Lecture Periods per Week	-
	Tutorial Periods per Week	-
	Studio/Lab/Workshop/Practical's	-
	Total Weeks	8

Description:

An internship of 8 weeks is to be carried out by the students during their summer vacations after second semester in order to understand the practical application of various project management and construction concepts studied in last two semesters. The students are supposed to submit a report of the work done by them during their training period. Refer to Annexure-1

Total: 8 Weeks

Outcome:

The students will be exposed to the industry and they will learn different types of contracts, laws that are considered in initiating and completing the projects.

FOURTH SEMESTER

MBEM2201 - Thesis	Subject Category	TC
	Number of Credits	19
	Lecture Periods per Week	2
	Tutorial Periods per Week	-
	Studio/Lab/Workshop/Practical's	14
	Total Periods per Week	19

Objective: The objective of the Thesis is to provide students with an opportunity to undertake independent research in the field of Building Engineering and Management. The thesis may focus on conceptual, analytical, or practical problems related to construction, infrastructure, management, sustainability, or emerging technologies. The course aims to develop students' abilities in problem identification, literature review, data collection, research methodology, analysis, interpretation, and technical reporting. It also encourages critical thinking, innovation, and application of research-based solutions to real-world issues. The complete research work is to be systematically documented and presented in the form of a formal thesis report, which may either extend the work carried out in previous semesters or explore a new area of research interest.

The subject for special study may be conceptual or practical, but pertaining to Building Engineering and Management. This should, however, offer scope to adopt a fresh approach in formulating a concept or developing a methodology effective and useful. Each student will prepare the Thesis under the guidance of a principal advisor with regular reviews by the faculty of the department. The thesis will be presented in the accepted form of a thesis report, duly supported by References, sketches, graphs, statistical data, details of the survey, if any, detailed account of experimental/analytical procedures adopted. Each student is required to defend their thesis at a Viva Voce Examination by a jury.

Outcome:

Student will prepare independent and original study of a special project of his own choice from the all the knowledge they have gained from the course.

MBEM2202 – Project Quality and Human Resource Management	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with knowledge of quality management systems, organizational behaviour, and human resource management practices in the construction industry. The course aims to develop understanding of quality assurance, quality control, ISO standards, TQM principles, quality management tools, and environmental management systems applicable to building projects. It also intends to familiarize students with organizational structure, leadership, communication, motivation, conflict management, and human resource practices such as training, performance appraisal, and workforce development for improving organizational and project performance.

Unit I Quality Management Concepts

Quality concepts and stakeholder concerns for building and construction; Evolution of modern concept of Quality management process approach; Quality assurance & control; Quality management system and ISO 9000 : 2000 requirements; Quality system standards for construction elements; Inspections & tests; Quality management tools; Environmental Management System Standards and their application in construction; EMS - QMS relationships; Concept and philosophy of TQM; Quality circle, Quality cost; Practical aspects of quality control of building projects. Good practices and managerial responsibilities.

Unit II Quality Management Standards

ISO 9000 Quality system standards (family discussion); applicability of ISO 9000 series standards world-wide, India and Indian Building sector; Elements of quality systems standards elements; Aspects of quality control & assurance of major building items like RCC, brickwork, woodwork, steelwork, flooring, finishing, internal water supply, sanitary electrical services, external services like roads, sewers et.; quality of maintenance works, checklists; Contractual implications of quality systems.

Unit III Quality Management Tools

Quality Tools; SWOT analysis, Ishikawa Diagram, Pareto Analysis, Statistical Quality Control, Brainstorming, Delphi Technique; Quality cost; Quality system and Total Quality Management philosophy as applied to building sector; Human resource management for TQM; Business Process Re-engineering; Benchmarking; Partnering; Quality Circles; Quality Function Deployment; Just in Time technique; Six-Sigma; Analysis and design tools for management, including, Quality Function Deployment, Brain storming, Parametric Modelling).

Unit IV Organizational Behaviour

Concepts of organisational and individual behaviour; Perception and attitudes; Communication process and information management; Motivation concepts and processes; Group behaviour and teams; Leadership; Conflict management, Stress management. Nature of organisations; Organisational development; Principles of organisation structure.

Unit V Human Resource Management

Human resource policies & practices; Selection, training and assessment; Performance Appraisal; Training need assessment and dissemination of training; Post-training performance assessment.

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to understand quality management concepts, ISO standards, quality assurance systems, and TQM practices used in construction projects. They will gain the ability to apply quality management tools and techniques for improving construction quality and organizational performance. Students will also understand organizational behaviour, leadership, communication, teamwork, and conflict management principles. Further, they will be capable of applying human resource management practices including recruitment, training, performance assessment, and employee development in construction organizations.

Reference Books:

1. Besterfield, D. H., Besterfield-Michna, C., Besterfield, G. H., & Besterfield-Sacre, M. (2011). *Total quality management* (3rd ed.). Pearson Education.
2. Rumane, A. R. (2017). *Quality management in construction projects*. Taylor & Francis.
3. Rumane, A. R. (2012). *Construction quality management: Principles and practice*. Taylor & Francis.
4. Tricker, R. (2015). *ISO 9001:2015 for small businesses* (6th ed.). ASQ Quality Press.
5. Montgomery, D. C. (2019). *Introduction to statistical quality control* (8th ed.). Wiley India.
6. Robbins, S. P., & Judge, T. A. (2017). *Organizational behavior* (17th ed.). Pearson Education.
7. Robbins, S. P., Judge, T. A., & Vohra, N. (2015). *Organisational behaviour* (16th ed.). McGraw-Hill Education.
8. Dessler, G. (2020). *Human resource management* (16th ed.). Pearson Education.
9. Memoria, C. B., & Gankar, S. V. (2016). *Personnel management and human resources*. Himalaya Publishing House.
10. Jha, K. N. (2015). *Construction project management: Theory and practice* (2nd ed.). Pearson Education India.
11. Hammer, M., & Champy, J. (2006). *Reengineering the corporation: A manifesto for business revolution*. Harper Business.
12. Harry, M., & Schroeder, R. (2005). *Six Sigma: The breakthrough management strategy revolutionizing the world's top corporations*. Currency.
13. Sheldon, C. (2016). *Environmental management systems: A practical guide to implementation and operation*. Routledge.

ELECTIVE 4

MBEM2203 - Environmental Impact Assessment	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with knowledge of Environmental Impact Assessment (EIA), environmental management principles, and sustainability practices related to construction and infrastructure projects. The course aims to develop understanding of environmental assessment methodologies, impact prediction techniques, environmental legislation, and regulatory frameworks. It also intends to familiarize students with environmental protection measures, public participation processes, and municipal solid waste management systems for sustainable development and environmental conservation.

Unit I Introduction to Environment Aspects

Definition, basic concepts and principles of EIA. Regulatory frame work in India. Environmental inventory, base line studies, over view of EIA studies.

Unit II Assessment and Methodologies

Physical, biological assessment, Socio economic and cultural environmental assessment, EIA methodologies– Adhoc, matrix, checklist approaches. Economic evaluation of impacts-cot benefits of EIA, Public participation in environmental decision making. Procedures for reviewing EIA analysis and statement.

Unit III Environmental Assessment

Introduction, process, Basic steps involved, Description of environmental setting – Base line data collection, possible impacts due to water resources projects. Impact prediction and assessment – methods of impact assessment, Matrix and check list method, Selection of proposed action. Preparation of environmental impact statement.

Unit IV Legislations and Regulations

Rationale, concerns, legislative data systems, Safe Drinking Water Act, clean water act, clean air act, noise control act, resource conservation and recovery act, comprehensive environmental response, compensation and liability act.

Unit V Municipal Solid Wastes

Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/recycle, energy recovery, treatment and disposal).

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to understand the principles, processes, and methodologies of Environmental Impact Assessment for construction and infrastructure projects. They will gain the ability to assess environmental, social, and economic impacts and prepare environmental impact statements and reports. Students will also understand environmental laws, regulations, and pollution control measures related to air, water, noise, and waste management. Further, they will be capable of applying

sustainable environmental management practices and solid waste management techniques in planning and execution of development projects.

Reference Books:

1. Morris, P., & Therivel, R. (2004). *Methods of environmental impact assessment* (2nd ed.). Routledge.
2. Davis, M. L., & Masten, S. J. (2008). *Principles of environmental engineering and science* (2nd ed.). Pearson Education.
3. Benny Joseph. (2016). *Environmental studies* (3rd ed.). Tata McGraw-Hill Education.
4. Rao, C. S. (2010). *Environmental science and engineering*. Pearson Education.
5. Tchobanoglous, G., Theisen, H., & Vigil, S. A. (2002). *Integrated solid waste management: Engineering principles and management issues*. McGraw-Hill Education.
6. Vesilind, P. A., Peirce, J. J., & Weiner, R. F. (1998). *Environmental pollution and control* (4th ed.). Butterworth-Heinemann.
7. Shastri, S. C. (2005). *Environmental legislation and management*. APH Publishing Corporation.
8. Agrawal, K. C. (2010). *Environmental management*. Excel Books.
9. Shastri, S. C. (2012). *Environmental laws in India*. LexisNexis Butterworths.
10. Ministry of Environment, Forest and Climate Change. (Latest ed.). *Environmental impact assessment notification and guidelines*. Government of India.

MBEM2204 - Lean Construction	Subject Category	TC
	Number of Credits	03
	Lecture Periods per Week	02
	Tutorial Periods per Week	01
	Studio/Lab/Workshop/Practical's	-
	Total Periods per Week	03

Objective: The objective of this course is to provide students with knowledge of Lean Philosophy, Lean Principles, and Lean Construction practices used in the construction industry. The course aims to develop understanding of lean design, lean procurement, production planning, coordination, logistics, and offsite construction techniques for improving efficiency and reducing waste. It also intends to familiarize students with lean tools and techniques such as BIM, Last Planner System, 5S, Visual Management, Just in Time, and Value Stream Mapping for enhancing project performance and continuous improvement in construction projects.

Unit I – Introduction to Lean Philosophy and Lean Construction

This unit introduces the concept and philosophy of Lean Construction and its evolution from lean manufacturing principles. It covers the definition, history, objectives, and core principles of lean thinking along with applications in various industries. Students will study lean practices in construction, process-oriented versus task-oriented approaches, transformation-flow-value concepts, and the production view of design and construction. The unit emphasizes the importance of minimizing waste and maximizing value in construction projects.

Unit II – Lean Principles in Design and Construction Processes

This unit focuses on the application of lean principles and practices in the design and construction process. Topics include designing with lean principles, lean design management, collaborative planning, and designing for constructability and efficiency. Students will also study the relationship between lean and green concepts, sustainable construction practices, and the integration of lean methodologies for improving quality, productivity, and environmental performance in the built environment.

Unit III – Lean Culture, Procurement and Production Systems

This unit deals with the development of lean culture in construction organizations and projects. Students will study lean procurement systems, collaborative contracting, lean production planning, coordination, logistics management, and off-site construction practices. The unit also covers applications of lean principles in real estate and infrastructure projects, emphasizing teamwork, communication, continuous improvement, and integrated project delivery approaches.

Unit IV – Lean Construction Tools and Techniques

This unit introduces various lean construction tools and techniques used for improving project efficiency and reducing waste. Topics include waste reduction strategies, partnering, Target Value Design, Set-Based Design, Building Information Modelling (BIM), Pull Planning, Last Planner System, Huddle Meetings, 5S, Visual Management, Work Structuring, Continuous Improvement, Poka-Yoke, Just-in-Time (JIT), A3 Reporting, and Value Stream Mapping. Students will understand the practical application of these tools in project planning, coordination, and execution.

Unit V – Lean Project Delivery and Implementation Strategies

This unit focuses on lean project delivery systems and implementation strategies in the construction industry. Students will study the value and benefits of lean approaches for design and construction organizations, including improved productivity, quality, cost efficiency, and stakeholder satisfaction. The unit also covers implementation challenges, drivers and barriers to lean adoption, organizational transformation, and the integration of lean concepts with emerging industry practices such as digital construction, BIM-enabled workflows, and sustainable project management systems.

Total: 48 class hours expected

Outcome:

Upon successful completion of this course, students will be able to understand the philosophy, principles, and practices of Lean Construction and their applications in the construction industry. They will gain the ability to apply lean principles in design, planning, procurement, production, and project delivery processes for improving productivity and reducing waste. Students will also understand lean culture, collaborative practices, and the use of lean tools such as Last Planner System, BIM, Pull Planning, 5S, Value Stream Mapping, and Just-in-Time techniques. Further, they will be capable of implementing lean approaches for enhancing project efficiency, quality, sustainability, coordination, and continuous improvement in construction and infrastructure projects.

Reference Books:

1. Liker, J. K. (2004). *The Toyota way: 14 management principles from the world's greatest manufacturer*. McGraw-Hill Education.
2. Forbes, L. H., & Ahmed, S. M. (2010). *Modern construction: Lean project delivery and integrated practices*. CRC Press.
3. Mossman, A., Sarhan, S., & González, V. (2020). *Construction management and lean construction*. Routledge.
4. Ballard, G., & Howell, G. (2003). *Designing for lean construction*. Lean Construction Institute.
5. Rother, M., & Shook, J. (2003). *Learning to see: Value stream mapping to create value and eliminate muda* (Version 1.4). Lean Enterprise Institute.
6. Eastman, C., Teicholz, P., Sacks, R., & Liston, K. (2018). *BIM handbook: A guide to building information modeling for owners, designers, engineers, contractors, and facility managers* (3rd ed.). John Wiley & Sons.
7. Salem, O., Solomon, J., Genaidy, A., & Luegring, M. (2017). *Lean Six Sigma for construction*. McGraw-Hill Education.
8. Kent, D. C., & Becerik-Gerber, B. (2017). *Integrated project delivery*. John Wiley & Sons.
9. Nahmens, I., & Ikuma, L. H. (2008). *Effects of lean construction on sustainability*. *Lean Construction Journal*, 2008, 1–12.
10. Harris, F., & McCaffer, R. (2013). *Modern construction management* (7th ed.). Wiley-Blackwell.
11. Jha, K. N. (2015). *Construction project management: Theory and practice* (2nd ed.). Pearson Education India.

Annexure-1

1. General Information (It is not needed here, can be kept as Annexure)

Name of student

Placement of Training

Duration of training

2. Nature of organizational enterprise (explain type of design, construction, PM activities the organizations involved)
3. Organization structure and position of Trainee
4. Chronological list of responsibilities assigned to the Trainee
5. List of the Works done during training (enclose typical work outputs)
6. Experiences and inferences drawn during Training
 1. Typical project work stages followed
 2. Time management process adopted
 3. Cost management process adopted
 4. Quality management process adopted
 5. Scope management process adopted
 6. HR management process adopted
 7. Communication systems, practices and management processes adopted
 8. Procurement management policies and processes adopted
 9. Health, safety, environment management processes adopted
 10. Risk management processes adopted

Type of consultancy (architecture, PM, construction contract followed) (enclose typical documents) Special features of the project / work (enclose documents to explain and highlight peculiarities)

11. Any other information



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

***Annexure – VII:
Structure, Constitution, Role and Responsibilities
of SPAV Students Council***

Structure, Role and Responsibilities of SPAV Students Council

Student Council of SPAV - Structure and Eligibility								
Table 1: Student Council of SPAV - for Full term								
S.No. of Position	Position	Number of Members	Undergraduate Candidate				Post Graduate Candidate	
			B.Arch		B.Plan			
			Year	Semester	Year	Semester	Year	Semester
1	President	1	4	VIII	3	VI	-	-
2	Vice-President	2	4	VIII	3	VI	1	II
			2	IV	2	IV		
3	General Secretary	1	4	VIII	3	VI	-	-
4	Cultural Secretary	2	4	VIII	3	VI	1	II
5	Literary Secretary	1	4	VIII	3	VI	-	-
6	Treasurer	1	4	VIII	3	VI	-	-
7	Public Relations Secretary	1	4	VIII	3	VI	1	II
8	Hostel & Mess Secretary *	2	4	VIII	3	VI	1	II
			2	IV	2	IV		
9	Sports Secretary	2	4	VIII	3	VI	1	II
			2	IV	2	IV		
10	Student Welfare Secretary	2 (1 Female & 1 Male)	4	VIII	3	VI	1	II
			2	IV	2	IV		
10	Total	15						
* Only Hostellers are eligible to contest for the position, "S.No. 8: Hostel & Mess Secretary"								

Student Council of SPAV - Structure and Eligibility								
Table 2: Student Council of SPAV - Short term								
S.No. of Position	Position	Number of Members	Undergraduate Candidate				Post Graduate Candidate	
			B.Arch		B.Plan			
			Year	Semester	Year	Semester	Year	Semester
1	President	1	4	VIII	3	VI	-	-
2	Vice-President	2	4	VIII	3	VI	1	II
			2	IV	2	IV		
3	General Secretary	1	4	VIII	3	VI	-	-
4	Cultural Secretary	2	4	VIII	3	VI	1	II
5	Literary Secretary	1	4	VIII	3	VI	-	-
6	Treasurer	1	4	VIII	3	VI	-	-
7	Public Relations Secretary	1	4	VIII	3	VI	1	II
8	Hostel & Mess Secretary *	2	4	VIII	3	VI	1	II
			2	IV	2	IV		
9	Sports Secretary	2	4	VIII	3	VI	1	II
			2	IV	2	IV		
10	Student Welfare Secretary	2 (1 Female & 1 Male)	4	VIII	3	VI	1	II
			4	VIII	3	VI		
10	Total	15						
* Only Hostellers are eligible to contest for the position, "S.No. 8: Hostel & Mess Secretary"								

Explanation: S. No. 10: Student Welfare Secretary 2 positions (1 Female & 1 Male)

One Female Candidate from: Master's Degree candidate: 1st Year; 2nd Semester [OR] Bachelor of Architecture: 4th Year; 8th Semester [OR] Bachelor of Planning: 3rd Year; 6th Semester.

One Male Candidate from: Master's Degree candidate: 1st Year; 2nd Semester [OR] Bachelor of Architecture: 4th Year; 8th Semester [OR] Bachelor of Planning: 3rd Year; 6th Semester.

Tenure of the Student Council

We believe that it would be beneficial for the tenure of the Student Council to start from Even Semester and to last for a tenure of one year. Effectively the duties and oath of the Student Council shall be taken after the declaration of results of Student Council elections through an Investiture ceremony as and when held.

This will commemorate the achievements of the incumbent Council and hand over the responsibilities to the newly elected Student Council.

We believe that the process of Student Council Elections must begin as the Even Semester commences. This gives the opportunity for all students to be present on campus and cast their vote.

Tenure for the short term of 2024-25 (Aug./Sept. 2024 - Jan. 2025)

We believe that the General Body of Students need a Student Council to represent them in the Academic Year 2024-25. However, since the Even Semester of the year 2023-24 ended, a **shorter tenure** is proposed for the Student Council, till **January 31, 2025** (even semester 2024-25 A.Y). i.e., The Student Council which will be constituted for the time period of August 2024 - January 31, 2025 or till the new full term Student Council assumes charge, whichever is earlier.

Accordingly, for the current Odd Semester we would like to propose a different Qualification Criteria for the Student Council where the roles and responsibilities will remain the same but there will be a difference in Tenure and Eligibility / basis for Nomination of the Candidates.

Please note that this semester remains an exceptional case as **Short Tenure** Student Council without setting a precedent with respect to the Term of office.

Structure of the Proposed Student's Council along with respective Executive Powers:

I. President:

1. Authorised person to discuss and decide on student affairs, including cultural and sports events with consultation from the concerned bodies, realisable, subject to the recommendation of the Dean Student Affairs and approval by the Director.

1.1. The President can call up General Body Meetings as needed.

1.2. Analyse the situation of the General Body of students and generate the Agenda for the next meeting.

1.2.1. The frequency of meetings of the Student Council shall be at least once every 3 weeks.

1.2.2. The frequency of meetings of the Student General Body shall be at least once every 2 months.

1.3. The President shall liaise with members of committees, faculty coordinators, mentors in the Institute if required on all matters concerning the well-being, and safety of students alongside the Student Welfare Secretary.

1.4. The President may be invited as student representative as and when needed by the Institute in student-related decision-making committees or can nominate his/her authorised member.

1.5 Prepare and present the Student Activities' and Achievements for SPAV Annual Report, Institutional event/s, etc.

Eligibility for a President Candidate:

The Candidate must be in the pre-final year of their course at the time of Student Council Elections. The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Planning: 3rd Year; 6th Semester

The Candidate should not have attracted/faced any disciplinary action for deeds which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

II. General Secretary :

- 2.1. Forming agendas related to student cultural, sports and co-curricular affairs for the Student Council meeting at least 3 days before the meeting and distributing the agenda to the Council Members at least 24 hours before the Council Meeting.
- 2.2. Ensure that the resolutions passed by the Student Council are duly communicated to the Students General Body.
- 2.3. Can call and convene meetings with the Cultural and Sports Secretary through prior notice not less than 24 hours or in emergent cases as and when required.
- 2.4. Make and note recommendations to both the Sports and Cultural Council. These should be reported to the President and Vice President within 3 days of the meeting to ensure resolutions can be passed regarding Cultural and Sports matters in urgent cases.
- 2.5. Required to supervise and coordinate student activities taking place on campus and is required to keep a check on the smooth functioning of the Sports and Cultural Council.
- 2.6. Be responsible for settling (as per prevailing accounting procedure) Advance amounts drawn for conduct of various types of events, through the Treasurer and the respective Secretary/s.

Eligibility for a General Secretary Candidate:

The Candidate must be in the pre-final year of their course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Planning: 3rd Year; 6th Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

III. Vice President (2 members):

3.1. Discuss all co-curricular, cultural, and sports related matters, including events starting but not limited to the celebration of events or proposal of workshops to student grievances should be discussed with the Vice Presidents.

3.2. The Vice President should look into:

(a) Advising Students/aggrieved Students if any, in co-curricular, and cultural matters.

(b) Automation of Minutes of Meetings and other important documentation in the Student Council meetings.

3.3. They shall work with:

(a) The President on matters listed above.

(b) The Faculty in-Charge of Student Activity of the Institute regarding the annual events of the Institute and other Cultural Events organised by students.

(c) FIC-Alumni and Alumni Association

3.4. They shall prepare a record of the contributions made by students during the year related to matters listed above.

Eligibility for Vice President I candidate:

The Candidate must be in an Undergraduate Course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Architecture: 2nd Year; 4th Semester
3. Bachelor of Planning: 3rd Year; 6th Semester
4. Bachelor of Planning: 2nd Year; 4th Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

Eligibility for Vice President II candidate:

The Candidate must be in the pre-final year of their Post-Graduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 1st Year; 2nd Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

IV. Cultural Secretary (2 members):

- 4.1. The Culture Secretaries shall promote and address Arts, Cultural & literary skills, including:
- 4.1.1. Music, Dance, Art, Theatre, Photography, Literature, etc.
- 4.2. Plan a schedule of Arts & Cultural activities to be held during the next year along with budgetary requirements and present the same to the Treasurer, General Secretary and President.
- 4.3. Can call meetings with Club Secretaries regarding any cultural or co-curricular activities. The Club Secretaries must be informed about the same at least 48 hours in advance with agenda presented to the Secretaries at least 24 hours in advance unless emergent.
- 4.4. Required to convene all meetings with Club Secretaries.
- 4.5. Consult the Dean of Student Affairs, the Cultural Coordinator and other relevant authority of the Institute on all matters related to cultural activities of students.
- 4.6. The Cultural Secretaries shall work with:
- (a) The President on all matters listed in 4.1.1, and
 - (b) The Faculty in-charge, Student Activities of the Institute regarding the annual events of the Institute, in the Cultural and Literary Domain.
- 4.8. The Cultural Secretaries shall analyse the situation periodically related to matters listed in 4.1.1 and generate an agenda for the next meeting of the Student's Council.

Eligibility for Cultural Secretary I Candidate:

The Candidate must be in the pre-final year of their Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Planning: 3rd Year; 6th Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

Eligibility for a Cultural Secretary II Candidate:

The Candidate must be in the pre-final year of their Post-Graduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 1st Year; 2nd Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

V. Literary Secretary:

5.1. Literary Secretary shall be the Editor-in-Chief of Chhaya (Annual Student Magazine) and head of Club Aaira.

5.2. The Literary Secretary shall plan a schedule of the release of the Annual Student Magazine; Chhaya along with budgetary requirements and present the same to the General Secretary

5.3. The Literary Secretary is required to coordinate all events relating to Club Aaira as well as coordinate with the Cultural Committee on various events for Fests held within the Institute.

5.4. Consult the Faculty in-Charge Club Aaira, Faculty in-Charge Cultural Committee, Dean Student Affairs and other relevant authority of the Institute on all matters related to the functioning of the Club.

5.5. The Literary Secretary shall present the Accounts of all expenditure related to Chhaya or any other club related activities of students, to the Treasurer, General Secretary and President.

5.6. The Literary Secretary shall work with:

- (a) The President on all matters listed in 4.1.1, and
- (b) The Faculty in-charge, Student Activities of the Institute regarding the annual events of the Institute, in the Cultural and Literary Domain.

Eligibility for a Literary Secretary Candidate:

The Candidate must be in the pre-final year of their Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

- 1. Bachelor of Architecture: 4th Year; 8th Semester
- 2. Bachelor of Planning: 3rd Year; 6th Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

- 1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
- 2. Ragging
- 3. Any form of substance abuse that invites expulsion from the Hostel
- 4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

VI. Treasurer (1 member):

- 6.1. Handle and allocate funds for cultural, co-curricular, various institutional events like conventions, expo, exhibition, etc.
- 6.2. Fund allocation of different activities. The signing authority for releasing funds will be Treasurer, President and Dean of Student Affairs.
- 6.3. Oversee financial expenditure and report monthly to the President and Student Council (preferably before any event). The Report is expected once a month and before any cultural or conventional event of the Institute.
- 6.4. Collaborate with the Public Relations Secretary on approaching individuals for workshops, budgeting for vendors, equipment and compare the vendor quotations.
- 6.5. Convene meetings with the Sports and Cultural Secretary as and when required to discuss the budget related to various events concerning the Sports and Cultural Council.
- 6.6. Request the disclosure of the purpose and allocation of any funds collected by the Institute from the students through due process as described in the Constitution of the Student Council.

Eligibility for Treasurer Candidate:

The Candidate must be in the pre-final year of their Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Planning: 3rd Year; 6th Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

VII. Secretary for Public Relations (1 member):

7.1. Ensure that clear and timely information of events is disclosed to the Student Council and General Student Body at least 3 weeks before the event unless the event is founded in an emergent case.

7.2. Manage PR activities within the Institute including publicity posters, social media presence and coordinate with other institutes.

7.3. Ensure that the system of seeking and receiving sponsorships has no obligation whatsoever to the Institute (including Student Council). They are required to report the collection of these funds to the President and Treasurer.

7.4. Work with the President and Treasurer to decide and conclude proper allocation of sponsor funds to a given event.

7.5. Publicise intra and inter-Institute events, assist in Press Meets, etc. They are required to work with the Cultural Council to manage the publicity of any event.

7.6. Work with the Sports Secretary, Cultural Secretary and Treasurer to manage and coordinate getting quotations from multiple vendors to decide the best possible price and vendor for any event concerning the Sports Council and Cultural Council.

Eligibility for a Secretary for Public Relations Candidate:

The Candidate must be in the pre-final year of their degree at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 1st Year; 2nd Semester
2. Bachelor of Architecture: 4th Year; 8th Semester
3. Bachelor of Planning: 3rd Year; 6th Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

VIII. Hostel & Mess Secretary (2 members):

- 8.1. Address matters related to Hostel and Mess every 2 weeks and present the conclusions of the same to the Council.
- 8.2. Conduct monthly meetings with hostellers for feedback regarding the functioning of the hostel and mess.
- 8.3. Work and report to the President any recommendations that are suggested by them or concluded through meetings of the Hostel & Mess Committee.
- 8.4. Report untoward instances if any, to the Wardens and Student Welfare Secretary or to the Student Grievance Cell in case of any extreme scenario.
- 8.5. Coordinate all mess related matters concerning the General Body of Students.
- 8.6. Present all monthly meeting minutes to the President.
- 8.7. Work in tandem with the Treasurer to ensure transparency in the expenditure of the mess vis-a-vis mess fee
- 8.8. Convene meetings of Hostel & Mess Committee with prior notice and to recommend solution to any problem/s or suggest menu changes from time to time if requested by students in majority, in the General Body Meeting.

Eligibility for a Hostel & Mess Secretary I Candidate:

The Candidate must be in an Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Architecture: 2nd Year; 4th Semester
3. Bachelor of Planning: 3rd Year; 6th Semester
4. Bachelor of Planning: 2nd Year; 4th Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

Eligibility for a Hostel & Mess Secretary II Candidate:

The Candidate must be in the pre-final year of their Post-Graduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 1st Year; 2nd Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

IX. Sports Secretary (2 members):

9.1. Promote and address sports and games among students, including:

9.1.1.

- (a) Intra-Institute Events
- (b) Inter-Departmental Events
- (c) Inter-Hostel Events,
- (d) Inter-SPA Sports Meet

9.2. Provide support to the Institute on matters related to sports and work with the Faculty in-charge, Sports of the Institute to liaison with external agencies regarding matters related to sports and games.

9.3. Organise activities listed in 9.1.1. through the various in their smooth functioning and plan a schedule for the list of activities to be held throughout each semester.

9.4. Work with various Cultural Event Organisers within the Institute to accommodate, schedule and organise the games and sports related events of the respective event.

9.5. Convene all meetings with the Sports Council.

9.6. Be the point of communication between the Sports Committee and the Treasurer for provision of any equipment that is required and to discuss the budget for any upcoming Sports Event.

Eligibility for Sports Secretary I Candidate:

The Candidate must be in an Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Architecture: 2nd Year; 4th Semester
3. Bachelor of Planning: 3rd Year; 6th Semester
4. Bachelor of Planning: 2nd Year; 4th Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

Eligibility for Sports Secretary II Candidate:

The Candidate must be in the pre-final year of their Post-Graduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 1st Year; 2nd Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

X. Student Welfare Secretary (2 members)

10.1. Look after the overall positive mental-health and well-being of the students and they shall be the overall coordinator between students and various Cells of the Institute.

10.2. Address any grievance of students related to Verbal/Physical/ Sexual/ Mental abuse against any student of SPAV. However, for academic grievances, individual student/s can seek redressal through proper channel (order of preference: subject teacher, studio coordinator, mentor, programme coordinator, Head of the Department concerned, Dean Academic, Director)

10.3. Report all the cases to the Student Grievance committee. Aggrieved students can take them as their first point of contact or can directly report to the Student Grievance Committee.

10.4. Be part of the personal hearings conducted by the Student Grievance Committee provided that the aggrieved student or Grievance Cell head doesn't object.

10.5. Abide to full confidentiality of matters being discussed in any proceedings, through mail or while discussing with aggrieved students.

10.6. Not abiding to 10.5, they will immediately be removed from the position and a strict disciplinary action handled by the Disciplinary Committee will be taken against them.

10.7. They shall be the student representative of all student welfare related matters and will be an invitee based on the need, on decision making committees including but not limited to Disciplinary Committee meetings regarding any student. In these matters, the Student Welfare Secretary can be a witness in defence of the student (with the student's permission) and shall be allowed to advise and question Disciplinary Committee decisions if deemed necessary.

10.8. They shall work with the President and Faculty In-charge, and various Cells in all works directed for Student Welfare.

Eligibility for a Student Welfare Secretary I Candidate:

The Candidate for Student Welfare Secretary I must be a **Female Candidate**.

The Candidate must be in the pre-final year of their course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 1st Year; 2nd Semester
2. Bachelor of Architecture: 4th Year; 8th Semester
3. Bachelor of Planning: 3rd Year; 6th Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

Eligibility for a Student Welfare Secretary II Candidate:

The Candidate for Student Welfare Secretary II must be a **Male Candidate**.

The Candidate must be in the pre-final year of their course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Planning: 3rd Year; 6th Semester
3. Master's Degree candidate: 1st Year; 2nd Semester

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

Eligibility for various Positions in the Short Term Student Council is as follows:

General Eligibility Criteria:

The Candidate should not have attracted any disciplinary actions for actions which include:

1. Violating Hostel Rules and Regulations leading to expulsion from the Hostel
2. Ragging
3. Any form of substance abuse that invites expulsion from the Hostel
4. Cheating / adopting unfair means in any way or form during examinations (internal or end-semester)

Should they attract any such action during the elections or during the tenure in the council, the candidate is liable to be declared ineligible to contest for the post / to be removed from the candidacy/post.

The Candidate should not have any pending backlogs for any subject at the time of nomination for Student Council Elections.

The Candidate should not have any pending dues towards the Institute at the time of nomination for Student Council Elections.

The candidate should not have been declared ineligible to appear for the regular exams in any subject/s due to shortage of attendance and/or shortage of Internal Marks in the preceding two semesters at the time of nomination for Student Council Elections.

Eligibility for a Presidential Candidate:

The Candidate must be in the final year of their course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 5th Year; 9th Semester
2. Bachelor of Planning: 4th Year; 7th Semester

Eligibility for a General Secretary Candidate:

The Candidate must be in the final year of their course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 5th Year; 9th Semester
2. Bachelor of Planning: 4th Year; 7th Semester

Eligibility for a Vice Presidential I Candidate:

The Candidate must be in the final year of their Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 5th Year; 9th Semester
2. Bachelor of Architecture: 3rd Year; 5th Semester
3. Bachelor of Planning: 4th Year; 7th Semester
4. Bachelor of Planning: 3rd Year; 5th Semester

Eligibility for a Vice Presidential II Candidate:

The Candidate must be in the final year of their Post-Graduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 2nd Year; 3rd Semester

Eligibility for a Cultural Secretary I Candidate:

The Candidate must be in the final year of their Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows

1. Bachelor of Architecture: 5th Year; 9th Semester
2. Bachelor of Planning: 4th Year; 7th Semester

Eligibility for a Cultural Secretary II Candidate:

The Candidate must be in the final year of their Post-Graduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 2nd Year; 3rd Semester

Eligibility for a Literary Secretary Candidate:

The Candidate must be in the final year of their Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows

1. Bachelor of Architecture: 5th Year; 9th Semester
2. Bachelor of Planning: 4th Year; 7th Semester

Eligibility for a Treasurer Candidate:

The Candidate must be in the final year of their Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows

1. Bachelor of Architecture: 5th Year; 9th Semester
2. Bachelor of Planning: 4th Year; 7th Semester

Eligibility for Secretary of Public Relations Candidate:

The Candidate must be in the final year of their course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 2nd Year; 3rd Semester
2. Bachelor of Architecture: 5th Year; 9th Semester
3. Bachelor of Planning: 4th Year; 7th Semester

Eligibility for Hostel and Mess Secretary I Candidate:

The Candidate must be in the final year of their Post-Graduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 2nd Year; 3rd Semester

Eligibility for Hostel and Mess Secretary II Candidate:

The Candidate must be in an Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 5th Year; 9th Semester
2. Bachelor of Architecture: 3rd Year; 5th Semester
3. Bachelor of Planning: 4th Year; 7th Semester
4. Bachelor of Planning: 3rd Year; 5th Semester

Eligibility of Sports Secretary I Candidate:

The Candidate must be in the final year of their Post-Graduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Master's Degree candidate: 2nd Year; 3rd Semester

Eligibility of Sports Secretary II Candidate:

The Candidate must be in an Undergraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 5th Year; 9th Semester
2. Bachelor of Architecture: 3rd Year; 5th Semester
3. Bachelor of Planning: 4th Year; 7th Semester
4. Bachelor of Planning: 3rd Year; 5th Semester

Eligibility for a Student Welfare Secretary I Candidate:

The Candidate for Student Welfare Secretary I must be a **Female Candidate**.

The Candidate must be in the final year of their Undergraduate or Postgraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Planning: 3rd Year; 6th Semester
3. Master's Degree candidate: 1st Year; 2nd Semester

Eligibility for a Student Welfare Secretary II Candidate:

The Candidate for Student Welfare Secretary I must be a **Male Candidate**.

The Candidate must be in the final year of their Undergraduate or Postgraduate course at the time of Student Council Elections.

The criteria for qualification is as follows:

1. Bachelor of Architecture: 4th Year; 8th Semester
2. Bachelor of Planning: 3rd Year; 6th Semester
3. Master's Degree candidate: 1st Year; 2nd Semester



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24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

Annexure – VIII:
Faculty and Students achievements



Achievements after NEP 2020 at SPA Vijayawada

At the SPA Vijayawada, several initiatives were taken till date, demonstrating Institute's encouragement of endeavours of students and faculty. This lead to mark a visible and meaningful outreach, network and share its knowledge and research activities, particularly in terms of enablement of NEP 2020. This report presents some of the said milestones under various sections below:

1. Implementation of NEP Enabled Academic Ordinances 2023:

In order to streamline and synchronize SPAV's academic regulations with the ideologies of NEP 2020, the Senate of SPAV, approved in its 15th Senate Meeting, the following:

- **"Volume I - Academic Ordinances for Doctoral (PhD) programmes (Rules and Regulations) at SPA Vijayawada 2023"**
- **"Volume II - Academic Ordinances for UG and PG programmes (Rules and Regulations) at SPA Vijayawada 2023"**

These two Academic Regulations are in force, and has various interesting and notable academic features which are aligned with NEP and are exemplary in many aspects in the field of Planning and Architectural education in the country. Some of the salient features of this Academic Regulations 2023 (Vol I and II), as approved by the Senate SPAV are:

a) Multiple Entry and Exit Points

- i. The idea is to allow students with hardships or pressing economic and family needs, or with unavoidable circumstances to be able to exit with a technical diploma and work for a while and thereafter, return to the alma mater within a deadline in case situation improves and the student wishes to complete the degree.
- ii. SPAV has already implemented and awarded PG Diploma in Sustainable Architecture after 1 year exit in 2024 and B.BSc after 3 years exit
- iii. SPAV has also implemented re-entry into UG and PG programmes 2024 after eligible gap as per revised Ordinance

<https://spav.ac.in/2024/pdf/NEP%20Enablement%20at%20SPAV%202024.pdf>

b) Credits Transfer (SWAYAM / MOOC)

- i. The idea is to allow students to experience courses which his/her Department/University is yet to offer Introduce students to the technology trends in terms of the latest. Students can reach out to MOOC and other renowned subjects with specific specialisations and niche focuses as offered by universities anywhere (online mode) to gain such specialised subject knowledge, which may not be directly available in the curriculum of SPAV presently.
- ii. SPAV has enabled students to take courses from other universities and SWAYAM as electives, and also made provisions for self-directed courses (at PhD level). All these



are under implementation. Over 200 students from various programmes of Planning and over 150 students from various programmes of Architecture have enrolled for such courses this semester. **For details, see Annexure at the end of this document.**

<https://spav.ac.in/2024/pdf/NEP%20Enablement%20at%20SPAV%202024.pdf>

c) Multi disciplinary academic engagement

The academic curriculum of SPA Vijayawada comprises of Electives viz., skill enhancement, domain specific and open electives, alongside the compulsory courses in UG, PG and PhD alike. Thus, Students of the Department of Planning and Department of Architecture pursue Electives across the Departments, paving way to knowledge acquisition, harmonious learning and multidisciplinary pedagogic enrichment.

d) Executive Development Programmes - Skill Development & Short-Term Certification

The idea is to extend out campus and learning experience as a platform for working professionals and mid-career executives for capacity building and augmenting of knowledge of latest tools and techniques. The Executive Development Programmes (EDPs) are offered during the evenings for duration 6-7 days in a hands-on-mode, resulting in a, EDP certificate.

Skill Development Programmes (SDP) are aimed at more basic and rudimentary skills training. The idea here to impart basics of surveying, drafting, carpentry and interiors related to Architecture and Planning fields to students from under-privileged background with Std XII or Std X, leading to industry driven certifications. The SDPs are offered during the evenings for duration 15 days in a hands-on-mode, resulting in an SDP certificate.

SPAV has conducted 06 EDPs aimed at working professionals in mid-career for capacity building and has trained over 150 professionals on aspects of Transportation, Data Analytics, Site Planning, Energy Efficient Design, etc.

e) Wider Eligibility and Professional Network for Admissions

The idea is to open up the research atmosphere in the campus and allow entry of wider multi-disciplinary researchers with a motive and commitment to undertake research. It is also to encourage eminent professionals and government officials of mid-career range to enter into research even if they didn't have opportunity to complete Masters in the past. All this is done carefully without compromising academic requirements and standards.

f) Zero Year & Accelerated High End Research Output

The atmosphere of teaching learning has not been kept restrictive and regimental with an attempt to understand and encourage humanitarian approaches. Leaves and breaks in study with can be sanctioned for unforeseen/extraordinary circumstances viz. maternity, child-care, prolonged illness or accident, death or critical illness have been introduced.



2. Design and Innovation Centre (DIC) – IPR and Innovation Portfolio 2026

Where Innovations are Nurtured and Evolved into Valuable Intellectual Property

- a) Design and Innovation Centre (DIC) at SPA *Vijayawada* is a hub of developing, encouraging and showcasing the academic, research and consultancy works undertaken toward recognition of the stakeholders and institute at large. Several IPRs published and many are under examination, which signify Interdisciplinary innovation across domains, fuelled by Strong *Faculty:Student' collaboration*
- b) Key milestones achieved (and are continuing) are:
 - 44 Patents (leading to 100 contributions as a team) Published across diverse engineering and technology domains, demonstrating strong research output. The 44 published patents are spread across varied fields of innovation with 4 in Biomedical Engineering; 9 in Mechanical Engineering ;16 in Computer Science; 10 in Physics; 2 in Electronics; 2 in Civil Engineering; and 1 in Electrical Engineering
 - 5 Designs Creative and industrial design innovations formally registered for legal protection.
 - 1 Copyright Original creative work protected under copyright law, completing the IPR spectrum.

<https://www.spav.ac.in/dic.php>

3. Recognition of SPA Vijayawada as one of the 06 'AMRUT Funded Centre of Urban Planning for Capacity Building'

Centre Head: Prof. Dr. Ayon K Tarafdar; Director: Prof. Dr. Ramesh Srikonda

- a) Pursuant to the letter received from the Ministry of Housing and Urban Affairs (AMRUT Division) Government of India, dated 15th Sept, 2022 (with Ref No. I59/2008/TCPO-MUT(373)/AMRUT-IIA) from the Under Secy. to the Govt. of India, requesting for proposals, SPA Vijayawada had formulated a project team with multidisciplinary experts and submitted a detailed proposal for setting up a Centre for Excellence in Urban Planning.
- b) Subsequently, a letter was received on June 06, 2024 (with Ref No. K14011/6/2024-AMRUT-IIA from the Under Secy. to the Govt. of India), giving recognition to SPA Vijayawada as one of the 06 Institutes in India to be developed as "AMRUT Funded Centres of Urban Planning for Capacity Building (A-CUPCB)".
- c) Accordingly, SPAV and AMRUT division of MoHUA, GoI has signed a detailed MoU on 20.09.2024, which specifies regulations and conditions for utilisation of the funds amongst others.
- d) This enables the Institution to have multi-disciplinary research that is contextual and need based.

Targeted Urban Research - (TUR)

(sub-city scale with basic urban research leading to broader approaches and methodologies / 8 months)

There are 03 such smaller scale projects envisaged, which identifies a specific issue or challenge or problem at the sub-city level, and investigates deeply into the issues in terms of its potential causes and repercussions and leads to suggestions which can serve as advisory to Urban Local Bodies during framing or Master Plan of Annual Budget or their routine operations.



Such projects shall be of a lower expenditure sanction and shall be of duration of about 06-08 months each, so that within first year four directions are prepared by the Centre.

City Specific Applied Research Project - (CAR)

(city scale with solution-oriented urban research / 10 months)

There are 02 such projects taken up, which identifies a specific issue or challenge or problem or potential in a city level scale, and works out a practical scientific and innovative solution for the same, which can be adopted by the ULB for implementation.

Such projects shall be of a higher expenditure sanction and shall be of duration of about 10 months each, so that within the first year two workable solutions for two cities are prepared by the Centre.

Advocacy Research Projects

The A-CUPCB-SPAV plays a significant and prominent role in liaison-ing with the local government in Southern India to provide technical advocacy, justifications for policy making, for evaluation of schemes, programmes and for setting benchmarks in urban planning and design projects.

Some of the Projects are as under:

PROJECT CODE	PROJECT TITLE	DURATION	CASE AREA / ULB
	Completed Projects		
TUR_24_01	Canopy Layer UHI Mitigation Strategies for Hotspots Using Local Climate Zones in Hyderabad	06.12.2024 to 08.10.2025	Hyderabad, Telangana
TUR_24_02	Operational Plan for VIP Vehicular Movement in Vijayawada	06.12.2024 to 08.10.2025	Vijayawada, Andhra Pradesh
TUR_24_03	Urban Blue-Green Infrastructure (BGI) for Enhanced Resilience Towards Urban Flooding	06.12.2024 to 08.10.2025	Machilipatnam, Andhra Pradesh
CAR_24_01	Development of Low Emission Zone (LEZ) in Old Core City Areas. A Case of Vijayawada City	06.12.2024 to 05.01.2026	Vijayawada, Andhra Pradesh
CAR_24_02	Energy Efficiency Considerations in the Zoning Regulations of A City- A Study Of Tirupati	06.12.2024 to 05.01.2026	Tirupati, Andhra Pradesh
	Ongoing Projects		
CAR_24_02	Energy Efficiency Considerations in the Zoning Regulations of A City- A Study Of Tirupati	06.12.2024 to 05.01.2026	Tirupati, Andhra Pradesh
	Advocacy Research Projects		
ADVR_25_01	Back Lane/ Conservancy Lane Improvement under Smart City Mission – An Appraisal and Impact Assessment. Case studies of Jabalpur, Shivamogga and Jaipur.	06 Months	
ADVR_25_02	White Paper Document on Applicability of Land Value Capture Methods in Indian ULBs	09 Months	
ADVR_25_03	Urban Mobility Challenges and Solutions: Addressing Congestion and Public Transport	04 Months	
	EDP, FDP and Capacity Building		(Theme)
EDP_25_04	Executive Development Programme (EDP) Upto 4 days	16.03.2026 to 19.03.2026	Coastal Resilience Planning and Management



PROJECT CODE	PROJECT TITLE	DURATION	CASE AREA / ULB
EDP_25_05	Executive Development Programme (EDP) Upto 4 days	09.02.2026 to 12.02.2026	Project Management Techniques in Urban Planning
EDP_25_01	Executive Development Programme (EDP) Upto 4 days	29.10.2025 to 31.10.2025	Traffic Management and Simulation Techniques for Transport Planning
CBP_25_01	Capacity Building Programme (CBP) Upto 7 days	10.11.2025 to 15.11.2025	Building Coastal Disaster Resilience: R3 Strategies for Flood and Heat Stress
EDP_25_02	Executive Development Programme (EDP) Upto 4 days	11.12.2025 to 13.12.2025	Application of Geospatial Techniques for Spatial Planning
EDP_24_01	Executive Development Programmes (EDPs) – I (1-4 Days)	16.01.2025 to 18.01.2025	Project Management Techniques for Urban Planning
EDP_24_02	Executive Development Programmes (EDPs) – II (1-4 Days)	22.01.2025 to 25.01.2025	Coastal Resilience Planning and Management
CBP_24_01	Capacity Building & Skill Enhancement Program – I (5-7 Days)	06.02.2025 to 10.02.2025	Climate Actions for Local Area Planning: Combating Heat Extremes

<https://acupcb.spav.ac.in/>

4. Student Exchange with Ecole Bleue University France

- In order to operationalise the MoU between SPAV and the Ecole Bleue University France, a roadmap has been worked out with Ecole Bleue for student exchange at UG level (B.Arch/B.Planning) in the first semester of every academic year.
- In the academic year 2025-26, two Students for Global School of Design of this University will be undergoing one full Semester to pursue chosen courses of PG program in Architecture.
- The visiting IV and V Year students shall undertake 18 European credits at Ecole Bleue between October - Mid January as part of the Exchange programme while completing the rest of the 12 credits of theory at SPAV.
- The Senate has approved that the courses taken at Ecole Bleue will be deemed as equivalent to Studio and Dissertation of SPAV, after careful deliberations. This is aimed at International Exposure and the additional credits earned (if any) at Ecole Bleue would be reflected in the marksheets.

<https://www.spav.ac.in/mous.php>



5. Induction of Indian Knowledge System into the Academic Structure at SPAV

- Core Coursework: SPAV offers specialized subject MURP2118:Indian Knowledge Systems as part of its PG program M.Planning (Urban and Regional Planning). This course covers ancient Indian texts, socio-cultural spatial planning, geopolitics, and traditional resource management.
- Studio Projects: B.Arch and M.Plan studios frequently require students to study vernacular architecture, indigenous building materials, and historic conservation.
- Research & Conferences: SPAV regularly hosts conferences on techno-traditional Indian knowledge systems, with past events specifically focusing on eco-sensitive coastal settlement planning in collaboration with the Institute of Town Planners, India (ITPI).
- Electives: Students can take non-graded audit courses and electives linked to traditional practices, including heritage management and cultural landscape studies.
- All PG syllabii at SPAV has been re-vamped in May 2024 with the intention of making them industry smart, bringing in the latest in the market in terms of tools and techniques and also with the intention of having traditional knowledge systems inculcated into each syllabus and lecture plan.
- Every semester, in majority of subjects taught, teachers shall be addressing the aspects of what is indigenous, vernacular and a part of the Indian Knowledge system in the theme being taught.
<https://spav.ac.in/2025/pdf/MURP%20course%20Structure%20and%20Detailed%20syllabus.A.Y%202024-2025.pdf>
<https://www.spav.ac.in/2024/pdf/NEP%20Enablement%20at%20SPAV%202024.pdf>

6. Submission of Closure Report for SPAV Project Mode

SPAV has submitted its closure report to the Ministry of Education, GoI to come out of the project mode since the construction and completion and start of its new campus of 10 acre at the heart of Vijayawada. It has completed all tasks of constructions and building works for the 02 PhD programs (covering 04 study domains), 09 PG programs, 02 UG programs. However, it requires space for growing students intake and accommodation for students and staff. This has been looked into through detailed studies to evolve a new DPR 2025-2030.

7. DPR 2025-2030 preparation

SPAV has recently prepared its Draft Project Report for 2025-2030 indicating its requirements for expansion of academic activities in line with NEP 2020 and also to embark on a path of growth of excellence in the domain of Architecture and Planning. In this DPR 2023, space requirements, the start of new inter-disciplinary course, the requirement of faculty, funds and infrastructure has been projected with a vision and action plan in place. The same has been placed in FC and BoG recently.

8. Grassroots-oriented projects that enable learning process of students

The faculty and students have trodden upon a path towards applied research with local governments to make education relevant and contextual. Some of the projects it is presently undertaking are -



- a) SAAR Smart City Project Recognition by MoHUA, Govt of India
- b) Gram Panchayat Spatial Development Plan - Project recognition by MoPR, Govt of India
- c) Polavaram Resettlement Plan
- d) Projects with the Dept of Tourism, Govt of AP
- e) Regional Plan Preparation Projects with Govt of Tamil Nadu

9. Research

The Faculty and Students of SPA Vijayawada have published over 250 Research papers at International and National Conferences during the last five years. The papers may comprise of outcomes from the ongoing academic activities as well as from the areas of research interest of the Faculty members from time to time. This is in addition to publication of research papers in refereed journals and of chapters in books by reputed publication houses. These activities are often partnered between faculty and Students across different institutions as well.

10. Other Achievements

- a) The National Association of Students of Architecture (NASA, India) is the largest architectural student body in the world with over 400 colleges imparting architectural education. School of Planning and Architecture, Vijayawada, has secured 2nd Place in the overall NASA ranking among 300+ recognised institutions nationally.
- b) The National Organisation of Students of Planning (NOSPLAN) is the pivotal body for Planning students in India. School of Planning and Architecture, Vijayawada participated in the 26th Annual NOSPLAN Convention and secured 1st place, keeping up its best performance year-on-year.
- c) Prof. Dr. Iyer Vijayalaxmi Kasinath received the prestigious National Award for Teachers in 2025 (in the Higher Education Institutions category), which was presented by the Honourable President of India. This is in recognition for her work as a Senior Professor of Architecture at the School of Planning and Architecture, Vijayawada.
- d) Over 600 special lectures and industry expert interactions facilitated in SPAV campus in the last five years semester.
- e) Institute Innovation Council initiated over 50 events and competitions that are oriented towards innovation and entrepreneurship.
- f) Faculty have been invited in over 100 instances to various prestigious juries, committees, advisories and selections across India.
- g) Over 300 workshops and seminars in niche areas have been conducted.

<https://www.spav.ac.in/achivements.php>



Annexure I.

List of Swayam Course registered by Students of Planning in Aug-Dec 2025 Semester

Department of Planning

Swayam Courses-Registration

B.Plan I Year, II Semester, Even Semester, AY 2025-26

S.No	Registration Number	Name of the Student	Name the Course Registered	Duration
1	2250200446	A N Eswar Advait	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
2	2250200447	Aasritha Velati	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	15 weekts
3	2250200448	Akash Maharathi	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	15 weekts
4	2250200449	Amarnath Gangadharan	Cultural Tourism In India (Anu)	15 weekts
5	2250200450	Anu Ranjani S	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks 12 weeks
6	2250200451	Anurag Behara	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	
7	2250200452	Anurag Chakraborty	Academic Writing	12 weeks
8	2250200453	Aparna Anil	Supply Chain Management	12 weeks
9	2250200454	Aryan Yatin Shirali	1.Basics Of Remote Sensing And Gis And Global Navigation Satellite System 2. Social Policy And Planning	
10	2250200455	Ashin Tom Baiju	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
11	2250200456	Bachali Shini Sri	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
12	2250200459	Devika R	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
13	2250200460	Easwary Sooraj Kumar Nair	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
14	2250200461	Fathima Fasmin	Academic Writing	12 weeks
15	2250200462	Gnss Bhramarambika	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
16	2250200463	Hannah Alagu Chellappan	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
17	2250200464	Kalabathula Manogna	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
18	2250200465	Keerthana Ms	Environmental Economics	15 weekts



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19	2250200466	Kommalapati Likhitha	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
20	2250200467	Muni Shyam Kumar	Cultural Tourism In India (Anu)	12 weeks
21	2250200468	Nalluri Pavan Kumar Chowdari	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
22	2250200469	Naveen Balaji Mr	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
23	2250200470	Naveen Kushwaha	1. Supply Chain Mangemnet 2.Basics Of Remote Sensing And Gis And Global Navigation Satelllite System	12 weeks
24	2250200471	Palakurti Tejaswini	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
25	2250200472	Potta Keerthana	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
26	2250200473	Reuben Reiner Mawlong S	Cultural Tourism In India (Anu)	12 weeks
27	2250200474	Sulaiman M	1. Supply Chain Mangemnet 2.Basics Of Remote Sensing And Gis And Global Navigation Satelllite System	12 weeks
28	2250200475	Sweekar Amboth	Academic Writing	12 weeks
29	2250200476	Tarunika Raja	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
30	2250200477	Udaiyar Gokul Sambath	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
31	2250200478	Maruthi Sreerama Naidu	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks
32	2250200479	Varre Shyam Anjani	Social Policy And Planning , Academic Writing	12 weeks
33	2250200480	Viruri Yoga Sresta	Cultural Tourism In India (Anu)	12 weeks
34	2250200481	Wadibhasme Varsha Raju	Basics Of Remote Sensing And Gis And Global Navigation Satellite System	12 weeks



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B.Plan II Year, IV Semester, Even Semester, AY 2025-26

S.No	Registration Number	Name Of The Student	Name The Course Registered	Duration
1	2240200417	A Pushparang	Urban Informatics	12 Weeks
2	2240200418	Akshaya R	Social Policy And Basics Of Remote Sensing	15 Weekts
3	2240200419	Arjun K Raveendran	Social Policy And Basics Of Remote Sensing	15 Weekts
4	2240200420	Chokarappu Sahithi	Mgpe-011: Human Security	15 Weekts
5	2240200422	Gulshan Farah Shaik	Social Policy And Planning	12 Weeks 12 Weeks
6	2240200423	Guruju Hem Sai	Social Policy And Planning	
7	2240200424	Harsita Kumari Sabar	Basics Of Remote Sensing, Gis And Gnss And It's Applications	12 Weeks
8	2240200425	Jay Khajuria	Social Policy And Basics Of Remote Sensing	12 Weeks
9	2240200426	Jeyasuriya D	Social Policy And Basics Of Remote Sensing	
10	2240200427	Katherine Christy J	Social Policy And Basics Of Remote Sensing	12 Weeks
11	2240200428	Keerthana N	Social Policy And Basics Of Remote Sensing	12 Weeks
12	2240200429	Kingston B	Social Policy And Planning	12 Weeks
13	2240200430	Lohithyasarmitha A	Social Policy And Planning	12 Weeks
14	2240200431	Lubin Kumar Jangam	Social Policy And Planning	12 Weeks
15	2240200432	Madhanraj M	Social Policy And Basics Of Remote Sensing	12 Weeks
16	2240200433	Mokshith K V	Social Policy And Basics Of Remote Sensing	12 Weeks
17	2240200434	Muttamatam Venkata Sai	Introduction To Land Governance	12 Weeks
18	2240200435	Nishchinth N U	Social Policy And Basics Of Remote Sensing	15 Weekts
19	2240200436	P Greeshma Nandini	Basics Of Remote Sensing, Gis And Gnss And It's Applications	12 Weeks
20	2240200437	Pechetti Yash Narendra	Environmental Planning	12 Weeks
21	2240200438	Prajwal Malipatil	Basics Of Remote Sensing, Gis And Gnss And It's Applications	12 Weeks
22	2240200439	Pranav Seshadri V	Social Policy And Basics Of Remote Sensing	12 Weeks



23	2240200440	Rehan Ali Khan	Remote Sensing And Social Policy	12 Weeks
24	2240200441	Rituja Gudla	Urban Informatics	12 Weeks
25	2240200442	S Sri Vaishnavi	Disaster Recovery And Build Back Better	12 Weeks
26	2240200443	Sneha Prasad	Basics Of Remote Sensing, Gis And Gnss And It's Applications	12 Weeks
27	2240200444	Tamanna Kamal	Social Policy And Basics Of Remote Sensing	12 Weeks
28	2240200445	Yashaswi Ekka	Social Policy And Basics Of Remote Sensing	12 Weeks

B.Plan III Year, VI Semester, Odd Semester, AY 2024-25

S.No	Registration Number	Name of the Student	Name the Course Registered	Duration	APAAR/ABC No.
1	2230200384	Adithya N	Disaster Recovery And Build Back Better	12 Weeks	814827295869
2	2230200385	Advaidd M Binu	Cultural Tourism In India	15 Weekts	693232690858
3	2230200386	Anupam Krishna	Cultural Tourism In India	15 Weekts	600812887284
4	2230200387	Beebi Fathima	Cultural Tourism In India	15 Weekts	818384196886
5	2230200388	Danvanth K	Environmental Economics	12 Weeks 12 Weeks	353532504092
6	2230200389	A. Faiza Babudhin	Disaster Recovery And Build Back Better		483551851513
7	2230200390	Ganesh Raja K	Cultural Tourism In India	12 Weeks	21186696130
8	2230200391	Hamsa R	Disaster Recovery And Build Back Better	12 Weeks	437363825010
9	2230200392	Harish P	Basics Of Remote Sensing, GIS & GNSS And It's Applications		193531659604
10	2230200393	Jeevitha.V	Green Urbanism	12 Weeks	332998935380
11	2230200394	K.Saravanan	Urban Transportation And Systems Planning	12 Weeks	877321305456
12	2230200395	K.Rahul		12 Weeks	305792659884
13	2230200396	Konijeti Yamini Naga Tejaswini	Cultural Tourism	12 Weeks	281641297027
14	2230200397	Krithik Abhinav A	Business Forecasting	12 Weeks	263277098411
15	2230200398	Kshitij Manjappa	Supply Chain Management	12 Weeks	904007779413



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16	2230200399	Maresh Kumar S	Disaster Recovery And Build Back Better	12 Weeks	218278690595
17	2230200400	Manish.D	Agricultural Economics	12 Weeks	339264369683
18	2230200401	Muhammed Rufaid M R	Cultural Tourism In India	15 Weekts	374696044933
19	2230200401	Muhammed Rufaid M R	Disaster Recovery And Build Back Better		
20	2230200403	Prakash Raj S	Disaster Recovery And Build Back Better	12 Weeks	326868053306
21	2230200404	PRAVIN MICHEAL S	Environmental Planning And Management	13 Weeks	808393408578
22	2230200405	Raiza Salim	Cultural Tourism In India	15 Weekts	938641221969
23	2230200406	Reshma P M	Cultural Tourism In India	12 Weeks	905488245751
24	2230200407	Sagarika Kisan	Cultural Tourism In India	12 Weeks	541772166144
25	2230200408	Sai Ajay Siddhartha Ram Perumalla	Cultural Tourism	12 Weeks	875768319804
26	2230200409	Sai Venkata Krishna Prerana Mannan	-	-	980334370232
27	2230200410	Shaunak Ghosh	Urban Informatics	12 Weeks 12 Weeks	412337489542
28	2230200411	SUDHARSHINI D N	Disaster Recovery And Build Back Better	12 Weeks	281640258509
29	2230200412	SHANVITHA		12 Weeks	538155010951
30	2230200413	T Charan Tej	Cultural Tourism In India	12 Weeks	449184858180
31	2230200414	Tejas Thanvi	Environmental Economics	12 Weeks	967232789858
32	2230200415	Vishnupriya R	Cultural Tourism	12 Weeks	591803822479
33	2220200378	Tanmoy Biswas	Social Policy And Planning	13 Weeks	



B.Plan IV Year, VIII Semester, Even Semester, AY 2025-26

S.NO	Registration Number	Name of the Student	Name the Course Registered	Duration	APAAR No.
1	2220200357	Akankshya Meher	Social Policy and Planning	15 weeks	902200233693
2	2220200358	Akash k	Basics of Remote sensing and GIS and Global navigation satellite system		912904793394
3	2220200359	Bharat Oraon	Urban Informatics	12 weeks	143024100019
4	2220200361	Madhusudhana Borra	Cultural tourism in India	12 weeks	233852016016
5	2220200362	Dhanushree N V	Social Policy and Planning	12 weeks	515581613304
6	2220200365	Ivin John	Academic Writing	13 weeks	979223932901
7	2220200365	MAHA CHOWBARNIKA J K	Social Policy and Planning	12 weeks	637279598996
8	2220200366	Likhitha Shree S R	Supply Chain Management	12 weeks	845741631792
9	2220200367	LINGAPURAM YASHASWI	Basics of Remote sensing and GIS and Global navigation satellite system	15 weeks	659835343074
10	2220200368	NAMAN AGRAWAL	Supply Chain Management	12 weeks	239447286124
11	2220200369	Nikitha S	Social Policy and Planning	12 weeks	2220200369
12	2220200370	Nunabarthi Sedhakshi	Basics of Remote sensing and GIS and Global navigation satellite system	15 weeks	636501227480
13	2220200371	pujari kista lakshmi ganesh	Basics of Remote sensing and GIS and Global navigation satellite system	12 weeks	194698989517
14	2220200372	PRAJAYAA G	Social Policy and Planning	12 weeks	633731325042
15	2220200373	Premnath	Basics of Remote sensing and GIS and Global navigation satellite system	12 weeks	683388923810
16	2220200374	Sajan S	Basics of Remote sensing and GIS and Global navigation satellite system	12 weeks	649771674053
17	2220200375	kanchumarthy Samuel jason	Social Policy and Planning	12 weeks	299190212973
18	2220200376	Shahada	Social Policy and Planning, Academic Writing, Basics of Remote	13 weeks	583924439665



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			sensing and GIS and Global navigation satellite system		
19	2220200379	THARUN MOTHIA	Basics of Remote sensing and GIS and Global navigation satellite system	12 weeks	925852057642
20	2220200380	Udangshree Rani Basumatary	Basics of Remote sensing and GIS and Global navigation satellite system	12 weeks	752931056921
21	2220200381	Vasanthapriya R	Social Policy and Planning	12 weeks	944464018947
22	2220200382	Yalala Sai Sri Manish	Social Policy and Planning	12 weeks	644127795867
23	2220200383	Yudhveer Singh	Social Policy and Planning	12 weeks	895362814381



DEPARTMENT OF PLANNING

SWAYAM COURSES

MTP II YEAR, IV SEMESTER, Even SEMESTER, A.Y 2025-26

S.No	Registration Number	Name of the Student	Name of the Course Registered	Duration of the Course	APAAR/ABC Number
1	2240600109	Anjali R	Urban Transportation Systems Planning	12 weeks	328732734051
2	2240600110	Ankit	Research methodology for planning and Architectural studies	12 weeks	660675426113
3	2240600111	Ansuman Panda	-	12 week's	953056216953
4	2240600112	Bakhamkor Massar	Research methodology for planning and Architectural studies	12 weeks	568519243091
5	2240600113	Eraboina Snigdha	Research methodology for planning and Architectural studies	12 weeks	289375826966
6	2240600115	Gaurav Jaiswal	Research methodology for planning and Architectural studies	12 weeks	73332222571
7	2240600116	Jammalamadaka Durga Sasank	Urban Transportation Systems Planning	12 WEEKS	889857467760
8	2240600117	Karthik Raja K K	Research methodology for planning and Architectural studies	12 weeks	854670862215
9	2240600118	Kasina Murali Manohar Gopi Chand	Urban Transportation Systems Planning	12 Weeks	579389217089
10	2240600119	Manan M Nirmal	Urban Informatics	12weeks	864464400227
11	2240600120	Nakka Harinandan	Climate hazards and disaster mitigation urban services planning	12 weeks	749563132256
12	2240600121	Naman Khosla	Measures of green urbanism	12 Weeks	307495030957
13	2240600122	Rachapudi Yeswanth	Climate hazards and disaster mitigation urban services planning	12 weeks	969197944241
14	2240600123	Sai Sabari M	-	12 weeks	214835105877
15	2240600124	Selvaganesh M	Environmental planning and management	12 weeks	932361214535
16	2240600125	Sudharsan R S	Environmental planning and management	12 Weeks	578516839325
17	2240600126	Vishwanath N	Urban Transportation Systems Planning	12 weeks	595863510913



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SWAYAM COURSES

MURP II YEAR III SEMESTER, ODD SEMESTER, A.Y 2024-25

S.No	Registration Number	Name of the Student	Name of the Course Registered	Duration of the Course
1	2240400216	Angela Jasil S	Climate Change - Extreme Events	12 weeks
2	2240400217	Athira Suresh	Urban Governance and Development Management (UGDM)	12 weeks
3	2240400218	Banoth Kalyani	Urban Landuse and Transportation Planning	12 weeks
4	2240400219	Bavish S	Urban Governance and Development Management (UGDM)	12 week's
5	2240400220	Chandu Sindhu	Urban Governance and Development Management (UGDM)	12 weeks
6	2240400221	Darsi Neha	Urban Landuse and Transportation Planning	12 weeks
7	2240400222	Deshpande Apoorva Chandrashekhar	Urban Governance and Development Management (UGDM)	12 weeks
8	2240400223	Gaganpreet Kour	Urban Governance and Development Management (UGDM)	12 WEEKS
9	2240400224	Jaiswar Vishal Bikramajit	Urban Governance and Development Management (UGDM)	12 weeks
10	2240400225	Muhsin M C	Urban Landuse and Transportation Planning	12 Weeks
11	2240400226	Pallampati Hari Venkata Pavan Kowshik	Urban Governance and Development Management (UGDM)	12weeks
12	2240400227	Prithvi N	Urban Governance and Development Management (UGDM)	12 weeks



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13	2240400229	Reshmi Rufus	Urban Governance and Development Management (UGDM)	12 Weeks
14	2240400230	Ritu Pundhir	Urban Governance and Development Management (UGDM)	12 weeks
15	2240400231	Sathapathi Harish	Urban Governance and Development Management (UGDM)	12 weeks
16	2240400232	Sawant Anagha Sadanand	Urban Governance and Development Management (UGDM)	12 weeks
17	2240400233	Sirra Sravani	Urban Landuse and Transportation Planning	12 Weeks
18	2240400234	Thandingpuii	Urban Governance and Development Management (UGDM)	12 weeks
19	2240400235	Thaneesha Nagalakshmi K B	Climate Change - Extreme Events	12 weeks
20	2240400236	Vuppuluri Sri Surya Himabindu	Urban Governance and development Management (UGDM)	12 week's
21	2240400237	Vydadi Siri	Urban Governance and Development Management (UGDM)	12 weeks
22	2240400216	Angela Jasil S	Urban Governance and Development Management (UGDM)	12 weeks



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SWAYAM COURSES

MEPM II YEAR III SEMESTER, Even SEMESTER, A.Y 2025-26

S.No	Registration Number	Name of the Student	Name of the Course Registered	Duration of the Course
1	2240300179	Debasmita Bhowmik	Air Pollution and Control, EIA, Climate Change - Extreme Events, Sustainable Groundwater Management	12 weeks
2	2240300180	Divyashree Gurung	Fundamentals of ecology, Non conventional energy resources, Environment and development	12 weeks
3	2240300181	Ajit kare	Air Pollution and Control, EIA, Environment and Development	12 weeks
4	2240300182	Kunta Goutami	Municipal Solid Waste Management, United Nations Sustainable Development Goals (UN SDGs), Environmental Impact Assessment	12 week's
5	2240300183	sougandhika	EIA	12 weeks
6	2240300184	Muskan Varshney	Air Pollution and Control, EIA, Climate Change and Extreme Events, Environment and Development	12 weeks
7	2240300185	N.Ishwarya	EIA, Air Pollution and Control, Urban Utilities Planning : Water supply, Sanitation and Drainage	12 weeks
8	2240300186	Neeraja	EIA, Urban Services Planning , Urban Utilities Planning	12 WEEKS
9	2240300187	Prajwal Kulkarni	EIA, Urban Services Planning	12 weeks
10	2240300188	Pratyusha Chpudhury	Geographic Information Systems, Urban Utilities Planning: Water Supply, Sanitation and Drainage	12 Weeks
11	2240300189	Jugal Singara	Air Pollution and Control, EIA, Climate Change and Extreme Events, Environment and Development	12weeks
12	2240300190	Ramya	Geographic information system, urban governance.	12 weeks
13	2240300191	Divyamshi	EIA; Urban Utilities Planning: Water Supply, Sanitation and Drainage	12 Weeks



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SWAYAM COURSES

MEPM I YEAR II SEMESTER, Even SEMESTER, A.Y 2025-26

S.No	Registration Number	Name of the Student	Name of the Course Registered	Duration of the Course
1	2250300192	A. KARNIKA	Disaster Recovery and Build Back Better	12 weeks
2	2250300193	ANOUSHKA DUTTA	Urban Ecosystem	12 weeks
3	2250300194	ARPAN BHOWMIK	Urban Ecosystem	12 weeks
4	2250300195	CHEKURI RAGHU RAMA RAJU	Environmental Impact Assessment	12 week's
5	2250300196	LAKSHITHA A	Environmental Impact Assessment	12 weeks
6	2250300197	MAJJI JAIDEEP	Applied Environmental Microbiology	12 weeks
7	2250300198	NESHA KAVYA JANAKULA	Urban Ecosystem	12 weeks
8	2250300199	NIHARIKA NAGACHANDRA NAIK	Urban Ecosystem	12 WEEKS
9	2250300200	NILANJANA PALIT	Urban Ecosystem	12 weeks
10	2250300201	P. SAI DEEKSHITH REDDY	Environmental Impact Assessment	12 Weeks
11	2250300203	SAMIKSHYA SAHU	Urban Ecosystem	12weeks
12	2250300204	SHANMUKH RAJENDRA GAIDHANE	Urban Ecosystem	12 weeks



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SWAYAM COURSES

MTP I YEAR II SEMESTER, Even SEMESTER, A.Y 2025-26

S.No	Registration Number	Name of the Student	Name of the Course Registered	Duration of the Course
1	2250600127	ABHI KARUN	Urban informatics	12 weeks
2	2250600128	ADNAN ABDULLA	Modelling and Analytics for Supply Chain Management	12 weeks
3	2250600129	AHAD ZIYAN SHAIK	Environmental impact assessment	12 weeks
4	2250600130	ARUNIMA SANTHOSH	Environmental impact assessment	12 weeks
5	2250600131	BHARGAV SAI S	Urban informatics	12 weeks
6	2250600132	GAURI VINAYAK SHELAR	Urban Services Planning	12 weeks
7	2250600133	KADAPA SATHVIKA	Urban Services Planning	12 weeks
8	2250600134	LAVANYA PANT	Environmental impact assessment	12 weeks
9	2250600135	M DIVYA	Urban Services Planning	12 weeks
10	2250600136	MANIGANDAN D	Not Enrolled	12 Weeks
11	2250600137	P BHARGAVI	Urban Services Planning	12weeks
12	2250600138	PRAMODH P	urban services planning	12 weeks
13	2250600139	PRATYUSH MOHARANA	urban services planning	12 Weeks
14	2250600140	SAMYABRATO DEY	Urban Transportation Systems Planning	12 weeks
15	2250600141	SRUSHTI B N	Urban Transportation Systems Planning	12 Weeks
16	2250600142	SWEETY MOHANTY	Urban Transportation Systems Planning	12weeks
17	2250600143	UPPADA SURESH	Urban informatics	12 weeks
18	2250600144	V HARISH RAGHAVAN	Urban Informatics	12 Weeks
19	2250600145	VENKATESH A BHOVI	Interior Design	12 weeks



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SWAYAM COURSES

MURP I YEAR II SEMESTER, Even SEMESTER, A.Y 2025-26

S.No	Registration Number	Name of the Student	Name of the Course Registered	Duration of the Course
1	2250400238	Ajay Venkat S.	Urban Informatics	12 weeks
2	2250400240	Anashuiya Bhattacharya	Research Methodology for Planning and Architectural Studies	12 weeks
3	2250400241	Aneesha Tony	Urban Informatics	12 week's
4	2250400242	Anusmita Parida	Urban service planning	12 weeks
5	2250400243	Bhukya Pavan Nayak	Environmental Impact Assessment	12 weeks
6	2250400244	Chakravarthy Karumuri	Strategies for Sustainable Design	12 weeks
7	2250400245	Chintalapudi Samba Siva Surya Teja	Environmental Impact Assessment.	12 WEEKS
8	2250400246	Deepa D M	Urban Informatics	12 weeks
9	2250400247	Dharun R	Urban Informatics	12 Weeks
10	2250400248	Ganga Srividya	Urban service planning	12weeks
11	2250400249	Gawali Vinay Vikas	Strategies for Sustainable Design	12 weeks
12	2250400250	Gedda Veerendra Satya	Environmental Impact Assessment	12 Weeks
13	2250400251	Haripriya N	Urban service planning	12 weeks
14	2250400252	Hrishav Bhattacharyya	Strategies for Sustainable Design	12 weeks
15	2250400253	Jagileti Sai Akhil	Urban Informatics	12 weeks
16	2250400254	Jakkula Aravind Kumar	Urban Informatics	12 Weeks
17	2250400255	Jitesh Panigrahi	Environmental Impact Assessment	12 weeks
18	2250400256	Kashif Khan	Urban Informatics	12 weeks
19	2250400257	Ketaki Pramod Rajandekar	Urban Service Planning	12 weeks
20	2250400258	Kiran Kumar Bhanothu	Environmental Impact Assessment	12 week's
21	2250400259	Kovarasan	urban informatics	12 weeks
22	2250400260	Kurinjinathan R	Urban Informatics	12 weeks
23	2250400261	Manoj Prasad	Urban services planning	12 weeks
24	2250400262	Marla Manaswini Mohan Das	Urban Ecosystem	12 WEEKS
25	2250400263	Mekala Gokul	Environmental Impact Assessment	12 weeks
26	2250400264	Niranjan Muthalappan	Urban service planning	12 Weeks
27	2250400265	Nouneselhou Jordan Sanyu	Strategies for Sustainable Design	12weeks
28	2250400266	Pala Dinakar	Urban service planning	12 weeks
29	2250400267	Rayana Hrujani	Urban Informatics	12 weeks
30	2250400268	Reddypalli Ganesh Reddy	Environmental Impact Assessment	12 week's
31	2250400269	Rithanya S	Urban service planning	12 weeks



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32	2250400270	Sailaja Tai	Urban Ecosystem	12 weeks
33	2250400271	Sakshi Mukundrao Chaudhari	Urban Service Planning	12 weeks
34	2250400272	Souhitya Chaudhuri	Urban Informatics	12 weeks
35	2250400273	Sripriyadharsini I	Environmental Impact Assessment	12 weeks
36	2250400274	Tejashree Pradhap	Urban Services Planning	12 Weeks
37	2250400275	Uppe Krishnaji	Urban Ecosystem	12weeks
38	2250400276	Utakars Anand	Strategies for Sustainable Design	12 weeks



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24th Meeting of the Senate

Tuesday, the 21 July 2026 11:00 AM
through Hybrid Mode

Annexure – 24A1:

***Student Exchange Program 2026-27 between SPA
Vijayawada, India, and University of Lille, France.***

FACULTY OF ECONOMIC, SOCIAL SCIENCES AND TERRITORY

GEOGRAPHY AND PLANNING

Diploma : GEOGRAPHY, PLANNING, ENVIRONMENT AND DEVELOPMENT

Speciality : Environmental Risks, Vulnerabilities, and Territorial Adaptation

Year M1

Semester 1

ECTS: 30

Nb of Hours for the student / semester 202

Type	Component Title	Selection	ECTS	Hours
BCC	1 – Producing Spatial Analysis for Risk Management	Oblig.	9	68
UE	1 - Collection and Analysis of Geographic Data	Oblig.	3	24
	Collection and Utilization of Topographic Data			8
	Collection of Geographic Data and Reference Datasets			8
	Multivariate Analyses			8
UE	2 - Geomatics	Oblig.	6	44
	GIS Refresher Course			16
	Geographic Information Systems (GIS)			16
	Remote Sensing			12
BCC	2 - Lead a Project from a Professional Perspective	Oblig.	6	44
UE	1 - Languages	Oblig.	3	24
	Geography in English			12
	English (REVEAT)			12
UE	2 - Student Project	Oblig.	3	20
	Environmental Sciences			20
BCC	3 - Diagnose Territorial Vulnerabilities to Propose Adaptation Strategies	Oblig.	15	90
UE	1 - Risk Management Practice in Hauts-de-France	Oblig.	9	52
	Field Trip in Hauts-de-France			12
	Coastal Risks			10
	Underground Quarries and the RGA (Natural Risk Prevention Plan)			10
	Technological Risks			10
	Hydrological Risks			10
UE	2 - Territorial Workshops	Oblig.	6	38
	Fieldwork Methodology			8
	Territorial Workshop			30

Semester 2

ECTS: 30

Nb of Hours for the student / semester 128

Type	Component Title	Selection	ECTS	Hours
BCC	1 - Producing Spatial Analysis for Risk Management	Oblig.	6	44
UE	1 - Cartography Workshop	Oblig.	6	44
	Methodology for Atlas Production			12
	Production of Online Maps			12
	Creation of a Cartographic Atlas			20
BCC	2 - Leading a Project from a Professional Perspective	Oblig.	15	24
UE	1 - Project Design and Management	Oblig.	3	24

	Project Planning and Management Techniques			10
	Professional Case Studies and Feedback			14
UE	2 - Professional Internship	Oblig.	12	0
	Professional Internship			0
BCC	3 - Diagnosing Territorial Vulnerabilities to Propose Adaptation Strategies	Oblig.	9	60
UE	1 - Territorial Vulnerabilities	Oblig.	3	24
	Socio-economic Vulnerability			8
	Organizational Vulnerability			8
	Structural Vulnerability			8
UE	2 - Risk Management in France	Oblig.	3	24
	Hydrological Risk Management			8
	Mountain Hazards and Risks			8
	Soil Erosion			8
UE	3 - Risk Data in France and Worldwide	Oblig.	3	12
	Global Disaster Data			6
	Disaster Data in France			6

Year M2
Semester 3
ECTS: 30
Nb of Hours for the student / semester 182

Type	Component Title	Selection	ECTS	Hours
BCC	1 - Conducting Spatial Analysis for Risk Management	Oblig.	6	48
UE	1 - Tools for Spatial Analysis	Oblig.	3	24
	Spatial Analysis			24
UE	2 - Leveraging Scientific Data	Oblig.	3	24
	Dissemination of Scientific Outputs			10
	Introduction to Research			4
	Models, Mapping, and Geographic Information			10
BCC	2 - Managing a Project from a Professional Perspective	Oblig.	6	44
UE	1 - Languages	Oblig.	3	24
	Geography in English			12
	English (REVEAT)			12
UE	2 - Student Project	Oblig.	3	20
	Environmental Sciences			20
BCC	3 - Diagnosing Territorial Vulnerabilities to Propose Adaptation Strategies	Oblig.	18	90
UE	1 - Territorial Workshop: Preparatory Phase	Oblig.	6	10
	Workshop Setup			10
UE	2 - Territorial Adaptation to Environmental Risks	Oblig.	6	32
	Territorial Adaptation to Climate Change			10
	Biodiversity and Territories			6
	Nature-Based Solutions for Risk Management			6
	Territorial Development in the Face of Environmental Risks			10
UE	3 - Data Collection and Processing for Risk Analysis	Oblig.	3	24
	Mapping Hydrological Hazards			12
	Measurement of Hydrological Extremes			12

UE	4 - Data Processing for Expert Analysis	Oblig.	3	24
Qualitative Methods				12
Temporal Approaches in Statistics				12

Semester 4
ECTS: 30
Nb of Hours for the student / semester 34

Type	Component Title	Selection	ECTS	Hours
BCC	2 - Conducting a Project from a Professional Perspective	Oblig.	21	0
UE	1 - Professional Internship	Oblig.	21	0
Professional Internship				0
BCC	3 - Diagnosing Territorial Vulnerabilities to Propose Adaptation Strategies	Oblig.	9	34
UE	1 - Territorial Workshop: Reporting Phase	Oblig.	6	10
In-depth Analysis and Workshop Reporting				10
UE	2 - Crisis Management	Oblig.	3	24
Alert Systems and Crisis Management				12
Professional Intervention				12

FACULTY OF ECONOMIC, SOCIAL SCIENCES AND TERRITORY
Speciality : Environmental Risks, Vulnerabilities, and Territorial Adaptation
STUDENT EXCHANGE PROGRAMME-Course Equivalence

University of Lille			SPA Vijayawada		
S.No.	Subjects Offered in Odd Semester	ECTS	S.No.	Subjects in Odd Semester -MURP	ECTS
1	Territorial Workshops	6	1	Regional Planning Studio (MURP211)	15
2	Geomatics	6			
3	Student Project	3			
4	Collection and Analysis of Geographic Data	3	2	Disaster Preparedness and Management (MURP215)	3
5	Languages	3	3	Elective: (1) Indian Knowledge Systems (MURP2118) (2) Human Settlements and Climate Change (MEPM2110)	3
Total Credits Exchange		21	Total Credits Exchange		21
				Subjects in Odd Semester -MURP credit requirements @ SPAV	
			4	Research Methods (MURP212)	3
			5	Rural Planning and Development (MURP213)	3
			6	Project Planning and Management (MURP214)	3
					9
Total Credits earned from Univeristy of Lille in Odd Semester A.Y. 2026-27		21		Total Credits earned from SPA Vijayawada in Odd Semester A.Y. 2026-27	9
TOTAL CREDITS (Overall)					30