



# ADITYA ENGINEERING COLLEGE

An Autonomous Institution

Approved by AICTE • Permanently Affiliated to JNTUK • Accredited by NAAC with 'A' Grade  
Recognised by UGC under sections 2(f) and 12(B) of UGC Act, 1956

Aditya Nagar, ADB Road, Surampalem - 533437, Near Kakinada, E.G.Dt., Ph:99498 76662

## M.Tech: Petroleum Engineering

### Program Educational Objectives (PEOs):

Graduates of the Program will

<b>PEO 1</b>	Be successful in diverse career paths in the petroleum or allied industries
<b>PEO 2</b>	Enhance problem-solving skills that involve designing and conducting experiments, analyzing and interpreting data
<b>PEO 3</b>	Continue professional development by active participation in conferences conducted through professional bodies.
<b>PEO 4</b>	Display lifelong learning through continuing education or postdoctoral education

### Program Outcomes (POs):

After successful completion of the program, the graduates will be able to

<b>PO 1</b>	<b>Scholarship of Knowledge:</b> Acquire in-depth knowledge of a specific discipline or professional area, including wider and global perspective, with an ability to discriminate, evaluate, analyze and synthesize existing and new knowledge, and integration of the same for enhancement of knowledge.
<b>PO 2</b>	<b>Critical Thinking:</b> Analyse complex engineering problems critically, apply independent judgment for synthesizing information to make intellectual and/or creative advances for conducting research in a wider theoretical, practical and policy context.
<b>PO 3</b>	<b>Problem Solving:</b> Think laterally and originally, conceptualize and solve engineering problems, evaluate a wide range of potential solutions for those problems and arrive at feasible, optimal solutions after considering public health and safety, cultural, societal and environmental factors in the core areas of expertise.
<b>PO 4</b>	<b>Research Skill:</b> Extract information pertinent to unfamiliar problems through literature survey and experiments, apply appropriate research methodologies, techniques and tools, design, conduct experiments, analyse and interpret data, demonstrate higher order skill and view things in a broader perspective, contribute individually/in group(s) to the development of scientific/technological knowledge in one or more domains of engineering.
<b>PO 5</b>	<b>Usage of modern tools:</b> Create, select, learn and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities with an understanding of the limitations.

<b>PO 6</b>	<b>Collaborative and Multidisciplinary work:</b> Possess knowledge and understanding of group dynamics, recognize opportunities and contribute positively to collaborative-multidisciplinary scientific research, demonstrate a capacity for self-management and teamwork, decision-making based on open-mindedness, objectivity and rational analysis in order to achieve common goals and further the learning of themselves as well as others.
<b>PO 7</b>	<b>Project Management and Finance:</b> Demonstrate knowledge and understanding of engineering and management principles and apply the same to one's own work, as a member and leader in a team, manage projects efficiently in respective disciplines and multidisciplinary environments after consideration of economic and financial factors.
<b>PO 8</b>	<b>Communication:</b> Communicate with the engineering community, and with society at large, regarding complex engineering activities confidently and effectively, such as being able to comprehend and write effective reports and design documentation by adhering to appropriate standards, make effective presentations, and give and receive clear instructions.
<b>PO 9</b>	<b>Life-long Learning:</b> Recognise the need for, and have the preparation and ability to engage in life-long learning independently, with a high level of enthusiasm and commitment to improving knowledge and competence continuously.
<b>PO 10</b>	<b>Ethical Practices and Social Responsibility:</b> Acquire professional and intellectual integrity, professional code of conduct, ethics of research and scholarship, consideration of the impact of research outcomes on professional practices and an understanding of responsibility to contribute to the community for the sustainable development of society.
<b>PO 11</b>	<b>Independent and Reflective Learning:</b> Observe and examine critically the outcomes of one's actions and make corrective measures subsequently, and learn from mistakes without depending on external feedback.

### Program Specific Outcomes (PSOs):

After successful completion of the program, the graduates will be able to

<b>PSO 1</b>	Apply the concepts of geology, geophysics and reservoir engineering and production optimization pertaining to oil and gas industry.
<b>PSO 2</b>	Design and analyze well systems, procedures for drilling and completing wells to increase oil and gas production.
<b>PSO 3</b>	Analyze subsurface geological formations and their resources using geological, geophysical and engineering methods using tools CMG, HYSYS & Petrel.
<b>PSO 4</b>	Apply petroleum reservoir engineering principles to optimize resource development and effective management for the benefit of society in a sustained manner