

Bachelor of Process and Food Engineering

Introduction

Food is an important resource for human life. The needs to produce and process food in large quantities necessitate the application of engineering knowledge, so that quality foods can be produced for human consumption through safe, efficient and economical processes. Hence, UPM offers the Bachelor of Process and Food Engineering, a multidisciplinary course to produce a competent process and food engineer capable of:

- Utilization of efficient processes for preparing and preserving raw agricultural/biological materials,
- Transforming and processing agricultural/biological materials by using appropriate techniques taking into consideration properties of materials initially, during processing, and of the final products, to ensure maximum production rate and highest quality products for purpose of consumption and further manufacturing.
- Extracting and purifying agricultural/biological materials into high quality food, pharmaceutical, and industrial materials.

These can be achieved through the theories, principles, analysis and applications of the following engineering practices:

- Physical unit operations and process design
- Heat and mass transfer operation and design
- Process simulation and optimization
- Process instrumentation, control and automation
- Process plant design and engineering.

Students can opt for one of the three options during their final year of study:

1. Bio-material Process Engineering Option. This option emphasizes on the application of process engineering principles and concepts for processing of major agricultural commodities and for processing to develop new bio-based products for use as food materials and raw materials for manufacturing industries.
2. Food Engineering Option: This option emphasizes on the application of process engineering principles and concepts for food processing industries.
3. Process Machine Design Engineering Option. This option focuses on courses related to machine design specifically for the process and food industries.

Elective courses are also available for the students in their final year such as palm oil processing course, pharmaceutical technology course, food extrusion technology course, powder technology course and rice processing course.

Career Opportunities

There is currently a relevant demand for graduates in the process and food engineering. Management Performance & Delivery Unit (PEMANDU) speculated that request for processed food and convenience food will continue to increase to over 10% per year. Most of the graduates successfully secured employment with multinational and national companies, as well as government bodies related to the field of process and food engineering. Some of the companies that have previously employed our graduates include Nestle, Top Glove, GSK, Sime Darby and FELDA.

Admission Requirements

| Bachelor of Process and Food Engineering (PK05) 8 Semesters | | |
|---|--|---|
| Fulfills the University General Requirements and Specific Programme Requirements: | | |
| a) A minimum CGPA of 2.80 b) A minimum of Band 3 in the Malaysian University English Test (MUET) OR Credit in English Language subject at SPM level | | |
| c) And | | |
| STPM Holder | KPM Matriculation / UM Science Foundation / UiTM Foundation / UPM Agricultural Science Foundation Holder | Diploma Holder / Equivalent |
| A minimum of Grade B (GP 3.00) in <ul style="list-style-type: none"> • Mathematics /Further Mathematics; and • Physics/Chemistry/ Biology | A minimum of Grade B (GP 3.00) in <ul style="list-style-type: none"> • Mathematics/Engineering Mathematics; and • Physics/Engineering Physics/ Chemistry/ Engineering Chemistry/ Biology | 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 (minimum total credit hours) | Curriculum of Bachelor of Process and Food Engineering | Percentage |
|---------------------|--|--|-------------|
| General Courses | No minimum value set | 49 | 36% |
| Core Courses | 80 | 68 | 51% |
| Elective Courses | | 18 | 13% |
| Total Credit | 120 | 135 | 100% |

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

Fees:

| Code | Program | Average cost of a student per year | Fees paid by a student per year* | Government subsidies to the student per year |
|------|--|------------------------------------|----------------------------------|--|
| 98 | Bachelor of Process and Food 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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Updated on September 12, 2018