



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE, WARANGAL

(An Autonomous Institute under Kakatiya University)

(Accredited by NAAC with 'A' Grade)

Opp: Yerragattu Gutta, Hasanparthy (M),
Warangal - 506015 (TS), INDIA.

DEPARTMENT OF MECHANICAL ENGINEERING

TWO-WEEK STUDENT SUMMER INTERNSHIP PROGRAMME

on

COMPUTATIONAL ENGINEERING AND SIMULATIONS

USING

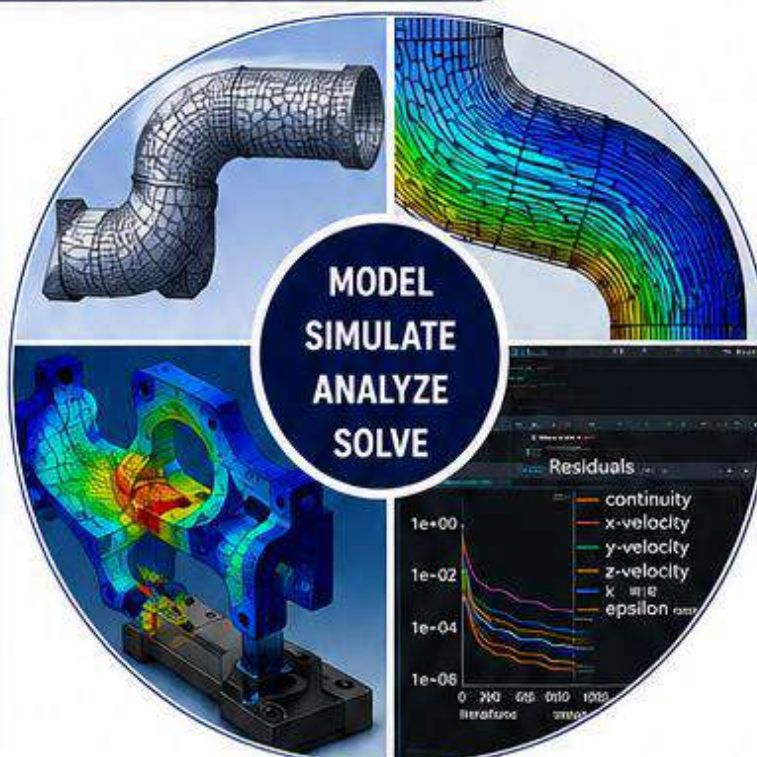
ANSYS[®] FLUENT

MODEL • SIMULATE • ANALYZE • INNOVATE

06th JULY TO 18th JULY, 2026

PROGRAM HIGHLIGHTS

- Learn fundamentals of computational methods and engineering simulations
- Hands-on training using numerical methods & simulations
- Modeling, analysis & optimization of engineering systems
- Real-world case studies and problem-solving
- Enhance analytical, computational and technical skills
- Certificate of completion



YOU WILL LEARN

- Mathematical & numerical methods
- CFD & heat transfer simulations
- Geometry, meshing & solver setup
- Result visualization & post-processing
- Engineering applications and case studies



KEY BENEFITS

- Industry-oriented computational skills
- Strengthen problem-solving and analytical abilities
- Support for research and innovation
- Better career opportunities in core & emerging industries



WHO CAN PARTICIPATE?

- B.Tech Students (Mechanical Engineering)
- M.Tech Students
- Research Scholars & Faculty



TOOLS & TECHNOLOGIES

ANSYS[®]
Fluent

ANSYS[®]
Workbench

Python

MATLAB



Meshing



Post Processing



CFD Simulation

PROGRAM OUTCOMES

- Apply computational techniques to real-world problems
- Improve efficiency of design and analysis
- Gain exposure to modern simulation tools
- Enhance decision-making through simulation results
- Build a strong foundation for research and innovation



ORGANIZED BY:

Department of Mechanical Engineering
Kakatiya Institute of Technology & Science,
Warangal
(An Autonomous Institute under Kakatiya University)
(Accredited by NAAC with 'A' Grade)
Opp: Yerragattu Gutta, Hasanparthy (M),
Warangal - 506015 (TS), INDIA.

FOR REGISTRATION CONTACT:



9849502775
9794093371

IMPORTANT NOTES:

- Limited Seats
- Hands-on Practice
- Participation Certificate
- Refreshments Provided



SIMULATE TODAY,
DESIGN TOMORROW, INNOVATE ALWAYS!



Modeling



Simulation



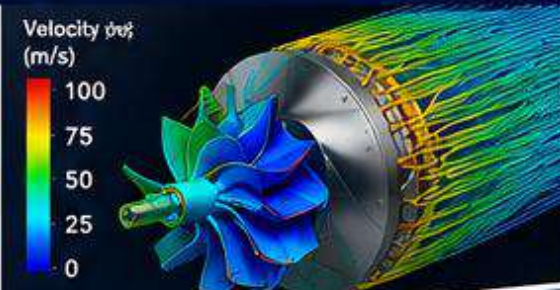
Analysis



Visualization



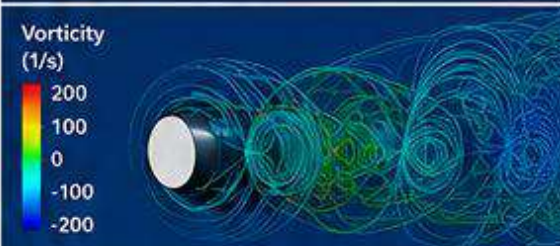
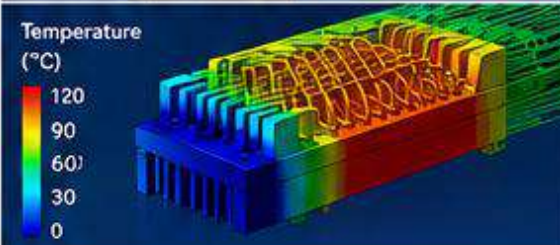
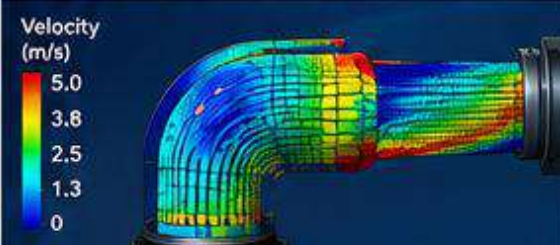
Optimization



2 WEEKS
60 HOURS

OFFLINE MODE

VENUE:
B-III, MCAD LAB



Two-Week Student Summer Internship Program (SSIP)

On

“Computational Engineering and Simulations using ANSYS Fluent”

6th July to 18th July 2026

Registration Form

Name: _____

Roll Number: _____

College: _____

Branch: _____

Address: _____

WhatsApp Mobile No _____

E-Mail: _____

Date: _____
Place: _____

Signature of the Participant:

Note: Participants need to maintain full attendance

Mr./Ms. _____

bearing Roll No. _____ is permitted to attend the Internship / Training Programme at KITS Warangal from 6th July to 18th July 2026.

Principal / HoD sign with Seal

MODE OF CONDUCTION: Offline Mode

Hands-on sessions will be conducted; all participants are informed to attend all the sessions without fail.

CERTIFICATION:

Certificates will be issued to those participants who attend all the sessions of the programme and clear the online exam as per the norms

Chief Patron

Capt. V. Lakshmikantha Rao, Ex-M.P. (Rajya Sabha)
Chairman, KITS Warangal (KITSW)

Patron

Sri. P. Narayana Reddy, Treasurer, KITSW

Chairman

Prof. K. Ashoka Reddy, Principal

Convener:

Prof. P. Srikanth, Professor & HoD, Dept. of ME

Resource Persons:

Dr. G. Ganesh Kumar, Associate Professor, Dept. of ME

Dr. P.S.S. Murthy, Assistant Professor, Dept. of ME

Dr. Ch. Karunakar, Assistant Professor, Dept. of ME

Dr. E. Ramesh, Asst. Professor, Dept. of ME

Organizing Committee Members:

Prof. K. Sridhar, Professor, Dept. of ME

Prof. K. Raja Narendra Reddy, Professor, Dept. of ME

Prof. U Srinivasa Balraj, Professor, Dept. of ME

Dr. P. Prabhakara Rao, Associate Professor, Dept. of ME

Dr. A. Devaraj, Associate Professor, Dept. of ME

Dr. J. Laxman Assistant Professor, Dept. of ME

Dr. S. Chandramouli, Assistant Professor, Dept. of ME

Dr. G. Srinivasa Rao, Asst. Professor, Dept. of ME

Sri S. Ramesh, Assistant Professor, Dept. of ME

Dr A. Hari Kumar, Assistant Professor, Dept. of ME

Sri S. Anil Kumar, Assistant Professor, Dept. of ME

Sri K. Kishor Kumar, Assistant Professor, Dept. of ME

Sri M. Anil Kumar, Assistant Professor, Dept. of ME

Dr. MD. Sameer, Assistant Professor, Dept. of ME

Dr. G. Sai Kumar, Assistant Professor, Dept. of ME

Sri P. Anil Kumar, Assistant Professor, Dept. of ME

Sri V. Rakesh, Assistant Professor, Dept. of ME

Dr. V. Pradeep, Assistant Professor, Dept. of ME



Two-Week Student Summer Internship Program (SSIP)

On

“Computational Engineering and Simulations using ANSYS Fluent”

Organized
by

Department of ME

6th July to 18th July 2026



Coordinators:

Dr. G. Ganesh Kumar, Associate Professor, Dept. of ME

Dr. E. Ramesh, Assistant. Professor, Dept. of ME

Organized by

DEPARTMENT OF MECHANICAL ENGINEERING

Kakatiya Institute of Technology & Science, Warangal
(An Autonomous Institute under Kakatiya University)

(Accredited by NAAC with 'A' Grade)

Opp: Yerragattu Gutta, Hasanparthy
(M), Warangal-506015 (TS), INDIA.

ABOUT THE INSTITUTE

Kakatiya Institute of Technology and Science, Warangal, popularly known as **KITSW**, was established in 1980 by **Ekasila Educational Society (EES), Warangal**, a philanthropic society, with a primary objective of providing quality technical education. KITSW is recognized by the AICTE and is also under section 2(F) and 12(B) of the UGC Act 1956. The UGC granted autonomous status in 2014 under Kakatiya University (KU), Warangal. It is accredited by NAAC with an A grade (CGPA: 3.21), and all the UG engineering programs are accredited by NBA, New Delhi. KITSW is located on 68 acres of lush green sprawling campus, and it is one of the premier institutes of Telangana. Over the years, it has attracted academicians of proven competence onto its faculty, augmented the infrastructural facilities, modernized laboratories, placed its products in reputed organizations all over the world, and thus received recognition in industry and academia.

At present, it is offering UG in nine branches of engineering, PG in six engineering specializations, and MBA. The KU recognized CE, ME, E&I, EEE, ECE, and CSE departments as research centers for PhD programs. The faculty at KITSW is now integrating research, innovation, and incubation culture into course teaching to prepare students to gain tech skills for Industry 4.0. The institute is located on the Warangal - Karimnagar highway.

ABOUT THE DEPARTMENT OF ME:

The **Department of Mechanical Engineering** came into existence right from the inception of **KITSW** in the year 1980 and has been serving as a catering department to other disciplines. The Department is one of the largest in terms of faculty and activities and continues to lead and expand its activities in various directions. The department currently runs an undergraduate programme, one post-graduate program in M. Tech Design Engineering, and offers a Ph. D program. Thirty-six research scholars have registered so far, of which eight have been awarded with Ph. D degrees, and the remaining are pursuing their PhD work in the areas of Thermal, Production, Composite Materials, and Design Engineering specialization. The NBA accredited the B. Tech. (Mechanical Engineering) programme seven times and M. Tech programme for the first time under Tier-I: in 2023.

The department has 23 qualified, experienced, and committed faculty members, and 17 of them have Ph.D. degrees. The remaining faculty members are pursuing their PhD with an average teaching experience of 19 years. Seven skilled technical staff members are associated with different laboratories. The department has received grants under MODROBS from AICTE, MSME, and Minor Research Projects from UGC. The department is very well equipped with

resources in terms of equipment and the latest software.

The Department has computing systems and workstations loaded with a wide range of engineering software products covering all areas of mechanical engineering, like ANSYS, CFD, CREO, AUTOCAD, 3D Experience, and MATLAB. It has a central workshop facility (1000 Sqm), well equipped with state-of-the-art equipment, viz., CNC wood router, CO2 laser cutter, Robotics, 3D printers, PCB & IoT, to impart technical training to students of all disciplines. The academic activities are supported by 12 laboratories and one Centre of Excellence, Indo American Artificial Heart Project (IAAHP), in collaboration with the University of Pittsburgh, USA. The department has strong industry-institute links and is extending services for industrial consultancies. Mechanical engineering students consistently achieve high rankings and scores in competitive examinations such as UPSC, GATE, GRE, CAT, GMAT, TOEFL, and IELTS.

ABOUT: Student Summer Internship Program (SSIP)

Computational Engineering and Simulations using ANSYS fluent is an interdisciplinary program that focus on applying numerical techniques, mathematical modeling, computer programming, and simulation tools to solve complex problems in mechanical engineering. The program integrates core mechanical engineering concepts with modern computational approaches, including Computational Fluid Dynamics (CFD), Finite Element Analysis, and optimization techniques. The program equips students to model, analyze, and optimize engineering systems in heat transfer, fluid flow, thermal systems, and smart engineering applications. Students gain hands-on experience with the engineering ANSYS software tool and programming environments to address real-world industrial and research challenges.

ABOUT: ANSYS FLUENT and MATLAB

Computational Engineering and Simulations using ANSYS fluent training programme is designed to provide hands-on experience with the engineering ANSYS software tool and **MATLAB** programming environments to address real-world industrial and research challenges.

Participants will gain knowledge in modeling, analyzing, and optimizing engineering systems related to heat transfer, fluid flow, thermal systems, and smart engineering applications.

OBJECTIVE OF THE SSIP:

The objective of this Internship / Training Programme is to:

- understand the fundamentals of Computational methods and their applications.
- explore the commercial software ANSYS Fluent and Design Modeler to model and analyze
- acquire 2D and 3D simulation skills to address the real-world engineering problems.
- implement 1D and 2D computational techniques to forecast the thermal characteristics using MATLAB.

OUTCOMES OF SSIP:

By the end of this program, participants will have gained the following skills and knowledge:

- understand the fundamentals of computational methods and applications in real-world engineering.
- create geometries using ANSYS Workbench and Design Modeler
- set-up and perform simulations using FLUENT for various engineering applications.
- analyze and interpret fluid flow and heat transfer behavior in 2-D engineering problems.
- perform 3-D simulations for flow through pipe and duct flow
- visualize and interpret simulation results using MATLAB.
- apply computational techniques to solve practical engineering problems through project-based learning.

MAJOR CONTENTS OF THE SSIP:

- Introduction to Computational Methods
- ANSYS Workbench and Design Modeler
- 2D and 3D Modelling and Simulation
- MATLAB Programming for 1D and 2D thermal systems

Internship / Training Fee:

- Rs. 1500/- per participant, including GST, to be paid towards registration for the Student Summer Internship Program for 2 weeks.
- Registration fee includes training material and certificate of participation.
- No TA / DA will be provided to outstation participants.

Important Dates

Course Duration: 6th July to 18th July 2026

Last Date for application: 30th June, 2026.

Address for Communication

Dr. G. Ganesh Kumar, Asso. Professor, Dept. of ME

Dr. E. Ramesh, Asst. Professor, Dept. of ME

Kakatiya Institute of Technology & Science, Warangal

DEPARTMENT OF MECHANICAL ENGINEERING

Two-Week Student Summer Internship Program (SSIP)

On

“Computational Engineering and Simulations using ANSYS Fluent”

(6th July to 18th July 2026)

REGISTRATION & PAYMENT DETAILS

Step 1: Pay Registration Fee

Registration Fee: ₹1500/- per participant

UPI Payment Details

- Name: Kakatiya Institute of Technology and Science
- UPI ID: kitswarangal@sbi

SCAN & PAY



Step 2: Fill Registration Form & Upload Payment Details

<https://forms.gle/GUXYEHN1xBtQNm2o8>

After payment, upload:

- Payment Screenshot
- Transaction ID / UTR Number inside the registration form.

Contact for Queries

Dr. G. Ganesh Kumar,
Associate Professor, Department of ME
☎ +91 9849502775

Dr. E. Ramesh,
Assistant Professor, Department of ME
☎ +91 9849502775

DEPARTMENT OF MECHANICAL ENGINEERING

Two-week Student Summer Internship Programme (SSIP)
 on "Computational Engineering and Simulations using ANSYS Fluent", 06.07.2026 to 18.07.2026

Key benefits to the students:

- Hands-on training in ANSYS Fluent and ANSYS Workbench.
- Practical exposure to CFD analysis of fluid flow and heat transfer problems.
- Development of computational, analytical, and problem-solving skills.
- Experience in 2-D and 3-D simulation techniques used in industries.
- Enhanced career opportunities in design, simulation, thermal engineering, and research fields.
- Project-based learning for solving real-world engineering applications.

SCHEDULE of SSIP- Computational Engineering and Simulations using ANSYS Fluent Venue: Block-III: MCAD Lab

Module	Topic	Objectives	Activities
06.07.26 (Monday)	• Overview of Computational Methods in Engineering • Introduction to ANSYS Workbench	• Understand the fundamentals of computational methods • Familiarize the ANSYS interface	✓ Demonstration of the ANSYS Workbench environment and industrial CFD applications.
07.07.26 (Tuesday)	• Pre-Processing: Geometry Creation and Meshing	• Learn geometry creation and meshing techniques	✓ Hands-on practice in creating geometry, mesh generation
08.07.26 (Wednesday)	• Processing and post-processing using ANSYS Fluent	• Understand CFD setup procedures • Results visualization techniques	✓ Simulation setup and solver execution, ✓ Graphics and animations.
09.07.26 (Thursday)	2-D Channel Flow: • Mathematical modeling • Analysis with ANSYS Fluent	• Develop mathematical modeling • Analyze velocity and pressure distribution in channel flow	✓ Geometry modeling and meshing, ✓ Simulation and post-processing of channel flow
10.07.26 (Friday)	2-D Backward Facing Step: • Mathematical modeling • Analysis with ANSYS Fluent	• Develop mathematical modeling • Study flow separation and recirculation phenomena.	✓ CFD simulation of backward-facing step flow ✓ Interpretation of results
11.07.26 (Saturday)	Real-world Application of CFD (Live Project): • 2D Car Model	• Apply computational techniques to solve real-world engineering problems.	✓ Mini-project execution, simulation studies, result analysis, and presentation.
13.07.26 (Monday)	3-D Pipe Flow Analysis: • Mathematical modeling • Analysis with ANSYS Fluent	• Develop mathematical modeling • Study pressure drops and flow development inside pipes.	✓ CFD analysis of pipe flow ✓ Result evaluation.
14.07.26 (Tuesday)	3-D Simple Duct Flow: • Mathematical modeling • Analysis with ANSYS Fluent	• Develop mathematical modeling • Understand flow behavior and heat transfer in duct systems.	✓ Modeling, meshing, simulation, and post-processing of duct flow analysis.
15.07.26 (Wednesday)	• Introduction to MATLAB • 1D Steady Heat Conduction Analysis	• Understand the fundamentals of MATLAB • Analysis of 1D steady-state heat conduction	✓ 1D Modeling, meshing, simulation, and post-processing using MATLAB.
16.07.26 (Thursday)	• Introduction to MATLAB • 2D Steady Heat Conduction Analysis	• Understand the fundamentals of MATLAB • Analysis of 2D steady-state heat conduction	✓ 2D Modeling, meshing, simulation, and post-processing using MATLAB.
17.08.26 (Friday)	Real-world Application of CFD (Live Project): • 3D Battery/Electronic Chip Cooling	• Apply computational techniques to solve real-world engineering problems.	✓ Mini-project execution, simulation studies, result analysis, and presentation.
18.07.26 (Saturday)	• Assessment/Test on the contents covered on the Hands-on Training on Engineering Simulation Techniques, Valedictory Session, and Certificate Distribution		