



SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES, Chittoor
UGC AUTONOMOUS

(Approved by AICTE, Affiliated to JNTUA, Accredited by NBA (CSE, ECE, EEE & MCA))

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FACULTY DEVELOPMENT CENTRE

JNT UNIVERSITY ANANTAPUR, ANANTHAPURAMU

Five Days Faculty Development Programme on

**“Advanced Techniques in Computer Assisted
Engineering Graphics”**

Jointly Organized by

Department of Mechanical Engineering

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES, Chittoor
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Faculty Development Centre, JNTUA, Ananthapuramu

Conducted during 28th- 2nd, April/May 2025

ABOUT THE COLLEGE:

Sreenivasa Institute of Technology and Management Studies (SITAMS) was established in the year 1998-99 under Srinivasa Trust by a prominent industrialist late Dr.D.K.Audikesavulu, Ex.M.P, Former TTD Chairman. Over the last 20 years, SITAMS has made remarkable progress in teaching, research and consultancy in the field of technical education and management studies under the Chairperson Late. Smt. D.A.Sathyaprabha (W/o Late Dr.D.K.Audikesavulu), MLA, Chittoor.(2013-2021) and Chairman Shree K.Ranganatham, former Advisor for Power Sector, Govt of Andhra Pradesh. SITAMS, a pioneer of value based education, offers both U.G. (ECE, CSE, CSE(AIML), CSE(AI), CSE(DS), EEE, Civil & Mechanical) and P.G. (MBA, MCA & M.Tech.), courses under JNTUA, Anantapuramu and is approved by AICTE, New Delhi. The college got 2(f) and 12(b) status by the UGC in the year 2013, Autonomous in the year 2013-14 and NAAC accredited.

The Chairperson and the members of the Governing Body have felt the need of preparing a strategic development plan for the institution in a formal written document format. The mandate was given to the Principal to develop strategic plan 2024-2029 for the institution. The management & top leadership team met and brain stormed on SWOT and stake holders expectations. The Leadership team met a number of times, deliberated in detail and arrived at vision, mission, quality policy and core values for SITAMS. Environment scanning was done keeping vision in mind. The team also discussed about Institutes strategic High Level Goals (USG/HLG) to be achieved by 2029.

Academic institutions have been the bedrock for research for a very long time. At these places, the good teaching-learning and research go hand-in-hand. They are the two sides of the same coin. It is evident that for effective teaching, research is essential. The learning outcomes for the students who undergo research-based teaching are better and leading to a high rate of progression to higher education, research and career. The institution though predominantly a teaching-learning institution has been considering research as one of its prime growth verticals. Thus a conscious effort is made to prepare an objective policy to promote, monitor and evaluate development of the Institute.

Institution strategic goals formed the main theme for arriving at strategies, sub strategies and road to accomplish them. Each Strategy was deliberated and sub-strategies were arrived towards implementation plan. Implementation plan worked out all details such as budget, resources needed and leaders responsible to implement with time lines. This implementation is separately maintained by the head of the institution.

Departments play a pivotal for the institution; hence each department worked out on their vision, mission and short, mid & long term goals. The implementation plan for the departments also reflected all details such as budget, resources needed as well as leader responsible with time lines. HODs form the core team for implementing departmental goals under the guidance of Deans/ Principal.

Strategic Development Plan emphasizes on evaluation measures, monitoring team along with deviation steps if any over a period of time. The evaluative components for each stake holder are clearly spelt out along with periodicity of performance evaluation reviews.

ABOUT THE DEPARTMENT:

The Department of Mechanical Engineering was established in the year 2012 with an intake of 60 and the number increased to 120 in 2013 and 90 in 2018. The department is accredited by the National Board of Accreditation (NBA) for a period of three years from 2019-20 to 2021-2022. The department also offers M.Tech (Product Design) program from 2020. The department is headed by Dr. N SATISH KUMAR Ph.D. Mechanical Engineering is a fast growing discipline in tune with the demands in the core areas of infrastructure and Manufacturing. The department has well equipped laboratories with an emphasis on practical approach and skills for an outcome based learning. The department has well qualified, knowledgeable and dedicated faculty.

The goal of Mechanical Engineering department is to enable students for their entry into the Mechanical Engineering profession, and is designed to meet a carefully planned set of educational objectives. We strive to prepare our students for an un comparable employability in the area of Mechanical Engineering.

A Technical Association named as “MEDA-Mechanical Engineering Department Association” was established with the objective of exploring new areas of Research and sophisticated smart technologies in the industry. To fulfil this objective a series of technical workshops, seminars, technical fests and guest lectures are being conducted every year. The students are encouraged to present papers and participate in various technical events at the National level.

ABOUT FDP

An Engineering Drawing is a type of technical drawing that is used to convey information about an object. A common use is to specify the geometry necessary for the construction of a component and is called a detail drawing. Usually, a number of drawings are necessary to completely specify even a simple component. These drawings are linked together by a "master drawing." This "master drawing" is more commonly known as an assembly drawing. The assembly drawing gives the *drawing numbers* of the subsequent detailed components, quantities required, construction materials and possibly 3D images that can be used to locate individual items. Although mostly consisting of pictographic representations, abbreviations and symbols are used for brevity and additional textual explanations may also be provided to convey the necessary information.

OBJECTIVES OF THE FDP:

The main objective of the FDP is to create awareness programme on technical drawings by using CADD software, for faculty members of various engineering colleges located in Andhra Pradesh. In order to develop skills in two-dimensional and three-dimensional visualization of engineering components.

RELEVANCE

Technical drawing is highly relevant in the engineering field because it acts as a standardized visual language, enabling clear communication between designers, engineers, and manufacturers by providing precise details about a product's geometry, dimensions, materials, and tolerances, ensuring accurate production and consistency across projects; essentially serving as a blueprint for building and constructing complex designs.

BENEFITS

Technical drawing in engineering provides significant benefits like precise communication of design details, minimizing manufacturing errors, and facilitating collaboration across teams, but also presents challenges related to mastering technical drawing conventions, interpreting complex details, and ensuring accuracy in dimensioning and tolerances across different scales.

OUTCOMES

An understanding of basic principles of design and color, concepts, media and formats, and the ability to apply them to a specific aesthetic intent. This includes functional knowledge of the traditions, conventions, and evolutions of the discipline as related to issues of representation, illusion and meaning.

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CHIEF PATRON

Prof. H. Sudarsana Rao
Vice Chancellor, JNTUA, Ananthapuramu

PATRON

Prof. S. Krishnaiah
Registrar, JNTUA, Ananthapuramu

PROGRAMME DIRECTOR

Prof. G. Prasanthi
Director, Faculty Development Centre JNTUA, Ananthapuramu

CHAIRMAN

Sri. K.Ranganatham
Sreenivasa Institute of Technology and Management Studies (Autonomous),
Chittoor, A.P, India.

CONVENOR

Dr. N.Venkatachalapathi
Principal, SITAMS,
Chittoor

COORDINATOR

Dr. N.Satish Kumar
Assistant Professor & HOD
Department of Mechanical Engineering, SITAMS Chittoor

ORGANIZING COMMITTEE

S.No	Name	Designation
1	Dr. S.Rajesh	Assistant Professor
2	Mr.R.Satheesh	Assistant Professor
3	Mr.D.Raju	Assistant Professor
4	Mr.V.Hema Prasad	Assistant Professor
5	Mrs.K.Santhosh Priya	Assistant Professor
6	Mr.K.Narasimhulu	Assistant Professor
7	Mr.M.Yugandhar	Assistant Professor
8	Mr.G.Ganga Raju	Assistant Professor
9	Mr.N.Navendra Kumar	Assistant Professor
10	Mrs.K.Suma Latha	Assistant Professor
11	Mrs.J.Sudha Rani	Assistant Professor

AIM AND OBJECTIVES OF THE EVENT

Aim:

An engineering drawing is a subcategory of technical drawings. The purpose is to convey all the information necessary for manufacturing a product or a part. Engineering drawings use standardised language and symbols. This makes understanding the drawings simple with little to no personal interpretation possibilities.

Objectives:

The main goal is to create visually appealing and engaging designs that convey a specific message and evoke certain emotions. Graphic design involves various elements such as typography, images, colors, and layouts to communicate a message effectively.

Outcome of the Event

- 1) The faculty will be able to teach the students to prepare drawings as per BIS standards, effectively deal with specific geometrical problems in plane geometry involving lines and draw orthographic projection of engineering components working from pictorial drawings.
- 2) The faculty will be able to get a bird's eye view of Projection of lines & solids, Sections of Solids, Isometric projections and Perspective projections.

Speaker Schedule Overview

Day 1: April 2025

- **28th Inauguration Function: 9:30 AM – 11:00 AM**



Address the gathering by

Dr.K.L.Narayana, Advisor, SITAMS



Address the gathering by

Dr.N.Venkatachalapathi, Principal, SITAMS



Address the gathering by

Dr.M.Saravanan, Dean Academics, SITAMS



Address the gathering by

Dr.N.Satish Kumar, Program Co-ordinator, SITAMS

- The inaugural ceremony of the Faculty Development Programme on “**Advanced Techniques in Computer Assisted Engineering Graphics**” commenced on 28th April 2025 at **Sreenivasa Institute of Technology and Management Studies (Autonomous), Chittoor**.
- The Chief Guest, **Dr. K.L.Narayana**, Retd. Professor, delivered an insightful address on the integration of technology in academia. He emphasized the transformative role of technology in enhancing teaching methodologies and research practices, inspiring participants to embrace innovative tools for academic excellence.
- The event set the tone for a productive and enriching five-day program, fostering collaboration and knowledge-sharing among participants.

- **Session 1:**
- **Topic:** Theory of Curves and Surfaces
- **Speaker:** Mr.Humayun Shaik Design Engineer, Acornhive Solutions, Bangalore

Time: 11:00 AM – 12:30 PM

Mr.Humayun Shaik session on Theory of Curves and Surfaces provides comprehensive knowledge essential for conducting Engineering Graphics. His expertise helps educators how to draw Engineering Graphics in AutoCAD software, which are crucial for training educators to develop their skills enhanced instead of manual drawing. Additionally, the session underscores the importance of continuous monitoring and evaluation to ensure compliance with both manual and automation. Educators and researchers are encouraged to how to install the licensed software. Through such initiatives, the session inspires participants to advance knowledge while upholding the importance of AutoCAD tool.



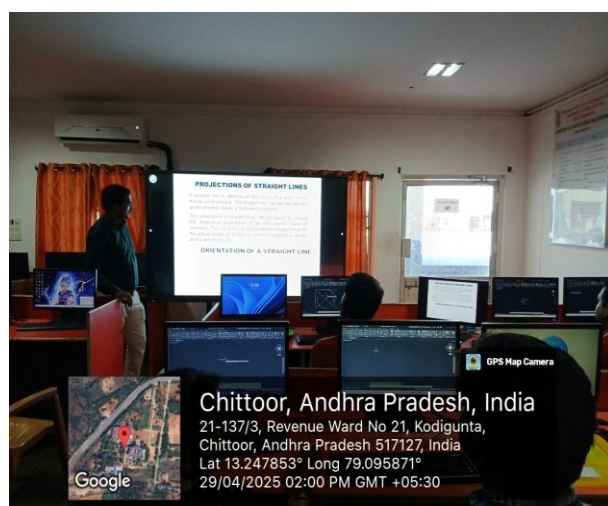
Session 2 & 3:

Topic: Curvilinear Shapes and Envelopes, Analytic Geometry of Curves

Speaker: Dr. T.Pramod Kumar, M.Tech, PhD, Assistant Professor, NBKR, Vidyanagar.

Time: 1:45 PM – 4:45 PM

Dr. T.Pramod Kumar's session on Curvilinear Shapes and envelopes to create engaging and efficient learning experiences in engineering graphics. This session highlights how shapes can create in AutoCAD software by using commands. Attendees will explore different approaches to using advanced technology for enhancing accessibility, and aligning education with real-world applications. The session will also address challenges, best practices, offering educators actionable insights for impactful teaching.



Day 2: 29th April 2025

➤ **Session 1 & 2:**

Topic: Introduction to Visualization Techniques & Point Mapping Techniques

Speaker: Dr. E.Jaya Kiran Reddy, Assistant Professor, Sreenidhi Institute of Science and Technology, Hyderabad.

Time: 9:30 AM – 12:30 PM

Dr. Jaya Kiran's talk highlights the importance of orthographic projections and what type of angle of projection using in engineering drawing. In this session orthographic projections provide a standardized way to communicate design information, allowing for easy understanding of an object's features and dimensions. This session will explore the engineers use orthographic drawings to provide detailed instructions for manufacturing, ensuring that components are produced to the correct size and shape.. Case studies and practical insights will provide participants with actionable knowledge to leverage these methods effectively in research and industry.



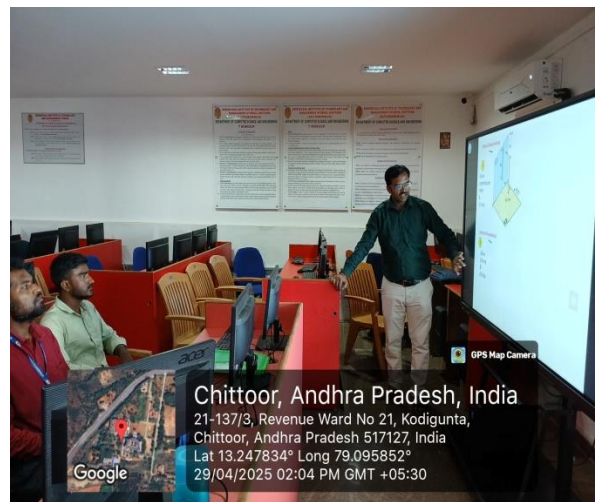
➤ **Session 3 & 4:**

Topic: Orthographic Projections of Lines & Graphical Projections of lines

Speaker: Dr.M.Vishnu Vardhan, Associate Professor, Vardhaman College of Engineering, Hyderabad

Time: 1:45 PM – 4:45 PM

Dr.M.Vishnu Vardhan session on projection of lines. In this session he explain about how to draw a line inclined to both the planes This session will explore by projecting an object onto multiple planes (front, top, side views) orthographic projections ensure that all necessary details are captured and presented accurately. The discussion will emphasize the potential of orthographic projection is a widely used standard in engineering and architecture, ensuring that drawings are universally understood and interpreted.



Day 3: 30th M a y 2025

➤ **Session 1 & 2:**

Topic: Geometric Transformations of Planes & Projection Geometry of Surfaces

Speaker: Mr.P.Ajay Kumar Reddy, Injection Mold Development Manager, Hyderabad

Time: 9:30 AM – 12:30 PM

Mr.P.Ajay Kumar talk's about Geometric Transformations of planes. In this session engineering drawings is crucial for accurately representing 3D objects on a 2D surface, enabling clear communication and understanding of design concepts. This session will provide multiple views and clear dimensions, projections facilitate communication among engineers, designers, and manufacturers, ensuring everyone understands the design intent.



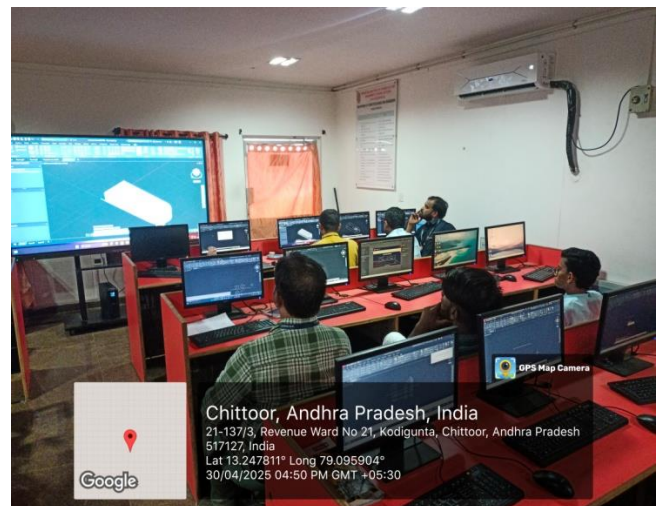
➤ **Session 3 & 4:**

Topic: 3D Object Visualization & Solid Geometry Representation

Speaker: Dr. Jambeswar Sahu, Associate Professor, School of Mechanical Engineering, Vellore Institute of Technology, Vellore.

Time: 1:45 PM – 4:45 PM

Dr. Jambeswar's session delivers 3D object visualization. In this session how projection of solids allows engineers and designers to visualize the form and spatial orientation of an object, which is particularly important for understanding its functionality and how it interacts with other components. It covers the multiple views (front, top, side) of a solid, engineers can accurately depict its features, dimensions, and relationships.



Day 4: 1st May 2025

➤ **Session 1 & 2:**

Topic: Cutting Plane Techniques & Sectional Views of Solids

Speaker: Dr Joel, Assistant Professor-Sr. Grade, School of Mechanical Engineering, Vellore Institute of Technology, Vellore.

Time: 9:30 AM – 12:30 PM

Dr. Joel's session gives sectional views in engineering drawings are crucial for revealing the internal structure and features of objects, especially when hidden lines would be too complex or confusing. In this session provide a clear understanding of the design, making it easier to visualize and communicate detailed information about the object's construction and internal components. This session gives clarifying complex designs when dealing with intricate objects, sectional views can simplify the drawing, making it easier to understand the object's construction and relationships between different components.





➤ **Session 3 & 4:**

Topic: Geometric Transformations of Surfaces & Descriptive Geometry of Surfaces

Speaker: Dr.M.Sreenivasulu, Associate Professor, NBKR, Vidyanagar.

Time: 1:45 PM – 4:45 PM

Dr. M.Sreenivasulu session explores the development of surfaces in engineering drawings is crucial for understanding and accurately representing the shape of 3D objects on a 2D plane. In this session development of surfaces helps in understanding the geometry of an object, allowing engineers to analyze its surface area, volume and other properties. This session gives practical applications where the development of surfaces is essential in various industries like automobile, shipbuilding, packaging and sheet metal work.



Day 5: 2nd May 2025

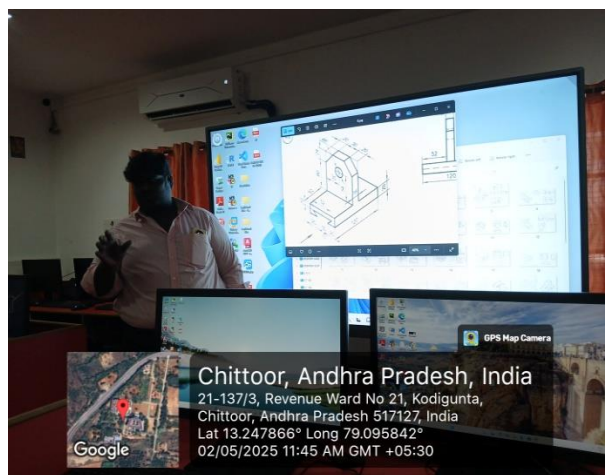
Session 1 & 2:

Topic: Product Visualization & Transforming Orthographic to Isometric Views

Speaker: Mr.E.Y.Mahimadass, Manager, Radiant Technocad Design Engineer, Chittoor

Time: 9:30 AM – 12:30 PM

Mr.Mahimadass session gives a pictorial representation of a 3D object, showing its shape and dimensions from a single viewpoint. In this session isometric views offer a single, 3D representation that's easier to understand visually. Orthographic and isometric views are often used together to provide a complete understanding of an object, while the isometric view offers a more intuitive and visual representation of the object, making it easier to grasp the design. .



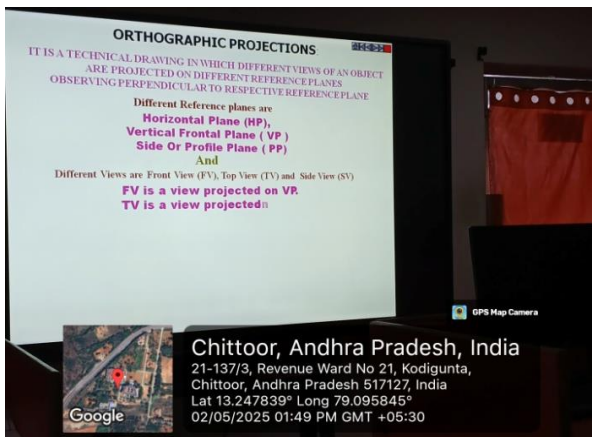
➤ **Session 3:**

Topic: Transforming Isometric Views to Orthographic

Speaker: Mr.N.Sakthivelan, Assistant Professor, Sri venkateswara College of Engineering and Technology, Chittoor

Time: 1:45 PM – 3:15 PM

Mr. Sakthivelan session provides detailed information about the object's shape and dimensions, which is essential for manufacturing. In this session orthographic views offer precise, two-dimensional views of specific sides and also provide accurate measurements and details of the object, ensuring precise fabrication and assembly. This session gives clear picture of Orthographic views are essential for creating detailed technical documentation, including blueprints and specifications.



Valedictory Function Report: Faculty Development Programme

Date: 2nd May 2025

The valedictory function of the JNTUA-supported Faculty Development Programme on “**Advanced Techniques in Computer Assisted Engineering Graphics**”, held from 28th to 2nd May 2025, marked the successful conclusion of this five-day event at **Sreenivasa Institute of Technology and Management Studies (Autonomous), Chittoor**.

The esteemed Chief Guests, Prof. **Dr. G. Prasanthi**, Professor and Director, Faculty Development Center, Jawaharlal Nehru Technological University Anantapur, and **Dr. K.L. Narayana**, Ret. Professor, S.V.University, Tirupati presided over the ceremony and delivered thought-provoking addresses.

Highlights of the Valedictory Session:

1. Concluding Remarks:

- **Dr. G.Prasanthi** commended the comprehensive sessions conducted during the FDP, emphasizing their practical relevance to Engineering Graphics. She highlighted the importance of continuous professional development for faculty members in adapting to evolving educational methodologies and research trends.
- **Dr. K.L.Narayana** appreciated the enthusiastic participation and active engagement of attendees throughout the program.

2. Certificate Distribution:

- The Chief Guests, along with the organizing team, distributed certificates of participation to all attendees, recognizing their dedication to enhancing their teaching and research skills.

3. Acknowledgements:

- **Dr. N.Venkatachalapathi**, Principal and **Dr. N.Satish Kumar** Coordinator of the FDP, expressed gratitude to the Chief Guests, speakers, and participants for their contributions to the success of the FDP. Special thanks were extended to the **Faculty Development Centre, JNTUA**, for its support in organizing the event.

4. Conclusion:

- The valedictory function concluded on a patriotic note with the singing of the **National Anthem**, symbolizing unity and collective dedication to excellence in education and research.

The program was hailed as a significant milestone in fostering innovation and advancing the importance of Engineering Graphics in AutoCAD Software. Participants departed with a renewed commitment to implementing their learnings for the betterment of academia and industry.

Valedictory Gallery





