MECHAZINE

DEPARTMENT OF MECHANICAL ENGINEERING

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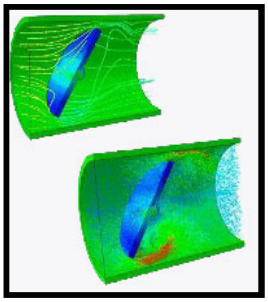
ABAQUS SIMULATION SOFTWARE



Today, product simulation is often being performed by engineering groups using niche simulation tools from different vendors to simulate various design attributes. The use of multiple vendor software products creates inefficiencies and increases costs. SIMULIA delivers a scalable suite of unified analysis products that allow all users, regardless of their simulation expertise or domain focus, to collaborate and seamlessly share simulation data and approved methods without loss of information fidelity. The Abaqus Unified FEA product suite offers powerful and complete solutions for both routine and sophisticated engineering problems covering a vast spectrum of industrial applications. In the automotive industry engineering work groups are able to consider full vehicle loads, dynamic vibration, multibody systems, impact/crash, nonlinear static, thermal coupling, and acoustic-structural coupling using a common model data structure and integrated solver technology. Best-in-class companies are taking advantage of Abaqus Unified FEA to consolidate their processes and tools, reduce costs and inefficiencies, and gain a competitive advantage.

CRYOGENICS

In physics, cryogenics is the production and behaviour of materials at very low temperatures. It is not well defined at what point on the temperature scale refrigeration ends and cryogenics begins, but scientists assume a gas to be cryogenic if it can be liquefied at or below −150 °C (123 K; −238 °F). The U.S. National Institute of Standards and Technology considers the field of cryogenics as that involving temperatures below −180 °C (93 K; −292 °F). This is a logical dividing line, since the normal boiling points of the so-called permanent gases (such as helium, hydrogen, neon, nitrogen, oxygen, and normal air) lie below −180 °C while the Freon refrigerants, hydrocarbons, and other common refrigerants have boiling points above −180 °C. Discovery of superconducting materials with critical temperatures significantly above the boiling point of liquid nitrogen has provided new interest in reliable, low cost methods of producing high temperature cryogenic refrigeration. The term "high temperature cryogenic" describes temperatures ranging from above the boiling point of liquid nitrogen, −195.79 °C (77.36 K; −320.42 °F), up to −50 °C (223 K; −58 °F). Cryogenicists use the Kelvin or Rankine temperature scale, both of which measure from absolute zero, rather than more usual scales such as Celsius which measures from the freezing point of water at sea level or Fahrenheit with its zero at an arbitrary temperature.

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NCC ACTIVITIES

Faculty of Engineering and Technology (FEAT) organized an NCC activity in Cuddalore harbor on 11.07.2018. In this activity, students were exposed themselves in tree planting, blood donation, railway station cleaning, rainwater harvesting rally ocean sailing camp, beach cleaning, church cleaning and temple cleaning.

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SPORTS ACTIVITIES

Department of Mechanical Engineering conducted a sports event in the campus. The sports activities were 100 meter, 200 meter, 400 meter, 4x 100 meter, 1500 meter, Long Jump, Shot Put, Disc Throw and cricket. In this events, students were participated and showed their skills in sports.

NATIONAL CONFERENCE RTMECA-2018

Department of Mechanical Engineering organized a national conference on Recent trends in Mechanical Engineering and CFD Applications (RTMECA) on 02.11.2018 and 03.11.2018. In this conference, research scholars defend their papers and students were participated in this conference exposed themselves.

VISION:

The Mechanical Engineering Department endeavors to be recognized globally for outstanding education and research leading to well-qualified engineers who are innovative, entrepreneurial and successful in advanced fields of Mechanical Engineering to cater to the ever changing industrial demands and social needs.

MISSION:

1. Prepare the graduates to pursue life-long learning, serve the profession and meet the intellectual, ethical and career challenges.
2. Extend a vital, state-of-the-art infrastructure to the students and faculty with opportunities to create, interpret, apply and disseminate knowledge.
3. Develop the student community with wider knowledge in the emerging fields of Mechanical Engineering.
4. Provide set of skills, knowledge and attitude that will permit the graduates to succeed and thrives as engineers and leaders.
5. Create a conductive and supportive environment for all round of growth of the students, faculty and staff.

PROGRAM EDUCATIONAL OBJECTIVES:

1. Prepare the graduates with a solid foundation in Engineering, Science and Technology for a successful career in Mechanical Engineering.
2. Train the students to solve problems in Mechanical Engineering and related areas by engineering analysis, computation and experimentation, including understanding basic mathematical and scientific principles.
3. Inculcate students with professional and ethical attitude, effective communication skills, team work skills and multidisciplinary approach.
4. Provide opportunity to the students to expand their horizon beyond mechanical engineering.
5. Develop the students to adapt to the rapidly changing environment in the areas of mechanical engineering and scale new heights in their profession through lifelong learning.

DEPARTMENT OF MECHANICAL ENGINEERING

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PROGRAMME OUTCOMES (PO)

PO1: Engineering Knowledge: Graduates will be able to apply knowledge of mathematics, science and engineering for the solution of mechanical engineering problems.

PO2: Problem analysis: Graduates will be able to formulate and analyze complex mechanical engineering problems.

PO3: Design/development of solutions. Graduates will be able to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, and public health.

PO4: Conduct investigations of complex problems: Graduates will be able to design and conduct experiments, and to analyze and interpret data.

PO5: Modern tool usage: Graduates will be able to use the techniques, skills, and modern engineering tools necessary for mechanical engineering practice.

PO6: The engineer and society: Graduates will be able to include social, cultural, ethical issues with engineering solutions.

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice

PO9: Individual and team work: Graduates will be able to function effectively on multidisciplinary teams.

PO10: Communication: Graduates will be able to communicate effectively.

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments

PO12: Life-long learning: Graduates will be able to adopt technological changes and promote life-long learning.