Introduction

The Department of Mechanical Engineering is having latest and modern infrastructure to undertake teaching and research activities of international standards. The Department was established in 2014 as one of the pioneer Departments of the University. It has been set up to provide technologically and vocationally trained graduates which enable the University to meet the career needs of our community and satisfy the requirements of industry and commerce. The department offers a 4 years degree program of BS Mechanical Engineering.

Mission & Vision

Mission

To serve the national and international community by providing quality education, research and innovations in the field of Mechanical Engineering by producing competent professionals and to establish the effective partnership among university, industry and government based organizations to improve the economic development of the state of Pakistan.

Vision

To be recognized as world class Mechanical Engineering Department for excellence in education, research and innovation.

Core Values

- **M**otivated towards learning
- **E**co-friendly
- **C**ommitted to educational excellence
- **H**onest, faithful and loyal towards organization as well as country
- **A**cademic freedom
- **N**urturing professionalism in education
- **I**nnovative and Initiative
- **C**ompetent, Cooperative and compatible from customer point of view
- **A**cademic excellence
- **L**ife-long development of professional skills

Message by Head of Department

A very warm welcome to all of you to the Department of Mechanical Engineering at Khwaja Fareed University of Engineering & Information Technology, Rahim Yar Khan.

Since the induction of first batch in Fall 2014, the department has disseminated high quality education in the field of Mechanical Engineering. The department is having latest and state of the art laboratory equipment along with highly trained laboratory staff. The exponentially growing research activities in the department will make it as an ideal place for learning. Our objective is to provide one of the best education environments in the remote areas of Pakistan, which meets the international standards for the development of sound technical knowledge and related skills among our students through quality teaching.

Contact us at hod.me@kfueit.edu.pk with your questions and inquiries.

Engr. Muhammad Sajjad
Head of Department

Undergraduate

Degree Offered

Bachelor of Science in Mechanical Engineering

Duration/Semesters

4 years/8 Semesters

Plan of Study

The curriculum for undergraduate programs is regularly revised and updated as per guidelines of Higher Education Commission of Pakistan and Pakistan Engineering Council keeping in view the requirement of the industry

Revised Curriculum for BS Mechanical Engineering session 2017 & Onwards (Hyperlinked)

Laboratories & Other Facilities

The Department has state of the art laboratories to perform laboratory work. The purpose of laboratory work is to provide a platform to enhance the technical knowledge, team work and other skills of the students. We provide training and guidance in a student friendly environment that enables our graduates to learn in better and efficient manners. Currently, the Department is having following fully equipped laboratories.

Thermodynamics Lab (Hyperlinked)
Workshop Lab (Hyperlinked)
Fluid Mechanics Lab/Hydraulic Machinery Lab (Hyperlinked)
Engineering Drawing & Graphics Lab
Simulation & Cad Lab (Hyperlinked)
Engineering Mechanics Lab (Hyperlinked)
Mechanics of Machines Lab (Hyperlinked)
Mechanics of Materials Lab (Hyperlinked)

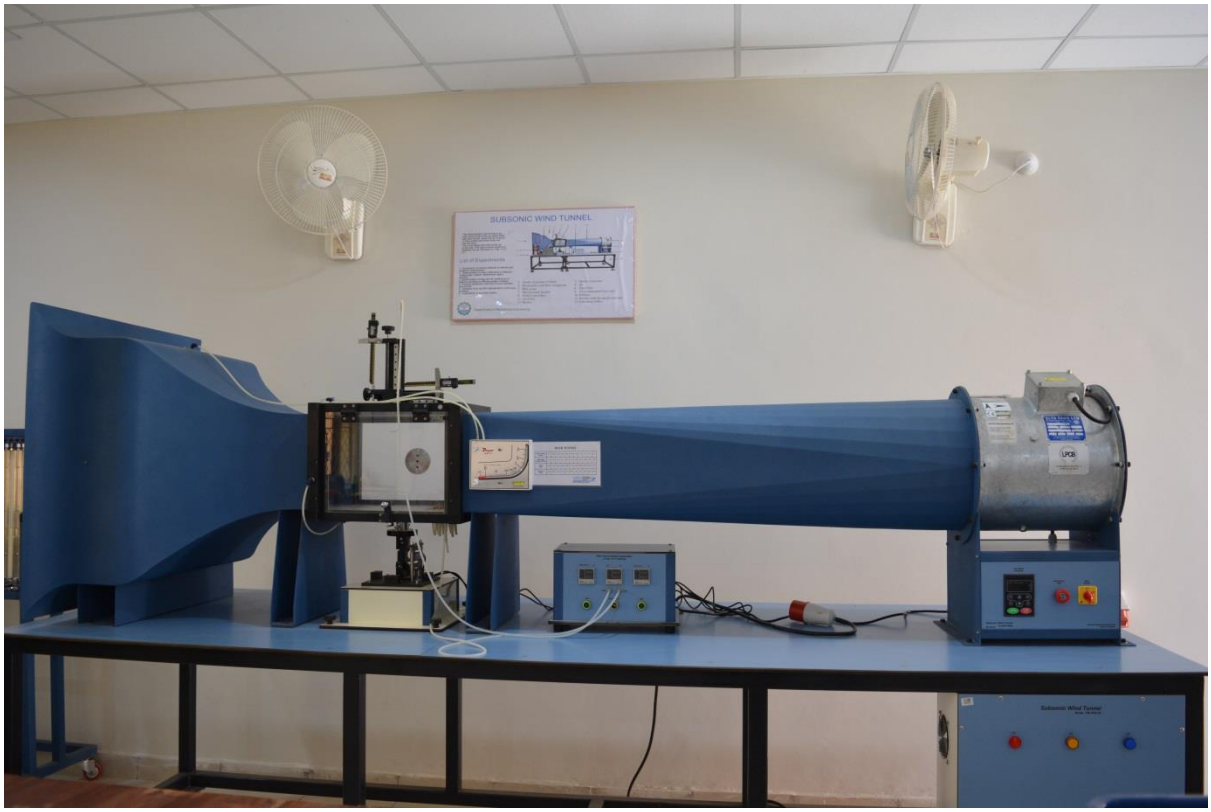
The development of various other laboratories and resource centres which accomplish the necessity of undergraduate program is in progress. The development of following advanced laboratories at Department of Mechanical Engineering is also in process

Advanced Materials Testing Lab
Advanced Manufacturing Lab
Advanced Simulation Lab
Advanced Thermal Energy Lab

Thermodynamics Lab	
Sr.No.	**Equipment Name**
1	4 stroke Diesel Engine (Section Model)
2	4 Stroke Petrol Engine (Section Model)
3	2 stroke Petrol Engine (Section Model)
4	Jet Engine (Section Unit)
5	Engine Test Bed (Petrol & Diesel)
6	Centrifugal Compressor
7	Pressure Calibration Unit
8	Dead Weight Calibrator

Workshop Lab	
Sr.No.	**Equipment Name**
1	Lathe Machine
2	Shaper Machine
3	Wood Planner
4	Drilling Machine
5	Tool Grinder
6	Fitting Shop Facilities
7	Electric Shop Facilities
8	Carpentry Shop Facilities

Fluid Mechanics Lab/Hydraulic Machinery Lab	
Sr.No.	**Equipment Name**
1	Subsonic Wind Tunnel
2	Impact of a Jet
3	Flow Meters
4	Flow through on Orifice
5	Hydraulic Bench
6	Pelton Turbine
7	Francis Turbine
8	Multi Pump test set
9	Centrifugal Pump test set
10	Water Hammer Apparatus
11	Metacentric Height
12	Losses in Bends apparatus
13	Cavitation Demonstration Unit
14	Bernoulli's Equation Demonstration Unit
15	Osborne Reynold's Number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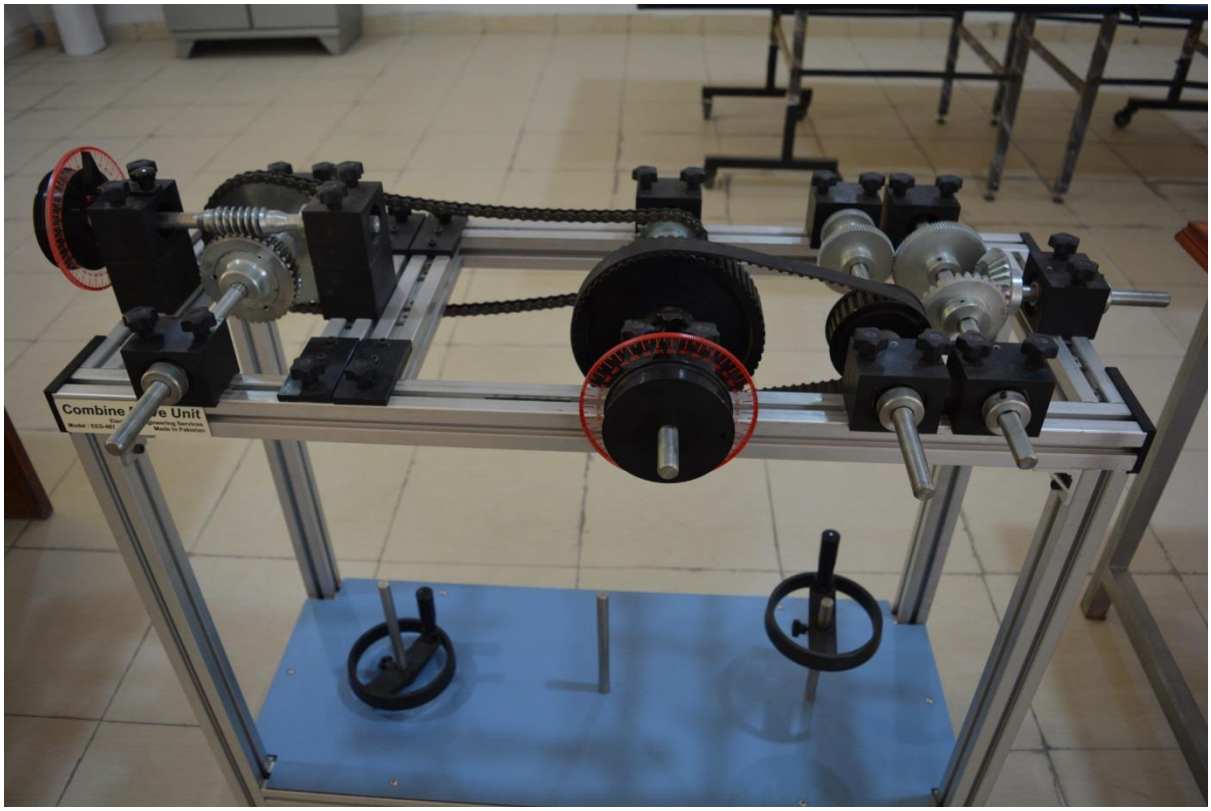
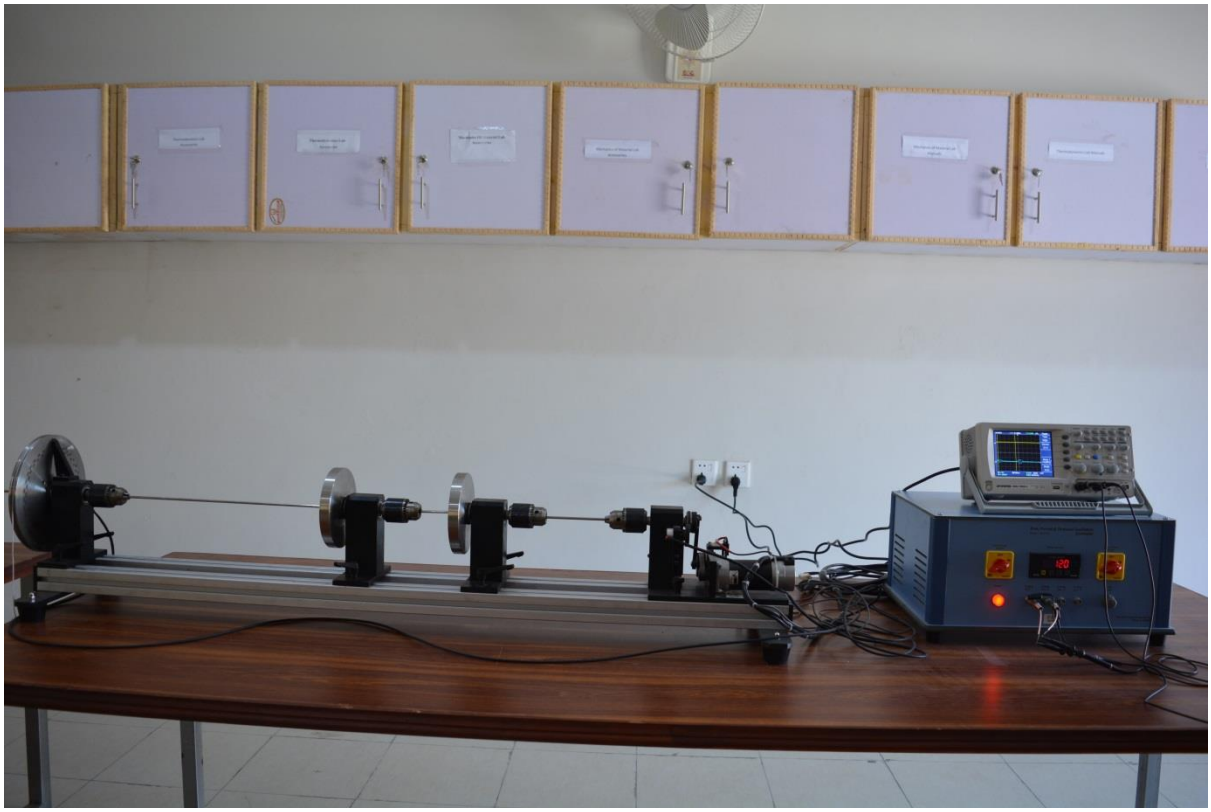
Simulation & CAD Lab	
Sr.No.	**Software Name**
1	Matlab
2	AutoCAD
3	Solid Works
4	Pro E
5	Dev C++

Engineering Mechanics Lab	
Sr.No.	**Equipment Name**
1	Slotted Link- Scotch Yoke Mechanism
2	Slider Crank Chain Mechanism
3	Whitworth's Quick Return Mechanism
4	Flywheel Apparatus
5	Friction on Inclined Plane
6	Rolling Disc
7	Rolling Oscillation
8	Duplex Screw Jack
9	Belt Friction Apparatus
10	Toggle Joint Apparatus
11	Beam Reaction Apparatus

Mechanics of Machines Lab	
Sr.No.	**Equipment Name**
1	Combine Gear Drive Unit
2	Four Bar Chain Mechanism
3	Crank & Slotted Liver Mechanism
4	Ackerman Steering Mechanism
5	Rotary Cylinder Mechanism
6	Oscillating Cylindrical Mechanism
7	Motorized Gyroscope Apparatus
8	Belt Drive Unit
9	Gear and Belt Unit
10	Whirling of Shaft Apparatus
11	Governor Apparatus
12	Cam Analysis Apparatus



Mechanics of Materials Lab	
Sr.No.	**Equipment Name**
1	Impact Testing Machine
2	Torsion Testing Machine
3	Deflection of Beams
4	Bending Moment and Shearing Force
5	Free & Forced Torsional Oscillation Controller
6	Unsymmetrical Cantilever Beam
7	Static & Dynamic Balancing Machine
8	Torsion of Bar Apparatus
9	Rubber Shearing Apparatus
10	Young Modulus Apparatus



PEC Accreditation

The zero visit of Pakistan Engineering Council (PEC) was held on November 9-10th, 2016. A team of PEC visited Department of Mechanical Engineering for the accreditation of BS Mechanical Engineering program. A green signal was given for the continuation of undergraduate programs at Department of Mechanical Engineering at KFUEIT, Rahim Yar Khan.

Board of Studies

Board of Studies for the Mechanical Engineering Department was held on September 19th, 2016. The curriculum for upcoming batches was reviewed and approved by the members.

Program Educational Objectives (PEO's)

PEO's of Mechanical Engineering

PEO-1: The graduates will apply knowledge and skills to provide sustainable solutions to challenging mechanical engineering problems in industry and academia.

PEO-2: The graduates will demonstrate professional growth and exhibit continual improvement in learning modern engineering techniques and their applications in practice.

PEO-3: The graduates will make positive contribution towards society by strong ethical values, communication skills and leadership.

Program Learning Outcomes (PLO's)

PLO's of Mechanical Engineering

The Department of Mechanical Engineering has adopted the Program Learning Outcomes (PLOs) defined by Pakistan Engineering Council (PEC) and are supported by our defined PEOs. These PLOs relate to the aptitude, awareness and performance that students acquire with the progression of the program.

PLO-01: Engineering Knowledge

An ability to apply knowledge of mathematics, science and engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PLO-02: Problem Analysis

An ability to identify, formulate research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

PLO-03: Design/Development of Solutions

An ability to design solutions for complex engineering problems and design systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO-04: Investigation

An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.

PLO-05: Modern Tool Usage

An ability to create, select 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.

PLO-06: The Engineer and Society

An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

PLO-07: Environment and Sustainability

An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

PLO-08: Ethics

Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PLO-09: Individual and Team Work

An ability to work effectively, as an individual or in a team, on multifaceted and/or multidisciplinary settings.

PLO-10: Communication

An ability to communicate effectively, orally as well as in writing on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentations, make effective presentations, and give and receive clear instructions.

PLO-11: Project Management

An ability to demonstrate management skills and apply engineering principles to one’s own work, as a member and/or leader in a team to manage projects in a multidisciplinary environment.

PLO-12: Lifelong Learning

An ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

News & Events

Orientation of Mechanical Engineering students of Session 2017

Department of Mechanical Engineering conducted orientation for the newly admitted students of session 2017. Engr. Hammad Khalid conducted an interactive session in which whole department's functioning had been described thoroughly. At the end, Head of Department Engr. Muhammad Sajjad ended the session with closing notes.

Selection Board for the selection of Teaching Faculty

Selection Board for Department of Mechanical Engineering was held on Saturday January 28, 2017. Vice Chancellor Engineer Prof. Dr. Athar Mahboob chaired the selection Board while Engr. Prof. Dr. Johar Khursheed Farooqi and Prof. Dr. Muhammad Tufail joined as subject Experts. Besides, Pro. Dr. Azra Asghar Ali, Prof. Dr. Ajmal Bhatti and Engr. Muhammad Sajjad were the members in the committee. Muhammad Bilal Irshad performed his duties as secretary of the Board. 41 short listed candidates for the posts Professor, Associate Professor, Assistant Professor, Lecturer and Lab Engineer appeared in the interview.

Group Discussion of Batch 2014

A group discussion among the students of 2014 session was conducted by Mechanical Engineering Department during semester Fall 2016. The purpose of the GD was to improve interpersonal and communication skills among the students. The faculty members of the department participated actively in this session to guide the students towards group discussions and assessments conducted by different industries.

Research & Development

Faculty of Mechanical Engineering Department is involved in conducting research in various areas such as Nano fluids, Fluid Mechanics, Energy Systems, Robotics and Control Systems, Semi conducting devices and solar cell etc. are focused initially. Many research articles are in pipeline for publishing by the faculty of mechanical engineering department.

Faculty