Details of Infrastructure Projects - SPA Vijayawada

School of Planning and Architecture Vijayawada is one of the three SPAs in the country established in 2008 by the Ministry of Human Resource Development, Government of India as Institution of National Importance in the field of Architecture and Planning. SPA Vijayawada aids young prospective students, academicians and professionals across the nation to gain solid fundamentals at the Bachelors level attain state-of-art specialization at Masters and PhD level in the fields of Architecture and Planning. Today the School, a young Institute, has been steadily and successfully building its rightful image as a hub of the highest standards of Education and Research in Architecture and Planning across the nation and beyond. SPA Vijayawada started functioning from the year 2008 in leased premises located in Vijayawada city region and moved to the new fully integrated campus in August 2018.

SPA Vijayawada believes in a paradigm of education that combines ‘intrinsic’ and ‘instrumental’ values of the discipline. The students are not merely imparted or prescribed, what to learn but are also encouraged to discover and innovate. In this process, there is a careful guidance on choosing the right and scientific paths to discover. The journey of attaining self-endowing knowledge and high-end skills is made fundamental to the process of learning than focusing only on the outcome. SPA Vijayawada has built instrumental environment of education standing on pillars of adequate infrastructure, tools of experimentation and presence of wisdom. Faculty, infrastructure, curriculum, extra-curriculum activities, industry interaction and research ecosystem are all focused towards the paradigm of self-enablement and self-discovery. SPA Vijayawada constantly envision itself to place at the highest pedestals of Academic excellence in Architecture and Planning through innovation, creation, inclusion, acquisition and dissemination of knowledge using sustainable local and global practices.
1. SPA Vijayawada New Integrated Campus

1.1. Inauguration

School of Planning and Architecture Vijayawada shifted to its new and permanent Campus in June 2018 and started operating from there wef June 2018 onwards. The campus is located in the heart of Vijayawada city at ITI road, and spreads in an area of 9.66 acres. The campus was formally inaugurated on 23 August 2018 by the distinguished Chief Guest, Shri M. Venkaiah Naidu, Hon'ble Vice President of India; and Guest of Honour Shri E.S.L. Narasimhan, Hon'ble Governor of the states of Andhra Pradesh and Telangana; Guest of Honour Shri R. Subrahmanyan, Secretary, Department of Higher Education, MHRD, Government of India. During the inauguration, Hon' Cabinet Minister of Social Welfare of Govt of Andhra Pradesh, Shri. N. Anand Babu graced the occasion with his presence. The inauguration was held under the able guidance and august presence of Prof. Dr. Minakshi Jain, Director SPA Vijayawada and Architect Brinda Somaya, Chairperson BoG, SPAV and the members of Senate, Board faculty, staff, students of SPAV, representatives of Media and other distinguished invitees which included many reputed Architects, Planners and citizens of Vijayawada.
1.2. Campus Design, Infrastructure and Laboratories

Student Hostels and the Mess Block

All the Hostel blocks were handed over by CPWD to SPAV by June 05, 2017. Subsequently the Hostels were the first one to be shifted and subsequently Visiting Faculty Block was completed and handed over on February 2018. The Partial Occupancy for Hostels and Visiting faculty block was received from VMC on 10.08.2018. The Institute Block was shifted by June 30, 2018 by taking possession from CPWD for the first and second floor, as the lease of the hired building was expiring on June 30, 2018.

Forest Cover adjoining the Academic and Administrative Block
Hostel Courtyard

The permanent campus accommodates the main iconic Academic and Administrative Block, the students’ residential blocks, and a dining cum Visiting Faculty block. The Academic Block has total built-up area of around 30,000 sqm, the Boys hostels with about 14,000 sqm of built-up area spread over two blocks, Girls hostels with about 6,200 sqm of built-up area and a Dining cum Guest House with about 4,300 sqm of built-up space. The hostels cater for about 777 occupants and the Guest House can host over 25 guests at a time.
Hostel Entrance lined with trees’ avenue

The additional 2.66 acres land is being developed as outdoor sports facility. This outdoor sports facility shall soon have football ground, cricket pitch, clay tennis court, etc. along with a 200 m Athletic track and jogging facilities.

Open Air Theatre

The form and structure of the Academic and Administrative block is iconic in the city of Vijayawada and is infused with local materials and contemporary design. The design is unique and embodies several exemplary features. The campus has ICT enabled teaching atmosphere, high end digital surveillance systems, modern laboratories, spacious studios and classrooms, open-air theatres, auditorium, cafeteria, and outdoor sports facilities. The various labs in the campus include Computer Labs, Geoinformatics Lab, Art Lab, Material Testing Lab, Surveying Lab, Carpentry Lab, Climatology Lab, Environmental Monitoring Lab and Structural Lab. In addition, there are several well-equipped seminar
rooms, discussion rooms, Board room, Conference rooms and exhibition halls.

*Bird’s Eye view of the Campus*

*Interactive spaces inside the Hostels*

The outdoor and indoor spaces are constantly in use to display students’ works, conduct juries, have industry-academia interface meetings, have campus placements, and hold training programmes and research meets.
1.3 Connectivity and Resources

The LAN in the campus caters to approximately 800 users at a time. All common areas are connected by WiFi and 1-GBPS Internet connectivity is provided through NKN-NMEICT. The computer labs have state-of-the art workstations in network which can handle high end computing required for design, rendering and processing of satellite data for planning. The classrooms are fitted with audio-visual infrastructure that can work on LANs for easier and smarter display and dissemination. The Central Library of SPAV is one of the ingenious and most resourceful and connected technical libraries in the southern region of India supporting teaching, learning, research and consultancy activities in the areas of Planning and Architecture.

1.4 Green Initiatives of the Campus

The campus consists of all green parameters in terms of design and facilities. It has a GRIHA compliant design. It has features like Solar Water Heating systems for Hostels and Kitchen with 19,200 litres per day capacity, which is in operation. It has roof-top Solar Power generation with 183 KW per day with 1.08.000 kwh units of generation per year, ground water recharge pits, LED lightings with automatic sensors, and a Sewage Treatment Plant with 100 KLD capacity. The recycled water from the STP is used for gardening and flushing of toilets. A composting yard is in the making for recycling of kitchen waste. Green-Up SPAV was a program initiated on January 2018 to Reduce, Reuse and Recycle and Managing Solid Waste in the Campus under the Swatch Bharat Abhiyaan. SPAV is also in the process of executing a nursery and composting unit.
Tree Plantation initiatives
2. Infrastructure Development

2.1 Central Library

Central Library of the School started functional since 2008 with a mission to create a ‘state-of-the-art and self-service environment’ for users (students, researchers, faculty, staff etc.) to browse through a ‘professional resource priority pool’, to accumulate and share knowledge, to strengthen the ‘academic system alive’ and promote ‘visibility and value system’. It is an integral part of academic system whose primary function is to serve users to support education, research and innovation. It is one of the ingenious and technical libraries in the southern region supporting teaching, learning, research and consultancy activities in the areas of Architecture and Planning across the country. The landscape of the library is a space for acquiring scholarly information, knowledge resources, databases, discovery tools and techniques to meet unique and specialized needs of the academic community. It is well equipped with WIFI and Broad Band Internet connectivity.

2.2 Computer Centre
The Computer Centre is fully air-conditioned, and functioning under the Department of Architecture, is equipped with Eighty (80) high-end workstations installed with various licensed software such as AutoCAD, Trimble Sketchup, Adobe Creative Cloud for team all Apps, IES, etc. The lab is setup for Architecture Students to gain the computing skills in the various Architectural software and associated scientific tools, and their relevance and applicability in the field of Architecture. Currently the lab is utilized by all architecture students, as a part of their course structure and in their design studio exercises.

<table>
<thead>
<tr>
<th>Computer Centre</th>
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<tr>
<td>Computer Lab Hardware Configuration</td>
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<td>1</td>
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<td>2</td>
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<td>3</td>
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<tr>
<td><strong>Total</strong></td>
</tr>
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| Computer UG Lab Software Information |
| S.No. | Licensed Software | Qty. |
| 1 | AutoDesk AutoCad Architecture 2018 | 40 |
| 2 | AutoDesk 3ds Max 2018 | 40 |
| 3 | Autodesk Revit 2018 | 40 |
| 4 | Vector Works | 40 |
| 5 | IES | 5 |
| 6 | TranSys 17 | 10 |
| 7 | Meteonorm 7 | 2 |
| 8 | Microsoft Office 2007 | 40 |
The GIS Lab is equipped with ten (40) high-end workstations installed with licensed GIS software such as ArcGIS Desktop, ERDAS Imagine and Imagine Photogrammetry. It is equipped with the GPS instruments, topo mouse, stereoscopic equipment and wireless glasses to cater to the geospatial analysis needs and other specific data analysis. The lab was setup with an intention to equip the students of planning with the concepts of geo-informatics and computing skills in the relevant software associated scientific tools, and their relevance and applicability in the field of urban, environment and transportation planning. Currently the lab is utilized by all planning students for as a part of their course structure and in their planning and design studio exercises.

The licensed software currently available include:

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<tr>
<th>S.No.</th>
<th>Particulars</th>
<th>Qty.</th>
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<tbody>
<tr>
<td>1</td>
<td>HP Z240TW i7 7th Gen, 8GB, 1TB, 2GB Graphic, 22” LED Monitor</td>
<td>32</td>
</tr>
<tr>
<td>2</td>
<td>Dell Optiplex 780 Dual Core, 4GB,250GB,1GB Graphic, 19.5” LED Monitor</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
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Software Information
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<th>S.No.</th>
<th>Licensed Software</th>
<th>Qty.</th>
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<tbody>
<tr>
<td>1</td>
<td>AutoCad Architecture 2018</td>
<td>32</td>
</tr>
<tr>
<td>2</td>
<td>MS-Office 2007</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>Arc-GIS</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>Erdas Imagine</td>
<td>10</td>
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2.4 **Environmental Lab**

State-of-the-art infrastructure Environmental Lab is being established for carrying out research in the field of building and environment.

2.5. **Climatology/ Energy Studies/ Acoustic Lab**
The lab is equipped with modern equipment/instruments to carry out research works in the field of building sciences, energy studies, indoor environmental quality by the PG students and Ph.D. scholars throughout the year. UG students are given hands-on practical use of these instruments for effective learning of their concerned subjects. The lab is being upgraded regularly by adding latest equipment which is needed to carry out academic and research activities.

List of Items in the Climatology/ Energy Studies/ Acoustics Lab:
1) Testo 480 Profession Multi-function Instrument
2) Thermal Flow Probe with Telescope
3) Lux Probe
4) Testo 875-II Thermal Imager
5) Testo 545 – Light Meter
6) Testo 425 – Thermal Anemometer
7) Testo 735-2 Thermometer
8) Robust Air Probe, T/C type k
9) Testo 645 Temperature and Humidity measuring Instrument
10) Reference Humidity/ Temperature Probe
11) HTC Hot wire Anemometer

*Climatology lab Instruments*
2.6. Art Lab

A Full-fledged art lab is established to showcase the creative artistic works of students.

![Exhibits in Art Lab]

2.7. Model Making & Carpentry Lab

Model making and carpentry workshops have been established with the intension of creating hands-on experience for the students in handling various materials such as wood, Plaster of Paris (PoP), metal works etc.
Conservation laboratory in the SPAV to specialize exclusively in digital documentation techniques for heritage resources. Digital documentation of heritage resources is becoming increasingly popular nowadays although the tools for capture and processing continue to evolve at a rapid pace. Conservation Lab at SPAV equip students to work with modern instruments on heritage sites by providing hands-on workshops on well-developed methodologies in Conservation studios as well as providing exemplary documentation of specific monuments so that one can generate detailed drawings and detailed maps to assist in critical conservation work and active heritage management. Conservation Lab will consist of following documentation facilities:

1. Manual measuring and recording instruments
2. Photogrammetric equipment etc.
2.8. Transportation Lab
A Full-fledged transportation lab is also being established to assist students and research scholars of the School for hands-on experience.

2.9. Building Material & Construction Lab
The Building Materials & Construction Lab was established to display & demonstrate various kinds of building materials and their properties with the objective of enabling material exposure and construction techniques for the students of architecture with in the campus. The lab helps to create a better know-how about various building components and their application tandem with the building industry. The material samples are periodically obtained from the market by the students and also to keep an update on the latest trend in the market. As part of the Building materials & Construction I to IV course curriculum the students are taught various building materials & their applications, specifications, construction techniques through Hands-on exercises.
2.10. Structures lab/ Material Testing Lab & Survey Lab

A) Structural Engineering Lab

The Lab deals with the demonstrating basic principles in the area of strength and mechanics of materials and structural analysis through a series of experiments. Measuring the properties of the materials such as impact strength, tensile strength, compressive strength, hardness are conducted in the lab. Major Equipment’s include Compression Testing machine, Torsion testing machine, Impact testing machine, Hardness testing machine etc.

B) Survey Lab
Surveying is the science and art of making all essential measurements to determine the relative position of points or physical and cultural details above, on, or beneath the surface of the Earth, and to depict them in a usable form, or to establish the position of points or details.

In Survey Lab, the following major activities are undertaken:

1. Chain Surveying-
   Components, types of chains, errors in chain surveying, corrections for chain surveying, principles and procedures.

2. Tape Surveying-
   Components, types of tapes, errors in tape surveying, corrections for tape surveying, principles and procedures.

3. Compass Surveying and their components, types of compass, errors in compass, corrections for local attraction, principles and procedures.

4. Plane Table Surveying and their components, types of plane tables.

5. Leveling Instruments and their components, types of leveling instruments, correction for curvature and refraction.


2.11. Material Testing Lab

The School has established a full-fledged material lab with all the equipment for testing various construction materials. Preparation of specimens of structural concrete to test and analyze its behavior and strength characteristic by conducting various tests. Major Equipment available are Standard set of sieves for Coarse and Fine Aggregate, Vicat's
Apparatus, Lechatlier’s Apparatus, Slump Cone Test Apparatus, Rebound Hammer, Ultrasonic Pulse Velocity, Weighing Balance, Moulds- Cubes, Cylinders and beams etc.

2.12. **Landscape Lab**

*Image of Landscape Lab*

State-of-the-art Landscape Lab is being established with collection of various indigenous plant species, landform sections etc.

2.13. **Building Construction Yard**

*Image of Construction Yard*

Construction yard is an open learning space of where students of Architecture gets hands on opportunity to work explore and learn about different building materials and their construction techniques.
In accordance with the approval of the 32\textsuperscript{nd} Board meeting, Finance Committee and 25\textsuperscript{th} Building Works Committee (BWC), SPA Vijayawada dropped the work of Outdoor Sports facilities from the MoU with BSNL, in view of persistent delays from BSNL side and the limited requirements of SPAV in the Sports facilities, due to the present challenging pandemic situation, prevails in the system.

The Board accorded approval for C/o Outdoor Sports facility, as per the recommendation of the 25\textsuperscript{th} BWC in phased manner, as per the requirement and accorded approval for the execution of Athletic Track and Football Ground @ 6.22 Lakhs, Open Gym Facilities @ Rs.6.86 Lakhs, with preliminary estimate of 13.08 Lakhs and Basketball Court. The status of ongoing construction and the Outdoor Sports facilities in 2.66 Acres in the present phase are presented in the sequel:

**3.1. Construction of Compound wall in the Western, Southern and Northern side of the campus in 2.66 Acres site.**

Construction of Compound wall in the Western, Southern and Northern side of the campus in 2.66 Acres site has been executed with certain minor works likely to be completed soon.
3.2. Construction of Outdoor Sports Ground facilities:

3.2.1. Basketball Court:

Basket Ball Court under Construction (Aerial view)

Basket Ball Court in the Institute has been executed towards the Northern western side of the Academic and Administrative Block.

3.2.2. Open Gym Facilities:

Open Gym facilities (in process)

At present eight open Gym equipment have been procured under GeM and installed in the space earmarked for open gym at 2.66. Acres site. The remaining 04 items are still in the procurement process and the project is expected to be completed by July 2021.
### 3.2.3. Athletic Track and Football Ground

![Athletic Track and Football Ground towards completion stage](image)

The work for 200 M Athletic Track commenced on 22-03-2021 and at present, 95 percent of the work has already been completed.

In addition, action is being initiated by SPA Vijayawada for furnishing of the already created Auditorium Facilities within the Institute building, which will be taken up in the subsequent phase.

### 3.2.4 Green spaces and Green Infrastructure:

Green infrastructure is a strategically planned network of natural areas, designed and managed to deliver a wide range of ecosystem services such as water purification, improving air quality, space for recreation and climate amelioration and adaptation. Nearly 60 percent of the Campus area is provided with the Green cover and open spaces. These spaces act as the lungs for the SPAV Campus and play an important role in sequestering Carbon dioxide with the presence of more than 1000 number of plant species within the Institute. The Institute is replete with Green infrastructure; which is in the form of recharging pits, Swale lines, Vegetated roof tops, green terraces, tree avenues, cluster of shrubs and trees, Bamboo thickets, Coconut grove and forest cover.
Open Green spaces

The strategy of incorporation of green spaces aim to ensure that the protection, restoration, creation and enhancement of green infrastructure become an integral part of spatial planning and territorial development.
Green Avenues inside the Campus