FACULTY OF AGRICULTURAL ENGINEERING

FAE

SINDH AGRICULTURE UNIVERSITY TANDOJAM

Outcome Based Education (OBE) System

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- Vision of the University
- Mission Statement of the University
- Vision of the Faculty
- Mission of the Faculty
- Mission Statement of the Program
- Program Educational Outcome (PEOs)
- Program Learning Outcome (PLOs)
- Mapping of PLOs to PEOs
- Bloom's Taxonomy Domains
- Alignment of PEOs with University's Vision and Mission
- Alignment of PEOs with Faculty's Vision and Program Mission

Vision of the University

Sustainable Agriculture for Food Security.

Mission Statement of the University

Committed to contributing towards self-sufficiency and sustainability in agriculture to ensure food security by producing trained manpower, conducting problem-oriented research, and establishing effective linkages with the stakeholders.

Vision of the Faculty

To take a leading role in the promotion of technological changes and their management for sustainable agricultural development.

Mission of the Faculty

The mission of the faculty is to strive for excellence in engineering education, research, and outreach in the agricultural sector for sustainable development.

Program Mission

The mission of the program is to train and equip the graduates with engineering skills, tools, and techniques so that they be capable of resolving agriculture-related issues for sustainable agricultural development and to strive for excellence in education, research, and outreach in the agricultural sector for sustainable development of the country.

Program Educational Objectives (PEOs)

PEO1: To produce quality graduates acquainted with an in-depth knowledge of engineering principles, tools, and the latest technologies to resolve agricultural engineering-related issues.

PEO2: To develop skills in graduates to work independently as well as in diverse teams to provide novel solutions to agriculture-related problems through developing industrial linkages.

PEO3: To introduce social, ethical, and environmental boundaries to the graduates within which engineering is practiced both locally and globally.

PEO4: To execute and manage teamwork, interpersonal skills, and professional growth.

Program Learning Outcomes (PLOs)

- **PLO1- Engineering Knowledge:**
- **PLO2- Problem Analysis:**
- **PLO3- Design/Development of Solutions**
- **PLO4 - Investigation**
- **PLO5- Modern Tool Usage:**
- **PLO6- The Engineer and Society:**
- **PLO7- Environment and Sustainability:**
- **PLO8- Ethics:**
- **PLO9- Individual and Teamwork:**
- **PLO10- Communication:**
- **PLO11- Project Management:**
- **PLO12- Lifelong Learning:**

PLO1- Engineering Knowledge: To be able to apply knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PLO2- Problem Analysis: To be able to identify, formulate, search literature, and analyze complex engineering problems reaching substantiated conclusions using principles of mathematics, natural, and engineering sciences.

PLO3- Design/Development of Solutions: To be able 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.

PLO4 - Investigation To be able 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 the information to derive firm conclusions.

PLO5- Modern Tool Usage: To be able 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.

PLO6- The Engineer and Society: An ability to apply reasoning informed by the 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.

PLO7- Environment and Sustainability: To be able to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of, and need for, sustainable development.

PLO8- Ethics: To be able to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PLO9- Individual and Teamwork: To be able to work effectively, as an individual or in a team, in multifaceted and /or multidisciplinary settings.

PLO10- 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 documentation, make effective presentations, and give and receive clear instructions.

PLO11- Project Management: An ability to demonstrate management skills and apply engineering principles to one's own work to manage projects in a multidisciplinary environment as a member and/or leader in a team.

PLO12- Lifelong Learning: An ability to recognize the importance of and pursue lifelong learning in the broader context of innovation and technological developments.

Mapping of PLOs to PEOs

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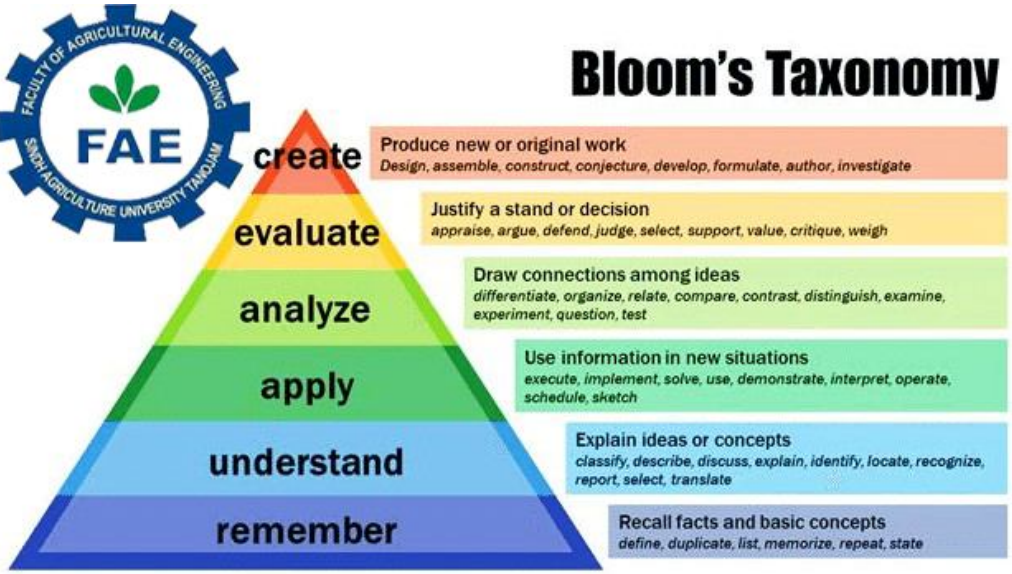
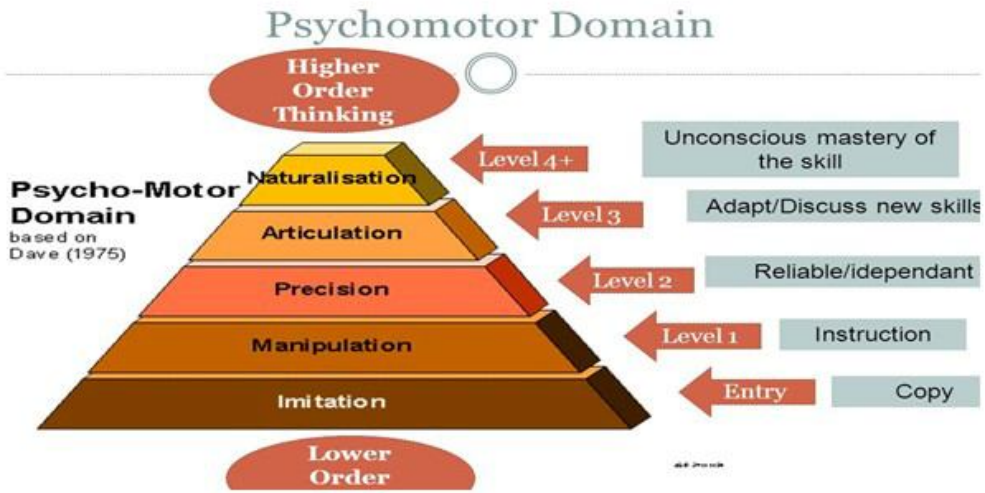
PLO No.	Graduate Attribute	PEO No.1	PEO No.2	PEO No.3	PEO No.4
1	Engineering Knowledge	✓			
2	Problem Analysis		✓		
3	Design/Development of Solutions	✓			
4	Investigation	✓			
5	Modern Tool Usage	✓			
6	The Engineer and Society			✓	
7	Environment and Sustainability			✓	
8	Ethics			✓	
9	Individual and Teamwork				✓
10	Communication		✓		
11	Project Management	✓	✓		
12	Lifelong Learning	✓	✓	✓	✓



Domains of Learning	Mode of Learning	Example Abilities
Cognitive Domain	Thoughts/ Thinking	Memorizing, Reasoning etc.
Affective Domain	Emotions/ Feeling	Appreciation, Motivation etc.
Psychomotor Domain	Actions/ Doing	Typing, Playing etc.



Alignment of PEOs with University's Vision and Mission

University's Vision and Mission		PEOs			
		1	2	3	4
Vision	Sustainable agriculture for food security	✓	✓	✓	✓
Mission	Committed to contributing towards self-sufficiency and sustainability in agriculture to ensure food security by producing trained manpower, conducting problem-oriented research, and establishing effective linkages with the stakeholders.	✓	✓	✓	✓

Alignment of PEOs with Faculty's Vision and Program Mission

Faculty's Vision and Mission		PEOs			
		1	2	3	4
Vision	To take a leading role in the promotion of technological changes and their management for sustainable agricultural development	✓	✓	✓	✓
Mission	The mission of the program is to train and equip the graduates with engineering skills, tools, and techniques so that they be capable of resolving agriculture-related issues for sustainable agricultural development and to strive for excellence in education, research, and outreach in the agricultural sector for sustainable development of the country	✓	✓	✓	✓