

# Mechanical and Automation Engineering (MAE) Programme

## OUTCOMES-BASED APPROACH (OBA) TEACHING

### Mission Statement

- Provide students with a solid education in the field of MAE emphasizing an integrative perspective and approach to problem solving; and
- Produce graduates with knowledge and character to contribute to the community as professional engineers, researchers and practitioners of diverse and evolving careers.

### Educational Objectives

1. **Core knowledge and understanding** of engineering mathematics and sciences, and computing
2. **Application of relevant knowledge** in analyzing and solving engineering problems
3. **Experience in engineering design and product and system development**
4. **Experience in using engineering tools**
5. **Ability to pursue specialized areas** within the field of MAE
6. **Effective communication, management, and team skills**
7. **Ethical values and responsibilities** as professional engineer and member of local and world communities
8. **Motivation in professional development and life-long learning**

## Desired Outcomes

General Criteria	Description of Desired Outcome for MAE Programme
1	An ability to <b>apply knowledge of engineering sciences and mathematics</b> to the discipline of mechanical and automation engineering
2	An ability to <b>design and conduct experiments</b> , as well as to analyze and <b>interpret data</b>
3	An ability to design a system, component, or process to <b>meet desired needs within social, environmental and technical constraints</b>
4	An ability to <b>function on teams</b>
5	An ability to <b>identify, formulate, and solve engineering problems</b>
6	Recognition of <b>professional and ethical responsibility</b>
7	An ability to <b>communicate effectively</b>
8	An ability to understand the <b>impact of engineering solutions in a global and societal context</b> , especially the importance of health, safety and environmental considerations to both workers and the general public
9	An ability to stay abreast of <b>contemporary issues</b>
10	An ability to recognize the need for and to engage in <b>life-long learning</b>
11	An ability to use the <b>techniques, skills and tools</b> to practice in the mechanical and automation engineering discipline
12	An ability to use the <b>computer/IT tools</b> relevant to the discipline along with an understanding of their processes and limitations