

## **Bachelor of Agricultural and Biosystems Engineering**

### **Introduction**

The Department of Biological and Agricultural Engineering is a pioneer in agricultural engineering education in Malaysia, offering the Bachelor of Agricultural and Biosystem Engineering program (ABE) in a 4-year study duration with a total of 135 credits required for graduation. Being in line with the national objective of strengthening the agricultural sector in order to ensure the sustainability of food supply and income generation, the ABE program meets the needs of trained and skilled manpower to solve problems associated with the design of agricultural equipment and off-road vehicles; robots and automation; control systems and agricultural waste treatments; quality and management of surface and groundwater; crop and livestock facilities; and plantation and natural resources management through using information technology.

The program has four options of emphasis i.e. Postharvest and Environment, Soil and Water Resources, Agricultural Informatics and, Mechanisation and Automation. The objectives of this program are; i) to produce engineers that are knowledgeable in the field of agricultural and biosystem engineering with appropriate skills and attitude for employment in industries; ii) to produce engineers who are creative and innovative, as well as being concerned and responsible towards the society, cultures and environment; iii) to produce engineers who are capable of solving advanced design and development problems at national and international levels. Students are also exposed to competitions related to agricultural and biosystem engineering at national and international level as well as have opportunities to undergo practical training and join student exchange programs abroad.

### **Career Opportunities**

Job opportunities for ABE graduates are wide and diverse, covering aspects of management, consultancy and construction, research and development, monitoring and control, technical services, sales and marketing, production and processing, business and entrepreneurship, as well as education and training. These wide-ranging opportunities are the result of the versatility of the ABE program and this versatility has resulted in the high demand for ABE graduates at all times. The ABE program is recognized by the Public Service Department (JPA), the Institution of Engineers Malaysia (IEM), the Board of Engineers Malaysia (BEM) and the Malaysian Engineering Accreditation Council (EAC). ABE graduates can also seek employment outside the country since the ABE program is also recognized by the Washington Accord at the international level. Till today, ABE graduates have been hired by many public and private sectors such as the Department of Agriculture, Kemubu Agricultural Development Authority (KADA), Muda Agricultural Development Authority (MADA), Farmers Organization Authority (FOA), Federal Land

Consolidation and Rehabilitation Authority (FELCRA), Malaysian Palm Oil Board (MPOB), Malaysian Agricultural Research and Development Institute (MARDI), Malaysian Nuclear Agency, Rubber Industry Small Holders Development Authority (RISDA), the Malaysian Rubber Board, the Malaysian Cocoa Board, Bank of Agriculture, Federal Land Development Authority (FELDA), Marditech , Malaysian Industrial Development Authority (MIDA), Tradewinds Plantation Berhad, Oil and Gas Industries, National Hydraulic Research Institute of Malaysia (NAHRIM), Kulim (Malaysia) Berhad, Sime Darby, Genting Plantation, Kuala Lumpur Kepong Berhad, IOI Plantation, Charoen Pokphand Group, Top Glove Corporation Bhd, Sony, Institute of Public and Private Higher Education, Polytechnic and Ministry of Education Malaysia. There are also graduates who become entrepreneurs by setting up companies and involved in engineering design, fabrication and engineering tools supply.

### Admission Requirements

| <b>Bachelor of Agricultural and Biosystems Engineering (PK05)</b><br>8 Semesters  |   |   |
|---|---|---|
| Fulfills the University General Requirements and Specific Programme Requirements:   |   |   |
| a) A minimum CGPA of 2.80<br>b) A minimum of Band 3 in the Malaysian University English Test (MUET)<br>OR Credit in English Language subject at SPM level           |   |   |
| c) And  |   |   |
| <b>STPM Holder</b>  | <b>KPM Matriculation /<br/>UM Science Foundation /<br/>UiTM Foundation /<br/>UPM Agricultural Science<br/>Foundation Holder</b>   | <b>Diploma Holder /<br/>Equivalent</b>  |
| A minimum of Grade B (GP 3.00) in <ul style="list-style-type: none"> <li>• Mathematics T / Further Mathematics T</li> <li>AND</li> <li>• Physics/Biology</li> </ul> | A minimum of Grade B (GP 3.00) in <ul style="list-style-type: none"> <li>• Mathematics / Engineering Mathematics; and</li> <li>• Physics / Engineering Physics/Biology</li> </ul> | A Diploma with a minimum CGPA of 2.80 in the appropriate field or other qualification approved by the UPM Senate. |

### Curriculum (2016 – 2020):

The component of curriculum studies can be divided into three categories, namely general courses, core courses and elective courses:

| Component           | EAC requirements<br>(minimum total credit<br>hours) | Curriculum of<br>Bachelor of<br>Agricultural and<br>Biosystems<br>Engineering | Percentage  |
|---------------------|---|---|-------------|
| General Courses     | No minimum value set                                | 32  | 23.7        |
| Core Courses        | 80  | 94  | 69.6        |
| Elective Courses    |   | 9   | 6.7         |
| <b>Total Credit</b> | <b>135</b>  | <b>135</b>  | <b>100%</b> |

**Total credit hours: 135**  
**Duration of study: 8 semester (4 years)**

**Fees:**

| Code | Program   | Average cost<br>of a student<br>per year | Fees paid by a<br>student per<br>year* | Government<br>subsidies to<br>the student<br>per year |
|------|---|--|--|---|
| 98   | Bachelor of<br>Agricultural<br>and<br>Biosystems<br>Engineering | RM26,315.00                              | RM4,489.00                             | RM21,826.00   |

\*Fees for local students on first semester as at August 2, 2018 is RM2,637.00 (subject to change from time to time).

**Persons to be contacted:**

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