Five Day Workshop Report

Title: *Building Information Modelling (BIM) using Revit and Navisworks*

Duration: 10 March 2026 – 14 March 2026

Venue: CAD Laboratory, Civil Engineering Block, Annamacharya University, Rajampet

Organized by: Department of Civil Engineering in association with APSSDC (Andhra Pradesh State Skill Development Corporation)

Coordinator: Dr. S. V. Vara Prasad

The Department of Civil Engineering, Annamacharya University, Rajampet organized a five-day workshop on **"Building Information Modelling (BIM) using Revit and Navisworks"** from **10 March 2026 to 14 March 2026** in association with **APSSDC**. The main objective of the workshop was to provide students with practical knowledge and hands-on training in modern construction technologies and advanced BIM software tools used in the construction industry.

The workshop was conducted daily from 10:00 AM to 5:00 PM in the CAD Laboratory of the Civil Engineering Block. Students actively participated in both theoretical sessions and practical training sessions conducted by experienced resource persons.

1. Introduction

The Department of Civil Engineering, Annamacharya University, Rajampet organized a five-day workshop on **"Building Information Modelling (BIM) using Revit and Navisworks"** from **10 March 2026 to 14 March 2026**. The workshop was conducted in association with **APSSDC** with the objective of providing practical knowledge and hands-on training to students in modern construction technologies.

The training program helped students understand the importance of **BIM technology in digital construction, building design, and project coordination**. The sessions included both theoretical explanations and practical demonstrations using **Autodesk Revit and Navisworks software**.

2. Objectives of the Workshop

- To introduce students to the concept of Building Information Modelling (BIM).
- To provide hands-on training in Autodesk Revit for building modelling.
- To demonstrate Navisworks for model coordination and clash detection.
- To improve students' practical skills in modern digital construction tools.
- To enhance students' industry readiness in BIM-based construction technologies.

3. Workshop Outcomes

After completing the workshop, students were able to:

1. Understand the concept and applications of BIM in construction.
2. Create building models using Autodesk Revit.

3. Perform project coordination and clash detection using Navisworks.
4. Apply digital construction tools for efficient project planning and design.

4. Day-wise Report

Day 1 – 10 March 2026 (Inauguration and Introduction to BIM)

The five-day workshop was inaugurated on 10 March 2026 in the CAD Laboratory of the Civil Engineering Block. The inaugural session began with a brief introduction about the objectives and importance of the workshop. Faculty members explained the significance of adopting modern digital technologies in civil engineering practices. The resource persons introduced the concept of Building Information Modelling (BIM) and explained how BIM is transforming the construction industry. Students learned about the limitations of traditional drafting methods and how BIM helps in improving planning, design coordination, and project management.



The session also included an introduction to Autodesk Revit software, where students were familiarized with the software interface, navigation tools, project settings, and basic commands. Participants performed simple exercises to understand the working environment of the software.

Day 2 – 11 March 2026 (Basic Modelling in Revit)



On the second day, the workshop focused mainly on the practical modelling aspects using Autodesk Revit. The

resource persons demonstrated how to create basic architectural elements such as walls, floors, roofs, doors, and windows. Students learned how to start a project, set levels, create grids, and develop basic building layouts. Hands-on practice sessions allowed participants to develop their own small building models. The trainers also explained how BIM allows better visualization of building designs compared to traditional 2D drafting methods. The day concluded with a practical exercise where students created simple residential building models using the tools they had learned during the session.

Day 3 – 12 March 2026 (Advanced Revit Modelling and Documentation)

The third day of the workshop focused on advanced modelling features of Autodesk Revit. Students were trained to create structural components such as columns, beams, slabs, and foundations. The resource persons explained how structural modelling is integrated within BIM platforms.

Participants also learned how to generate sections, elevations, and schedules automatically from the BIM model.

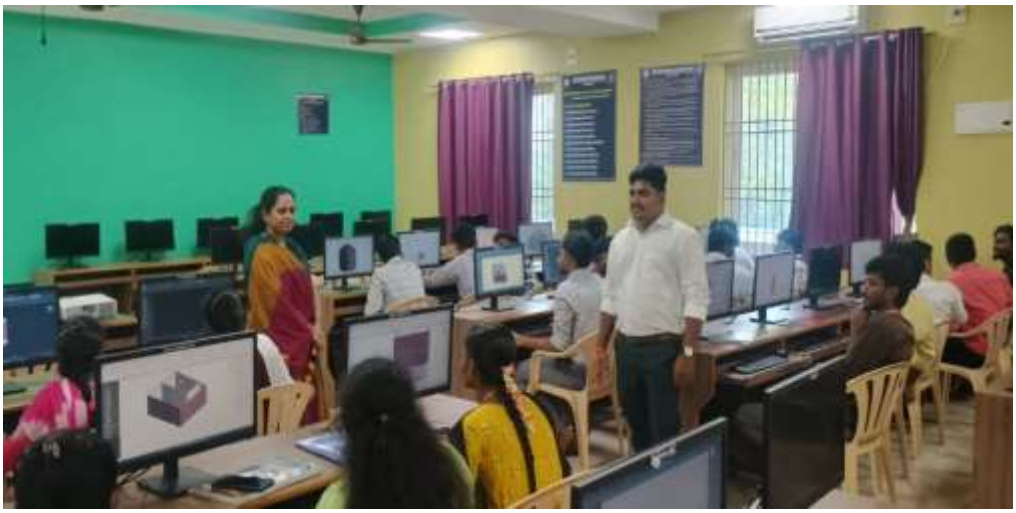


The trainers explained the concept of parametric modelling and how modifications in one part of the model automatically update the entire project.

Students practiced preparing complete building models with proper structural and architectural components. The session helped students understand the advantages of BIM in improving coordination among architects, engineers, and construction professionals.

Day 4 – 13 March 2026 (Introduction to Navisworks and Clash Detection):

The fourth day introduced students to Autodesk Navisworks, a powerful software used for project coordination and clash detection in BIM workflows. The trainers explained how Navisworks helps engineers identify design conflicts before the actual construction process begins.



students learned how to import Revit models into Navisworks and perform model coordination. The session included practical demonstrations of clash detection, where conflicts between structural and architectural components were identified.

The trainers explained how resolving these clashes at the design stage can reduce construction errors, save time, and reduce project costs. The session provided students with a clear understanding of how BIM tools improve efficiency in large construction projects.



Day 5 – 14 March 2026 (Project Presentation and Valedictory Session)

The final day of the workshop was dedicated to project demonstrations and review sessions. Students presented the building models they had developed during the training program using Revit and Navisworks.

The resource persons reviewed the models and provided valuable suggestions to improve modelling techniques and project coordination skills. Students shared their learning experiences and discussed the practical benefits of BIM technology in the construction industry.

The workshop concluded with a valedictory session, where the organizers appreciated the active participation of students throughout the program. It was highlighted that such training programs help bridge the gap between academic learning and industry requirements.



On the final day of the workshop, the participants demonstrated the building models developed using **Revit and Navisworks** during the training sessions. **Principal Dr. S. M. V. Narayana**, **Head of the Department Dr. N. R. Gouthami**, and faculty members interacted with the students and discussed the importance of Building Information Modelling (BIM) in modern construction practices.

They explained that BIM technology plays a vital role in building design, project coordination, and project management in the construction industry. The Principal and HOD appreciated the active participation of the students throughout the five-day workshop and encouraged them to learn more advanced digital construction tools.

The workshop was coordinated by **Dr. S. V. Vara Prasad**, Assistant Professor, Department of Civil Engineering. He explained the objectives of the workshop and highlighted the importance of such training programs in improving students' technical knowledge and practical skills.

The workshop concluded with valuable suggestions from the Principal, HOD, Coordinator, and faculty members, who emphasized that such programs help students enhance their industry readiness and understanding of modern construction technologies

5. CO – PO – PSO Mapping

Course Outcomes (CO)

- **CO1:** Understand the fundamentals of Building Information Modelling (BIM).
- **CO2:** Develop building models using Autodesk Revit.
- **CO3:** Perform model coordination and clash detection using Navisworks.
- **CO4:** Apply BIM tools for effective construction planning and project management.

CO – PO – PSO Mapping

CO / PO	PO1	PO3	PO5	PO12	PSO1	PSO2
CO1	3	2	2	2	2	2
CO2	2	3	3	2	3	2
CO3	2	2	3	2	2	3
CO4	2	2	3	3	2	3

Program Outcomes (PO)

- **PO1:** Engineering Knowledge – Apply knowledge of mathematics, science, and engineering fundamentals to solve complex civil engineering problems.
- **PO3:** Design/Development of Solutions – Develop building models and design solutions using BIM tools such as Revit.
- **PO5:** Modern Tool Usage – Apply modern engineering tools like Revit and Navisworks for modelling, coordination, and clash detection.
- **PO12:** Life-long Learning – Recognize the need for continuous learning of modern technologies used in the construction industry.

Program Specific Outcomes (PSO)

- **PSO1:** Apply modern civil engineering software tools for planning, analysis, and design of structures.
- **PSO2:** Use advanced digital technologies such as BIM for effective construction planning and project management.

5. **SDG (Sustainable Development Goals) Mapping**

Workshop Outcome (WO)	SDG4 (Quality Education)	SDG9 (Industry, Innovation & Infrastructure)	SDG11 (Sustainable Cities & Communities)	SDG12 (Responsible Consumption & Production)
WO1: Understanding BIM concepts and applications	**3**	**2**	**2**	**1**
WO2: Developing building models using Revit	**2**	**3**	**2**	**2**
WO3: Performing clash detection using Navisworks	**2**	**3**	**3**	**2**
WO4: Applying BIM for efficient construction planning	**2**	**3**	**3**	**3**

SDG Description

SDG	Description
SDG 4	Quality Education
SDG 9	Industry, Innovation and Infrastructure
SDG 11	Sustainable Cities and Communities
SDG 12	Responsible Consumption and Production

Faculty Coordinator
(Dr. S. Venkata Vara Prasad)

HoD-C.E
(Dr. N.R. Gowthami)