# ACADEMIC GUIDEBOOK

## FOUNDATION PROGRAMME
## UTM

SESSION 2018/2019

# FOUNDATION PROGRAMME
# UTM JOHOR BAHRU

# ACADEMIC GUIDEBOOK

First Edition: 2018/2019


**NOTE:**
Information in this Academic Guidebook is true at time of printing.
Full Time Programme UTMSPACE reserves the right to amend any information without prior notification.

**ENQUIRIES:**

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# NATIONAL EDUCATION PHILOSOPHY

Education in Malaysia is an on-going effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonic, based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards and who are responsible and capable of achieving high level of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society and the nation at large.

# UNIVERSITY

University **Philosophy**

The divine law of Allah is the foundation for science and technology. Universiti Teknologi Malaysia strives with total and unified effort to develop excellence in science and technology for universal peace and prosperity, in according with His Will.

University **Vision**

To be recognized as a world-class centre of academia and technological excellence.

University **Mission**

To be a leader in the development of human capital and innovative technologies that will contribute to the nation's wealth creation.

University **Motto**

Innovative, entrepreneurial, global

# UTMSPACE

## UTMSPACE **Philosophy**

Education is a lifelong learning process, therefore, UTMSPACE believes that each individual who has the interest and is willing to further develop himself, can be taught regardless of age limit and the academic history.

## UTMSPACE **Vision**

To be recognized as a Centre of Excellence for Lifelong Learning

## UTMSPACE **Mission**

To lead the development of creative and innovative human capital through quality lifelong learning

## UTMSPACE **Motto**

Strengthening Lifelong Learning

# UTM GRADUATE ATTRIBUTES

**Communication Skills**

Communication skills incorporate the ability to communicate effectively in Bahasa Melayu and English across a range of contexts and audiences.

| | |
|---|---|
| CS1 | Ability to present Idea clearly, effectively and confidentially through written and modes. |
| CS2 | Ability to listen actively and respond accordingly. |
| CS3 | Ability to make clear and confident presentation appropriate to audience. |
| CS4 | Ability to use technology in presentation. |
| CS5 | Ability to negotiate and reach agreement. |
| CS6 | Ability to communicate with people of different culture. |

**Critical Thinking**

Critical thinking and problem solving incorporate the ability to think critically, logically, creatively and analytically.

| | |
|---|---|
| CTPS1 | Ability to define and analyze problems in complex, overlapping ill-defined domains and make well-supported judgment. |
| CTPS2 | Ability to apply and improve on thinking skills, especially skill in reasoning, analyzing and evaluating. |
| CTPS3 | Ability to look for alternative ideas and solutions. |
| CTPS4 | Ability to think outside the box. |
| CTPS5 | Ability to understand and adapt to the culture of a new community and working environment. |

**Team Working**

Team working incorporates the ability to work with other people with different background to achieve a common goal.

| | |
|---|---|
| TW1 | Ability to establish good rapport, interact with others and work effectively with them to meet common objectives. |
| TW2 | Ability to comprehend and assume the inter-changeable role of leaders and followers. |
| TW3 | Ability to recognize and respect the attitudes, action and beliefs of others. |

**Information Management and Lifelong Learning Skills.**

Information management and lifelong learning incorporate the ability to continue learning independently in the acquisition of new knowledge and skills.

| | |
|---|---|
| TW1 | Ability to seek and manage relevant information from a variety of sources. |
| TW2 | Ability to accept new ideas and to learn independently in acquisition of new knowledge and skills. |
| TW3 | Ability to develop an acquisition mind driven by a passion for knowledge acquisition. |

**Entrepreneurship Skills**

Entrepreneurship incorporates the ability to analyze situations and recognize opportunities to use one's knowledge and skills for business opportunities.

| | |
|---|---|
| ES1 | Ability to identify business opportunities. |

**Leadership Skills and Proactiveness**

Leadership and proactiveness incorporate knowledge of the basic principles of leadership and application of the traits of leadership in one's interaction with others.

| | |
|---|---|
| LS1 | Ability to demonstrate basic knowledge of leadership. |
| LS2 | Ability to take and to get others engaged. |

**Ethics and Integrity**

Ethics incorporate the ability to apply high ethical standards in professional practice and social interactions.

| | |
|---|---|
| ET1 | Ability to act ethically and with a high sense of social responsibility. |
| ET2 | Ability to analyze and make ethical decisions when solving problems. |
| ET3 | Ability to understand the economic, environment and socio-cultural impacts of professional practice. |

# FACILITIES IN UTM JOHOR BAHRU

## ➢ UTM FACILITIES

### Library

There are two main libraries in UTM;

- Perpustakaan Sultanah Zanariah (PSZ)
  The newly developed digital library system to support INFOLAN, the library's automated system is complemented with easy access to the electronic information.
- Perpustakaan Raja Zarith Sofia (PRZS)
  PRZS in the newest branch of Universiti Teknologi Malaysia (UTM) Library. It is a designated research library for the university.

### Online Learning System (e-Learning)

Students can have access lecture notes, quizzes and assignments of all courses offered online. The e-learning can also serves as platform for students to conduct educational forum or discussions with other students or interact with their lecturer after class.

### Executive Program Academic Management System (TEAMS)

An academic information management called TEAMS has been used for registration, course scheduling, management of students' course grades and record keeping of every student in UTM.

## ➢ STUDENT SUPPORT FACILITIES

### (a) Hostel

There are 11 residential colleges in UTM Johor Bahru main campus to accommodate all undergraduate and postgraduate students. Among the facilities provided at each residential college are a cafeteria, a multipurpose hall, a Muslim prayer room, tennis courts, an internet and computer center, a convenient store and a common room besides other facilities in the students' rooms.

### (b) Sport and Recreational Centres

UTM houses ten different recreational centers and gardens for the purpose of students and staff recreational and motivational outdoor activities.

These include recreational forest, orchard and nursery, herbal garden, tropical garden, deer garden, equestrian center, golf driving range, children playground and camping area.

These are various sport facilities available at UTM. The indoor sports facilities include squash and badminton courts and a gymnasium, whilst the outdoor facilities include volleyball, netball, basketball and tennis courts, as well as full-sized fields for soccer, rugby and cricket. UTM has its own sport stadium and swimming pool. In addition, university also provides a varied array of clubs and societies ranging from cultural to recreational to suit the varied interests of the students.

### (c) Health Centre

The Health Centre in UTM offers various services such as dental, outpatient, maternity and pediatric clinics. It also caters for emergency and haemodialysis treatments and radiology checkups. The health centre is open from Monday to Saturday and closed on Sunday as well as public holidays.

**(d) Student Centres**

Student Centres are located at Student Union Building (SUB). All student societies have an office for their administration. All student activities are governed by the Office of Student Affairs (HEP).

# HISTORY OF UTMSPACE

UTMSpace is an incorporated responsibility center that functions as a corporate body responsible to plan, manage and implement lifelong learning programmes for Universiti Teknologi Malaysia.

In the early years of its establishment, Universiti Teknologi Malaysia, School of Professional and Continuing Education (UTMSPACE) offered professional development programmes such as short courses, seminars, workshops and in-house training. However, due to an overwhelming demand for part-time and full-time educational programmes in both private and public sectors, UTMSPACE took the initiative of offering mainstream academic programmes starting from the academic year 1995/96. Currently, the Academic Programmes offer the courses at Diploma and Undergraduate level, in line with the courses offered by the various Faculties at UTM. For customers' convenience, the classes are conducted at 17 learning centers all over the country.

UTMSPACE Professional Programmes offer various soft skills and technical skills short courses. Tailor-made short courses designed based on specific organization's needs are also available. UTM Professional Skills Certificate programmes are offered to fulfil the industry's demands for graduates who are competent in all aspects. These programmes are value-added courses for future graduates, giving them a competitive edge when they venture into the employment market. UTMSPACE also offers event management services, organising series of seminars and conferences at national and international levels.

In tandem with its mission to provide quality continuing education services, UTMSPACE also offers Professional Diploma programmes and English Language programmes. Professional Diploma programmes are targeted at employees who want to

Improve their knowledge and skills. English Language programmes aim to help local and International students to improve their English Language proficiency as a preparation for continuing their undergraduate or postgraduate studies at the faculties. The language programme is also open to all members of the local public and working adults who wish to improve their communicative English skills at the workplace.

In line with UTMSPACE vision to be the center of excellence in continuing education, from time to time UTMSPACE will identify and attempt to fulfil the community's demands. Promotions and marketing are aggressively carried out as an effort to strengthen UTM and UTMSPACE brands. In 2010, with the upgrading of UTM as a Research University, UTMSPACE has been entrusted to take over and manage UTM College of Science and Technology (KST) and the Joint Programme Management Unit (UPPK). With the merger management rearrangement, UTMSPACE is fully responsible for the implementation of Full-Time Diploma programmes and Joint Diploma Programmes conducted in collaboration with 17 private colleges.

On 28th January 2011, UTMSPACE marked its own history, when it was officially registered as a Limited Company by Guarantee. With this change in status, UTMSPACE now acts as a business branch of UTM which concentrates on the development of lifelong learning. In line with its mission, UTMSPACE aims to lead the development of innovative and creative human capital through quality lifelong education.

# MESSAGE FROM THE DEAN

In the Name of Allah, the Most Beneficent, the Most Merciful,

I am very pleased to welcome all the new students to the Foundation Programme Universiti Teknologi Malaysia (UTM).

Congratulations for being among the privileged of the candidates to get the opportunity as pioneer students to study in matriculation programme at UTM. I am pleased to announce the Foundation Programme UTM is the first matriculation UTM badge and your arrival at UTM marks a new chapter in the story of your life.

The preceding chapters were largely written by others include your parents, guardians, families, lecturers and the like. Now you will be the principal author of the next chapter in corresponds to have the opportunity to determine your own direction, the plot and the tempo of after completed Sijil Pelajaran Malaysia (SPM). At the heart of the success of Foundation Programme UTM lies it's academic and support staff who are relentless and innovative in their effort to produce the best talents within an exciting, productive, challenging and sustainable learning environment. Throughout this matriculation UTM, we are committed in our mission to nurture students into a global citizen by designing competitive 21$^{st}$ Century Curriculum in line with 4$^{th}$ Industrial Revolution.

I wish that you will remain focused on achieving academic success, be actively engaged inside and outside of the classroom, be open to new and challenging experiences, conduct yourself in accordance with our core values, seek help when needed, and don't forget to make learning time excitement during the learning study at UTM. I sincerely hope this Student Academic Handbook is a valuable as a reference to entry requirements, curriculum, and career path after graduated from here. It's going to be a great year and we look forward for supporting your academic and personal success at Universiti Teknologi Malaysia!

I wish you all the best in your studies and future undertakings.
Thank you and best regards,

**Professor Dr Othman Bin Che Puan**
Dean,
School of Professional and Continuing Education (SPACE)

# ORGANIZATIONAL STRUCTURE

# ACADEMIC CALENDAR

**FOUNDATION PROGRAMME UTM**
**JOHOR BAHRU CAMPUS**

| | |
|---|---|
| 28 April 2018 | Registration of New Students (1 Day) |
| 29 April 2018 | Students Orientation Day (1 Day) |

| **SEMESTER 1<br>2 May 2018 – 14 June 2018<br>(10 Weeks)** | |
|---|---|
| 2 May – 16 June 2018 | Lectures Semester I (7 Week) |
| 23 May 2018 | *Senate Meeting |
| 17 June – 23 June 2018 | Revision Period for Semester I (1 Week) |
| 24 June – 30 June 2018 | Final Examination for Semester I (1 Week) |
| 27 June 2018 | *Senate Meeting |
| 1 July – 7 July 2018 | Final Break for Semester I (1 Week) |

| | |
|---|---|
| 2 July 2018 | Registration of New Students (1 Day) |
| **SEMESTER II<br>8 July 2018 – 1 December 2018<br>(21 Weeks)** | |
| 8 July – 25 August 2018 | Lectures Semester II (First Half) 7 Weeks |
| 15 August 2018 | *Senate Meeting |
| 26 August – 1 September 2018 | Mid-Semester Break for Semester II (1 week) |
| 19 September 2018 | *Senate Meeting |
| 2 September 2018 | Lectures Semester II (Second Half) (8 Weeks) |
| 17 October 2018 | *Senate Meeting |
| 28 October 2018 – 3 November 2018 | Revision Period for Semester II (1 Week) |
| 4 November – 17 November 2018 | Final Examination for Semester II (2 Weeks) |
| 18 November – 1 December 2018 | Final Break for Semester II (2 Weeks) |
| 21 November 2018 | *Senate Meeting |

| | |
|---|---|
| 1 December 2018 | Registration of New Students (1 Day) |
| **SEMESTERR III<br>2 December 2018 – 28 April 2019<br>(21 Weeks)** | |
| 2 December – 20 January 2019 | Lectures Semester III (First Half ) (7 Weeks) |
| 12 December 2018 | *Senate Meeting |
| 21 January – 27 January 2019 | Mid-Semester Break for Semester III (1 Week) |
| 28 January – 24 March 2019 | Lectures Semester III (Second Half) (8 Weeks) |
| 25 March – 31 March 2019 | Revision Period for Semester III (1 Week) |
| 1 April – 14 April 2019 | Final Examination for Semester III (2 Weeks) |
| 15 April – 28 April 2019 | Final Break for Semester III (2 Weeks) |
| | |

Note: Subject to Change

# ENTRY REQUIREMENT FOR FOUNDATION PROGRAMME UTM

**i) Local Candidates**

- Passed SPM / SPMV with at least a credit in 5 subjects including Mathematics and two Science subjects

OR

- Passed O-Level with at least B grade in 3 subjects including Mathematics and two Science subjects

OR

- Other qualifications recognized by the Malaysian Government.

**ii) International Candidates**

- Passed O Level or its equivalent,

- Indonesian candidates who graduated SMU3 / SMA with an average grade of 5-5.9

- Candidates from other countries are assessed by MQA equivalent to SPM

- With Grade A- in Mathematics, Physics and Chemistry subjects and possessing an English equivalent qualification of Cambridge O Level 1119 with a minimum of Grade 6.

# PROGRAMME SPECIFICATIONS

| | | | | |
|---|---|---|---|---|
| **1. Programme Name** | | | Foundation Programme | |
| **2. Final Award** | | | Foundation Programme Certificate | |
| **3. Awarding Institution** | | | UTM | |
| **4. Teaching Institution** | | | UTM | |
| **5. Professional or Statutory Body of Accreditation** | | | Ministry of Higher Education | |
| **6. Code of Programme** | | | FSPA | |
| **7. Language(s) of Instruction** | | | Bahasa Melayu and/or English | |
| **8. Mode of study (conventional, distance learning,** | | | Conventional | |
| **9. Mode of operation (Franchise, self-govern, etc)** | | | Self-govern | |
| **10. Study scheme (Full time / Part time)** | | | Full-time | |
| **11. Study Duration** | | | Minimum : 3 semesters (1 years)<br>Maximum : 6 semesters (2 years) | |
| Types of Semester | No. of Semesters | | No. of weeks per semester | |
| | Full time | Part time | Full time | Part time |
| Long | 3 | 0 | 7 and 16 | 0 |
| Short | 0 | 0 | 0 | 0 |
| **12. Entry Requirement** | | | 12.1 **Requirement for Local Candidates**<br><br>Passed SPM / SPMV with at least a credit in 5 subjects including Mathematics and two Science subjects<br><br>OR<br><br>Passed O-Level with at least B grade in 3 subjects including Mathematics and two Science subjects<br><br>OR<br><br>Other qualifications recognized by the Malaysian Government.<br><br>12.2 **Requirement for international candidates**<br><br>I. Passed O Level or equivalent,<br>II. Indonesian candidates who graduated SMU3 / SMA with an average grade of 5-5.9<br>III. Candidates from other countries are assessed by MQA equivalent to SPM<br><br>With Grade A- in Mathematics, Physics and Chemistry subjects and possessing an English equivalent qualification of Cambridge O Level 1119 with a minimum of Grade 6. | |

| **Programme Educational Objectives (PEO)** |
|---|
| Graduates of this program should be able to:<br><br>1. Demonstrate knowledge and understanding in the field of study which is an extension of the secondary school as found in advanced textbooks;<br>2. Apply knowledge and understanding to identify and use data to respond clearly to concrete and complex problems;<br>3. Communicate and explain understanding and skills to friends and supervisors; and<br>4. Demonstrate the skills to pursue higher education. |

| **14. Programme Learning Outcomes (PLO)** | | | |
|---|---|---|---|
| **Programme Learning Outcomes (PLO)** | **Intended Learning Outcomes** | **Teaching and Learning Methods** | **Assessment** |
| **PLO1 Knowledge** | Demonstrate an understanding of facts, concepts, principles and processes in relevant fields | Lectures, tutorials, directed reading, internet searching, active and cooperative Learning. | Tests, quizzes, Examinations, Assignments, and Presentation |
| **PLO2 Problem Analysis** | Apply (use) basic principles in the selected field to identify and to solve problems | Project based learning, active and cooperative learning, case studies, Problem based learning. | Test, Assignment report and Project report. |
| **PLO3 Investigation** | Carry out academic activities such as information collection, data analysis and conclusion | Laboratory work and group projects. | Assignment report, Log book and Project report. |
| **PLO4 Communications** | Communicate effectively through written and oral modes | Assignments and projects | Assignment reports, Project Report and Presentations. |
| **PLO5 Lifelong Learning** | Shows the efficiency of searching information and self- esteem lifelong learning | Assignment, projects, Cooperative learning and discussion. | Project report, Log book and assignment reports |

| No. | Classification | Credit Hours | Percentage |
|---|---|---|---|
| i. | University Courses | 14 | 28 |
| ii. | Core Courses | 36 | 72 |
| iii. | Practical Training | 0 | 0 |
| iv. | Elective Courses | 0 | 0 |
| | Total | 50 | 100 |

| Foundation Classification | | Credit Hours | Percentage |
|---|---|---|---|
| **A** | University Courses<br>a. Lecture<br>b. Laboratory/Workshop/Mini Project<br>c. Skill Acquisition (incorporated in the course) | <br>10<br>4<br>0 | <br>2<br>0<br>8<br>0 |
| | Total credit hours for part A | 14 | 28 |
| **B** | Core Courses<br>a. Lecture<br>b. Laboratory/Workshop/ Mini Project<br>c. Skill Acquisition (incorporated in the course) | <br>28<br>8<br>0 | <br>5<br>6<br>1<br>6<br>0 |
| | Total credit hours for Part B | 36 | 72 |
| **C** | Practical Training<br>a. Lecture<br>b. Laboratory/Workshop/ Mini Project<br>c. Skill Acquisition (incorporated in the course) | <br>0<br>0<br>0 | <br>0<br>0<br>0 |
| | Total credit hours for Part C | 0 | 0 |
| **D**. | Elective Courses<br>a. Lecture<br>b. Laboratory/Workshop/Mini Project<br>c. Skill Acquisition (incorporated in course) | <br>0<br>0<br>0 | <br>0<br>0<br>0 |
| | Total credit hours for Part D | 0 | 0 |
| **E.** | Total credit hours for Part A, B, C and D | 50 | 100 |
| **16. Total credit hours to graduate.** | | **50** | |

**17. Programme Structures and features, curriculum and award requirements**

This programme is offered in full time mode and based on a 3 semester Academic Year with several courses being delivered and assessed in each semester.

**Assessment:**

- Courses
  50 % Course Work
  50 % Course Work
- Laboratory Work
  100 % Course Work
- Skill acquisition (Lab incorporated)
  50 % - 60 % Course Work
  40 % - 50 % Final Examination

**Award Requirement:**
**Student should:**
Achieve a total of 50 credit hours with minimum CPA of 2.00

# ACADEMIC SESSION FOR UTM FOUNDATION PROGRAMME

**SEMESTER I**

| | |
|---|---|
| Lecture | 7 weeks |
| Revision Period* | 1 week |
| Final Examination | 1 week |
| **Total (A)** | **9 weeks** |
| **Final semester break (B)** | **1 week** |

**SEMESTER II**

| | |
|---|---|
| Lecture | 15 weeks |
| Mid Semester Break | 1 week |
| Revision Period* | 1 week |
| Final Examination | 2 weeks |
| **Total (C)** | **19 weeks** |
| **Final semester break (D)** | **2 weeks** |

**SEMESTER III**

| | |
|---|---|
| Lecture | 15 weeks |
| Mid Semester Break | 1 week |
| Revision Period* | 1 week |
| Final Examination | 2 weeks |
| **Total (E)** | **19 weeks** |
| **Final semester break (F)** | **2 weeks** |

**TOTAL WEEKS PER ACADEMIC SESSION = (A) + (B) + (C) + (D) + (E) + (F)** **52 WEEKS**

*** Subject to change**

**Notes:-**
The exact commencement date for UTM Foundation Programme Academic Session is set according to the University's Academic Calendar

# CURRICULUM STRUCTURE

**SEMESTER 1**

| Code | Course | Credit |
|---|---|---|
| FSPM0014 | Intermediate Mathematics | 4 |
| FSPK0012 | Computer Literacy | 2 |
| FSPH0012 | Fundamentals of Knowledge | 2 |
| FSPE0012 | General English | 2 |
| **TOTAL** | | **10** |

**SEMESTER 2**

| Code | Course | Credit |
|---|---|---|
| FSPM0024 | Calculus | 4 |
| FSPP0014 | Physics I | 4 |
| FSPP0022 | Physics Practical I | 2 |
| FSPC0014 | Chemistry I | 4 |
| FSPC0022 | Chemistry Practical I | 2 |
| FSPI0012 | Philosophy of Science and Technology | 2 |
| FSPE0022 | Academic Listening and Speaking Skills | 2 |
| **TOTAL** | | **20** |

**SEMESTER 3**

| Code | Course | Credit |
|---|---|---|
| FSPM0034 | Statistics and Probability | 4 |
| FSPP0034 | Physics II | 4 |
| FSPP0042 | Physics Practical II | 2 |
| FSPC0034 | Chemistry II | 4 |
| FSPC0042 | Chemistry Practical II | 2 |
| FSPK0022 | Fundamentals of Computing | 2 |
| FSPE0032 | Academic Reading and Writing Skills | 2 |
| **TOTAL** | | **20** |

# SYNOPSIS OF FOUNDATION PROGRAMME UTM COURSES

- **FSPM 0014: INTERMEDIATE MATHEMATICS**

This course provides a solid foundation of basic mathematics prior to pursuance of any mathematics at university level. It comprises of various topic such as Logic, Number System, Polynomials, Inequalities, Functions and Graphs, Trigonometry, Conic Sections, Matrices, Vectors and Complex Numbers. The intention is to equip students with the necessary tools required for further mathematics and engineering courses.

- **FSPK 0012: COMPUTER LITERACY**

This course introduces information systems (IS) and technology (IT) as well as its uses in daily life both at home and at work. Various aspect of IS and IT consist of hardware, software, network, communications, internet, and systems applications will be introduced. At the end of the course, student should be able to distinguish basic IS/IT component and applications.

- **FSPH 0012: FUNDAMENTALS OF KNOWLEDGE**

This course introduces to students the basic theory and philosophy to the concept of knowledge and knowledge culture. The approach of the subject will focus on the definitions, concepts, divisions and enculturation of knowledge. Furthermore the philosophical aspects such as ontology, epistemology and axiology of knowledge will be discussed. Enculturation of knowledge culture through the revision of knowledge culture and scholars as well as scholastic writing in the history of the earlier and current civilizations will be scrutinized. This will then be connected to the importance of thinking and thinking skills in general. Eventually, students should be able to appreciate, understand and apply knowledge acquisition and philosophical thinking in their live-long quest of learning.

- **FSPE 0012: GENERAL ENGLISH**

This General English course emphasizes on developing interest and confidence building among the students through the integration of the four language skills. It focuses on enhancing students' productive and receptive skills through student-centered activities. Grammar activities will be incorporated to develop students' language skills. At the end of this course, students should be able to improve their ability to communicate in English in various everyday situations, such as travelling, socializing, following different interests and hobbies, etc.

- **FSPM 0024: CALCULUS**

This course provides a solid foundation of basic calculus prior to pursuance of any mathematics at university level. It comprises of various topic such as Limits and continuity of functions, Differentiations, Integrations, Differential Equations and Numerical Methods. The intention is to equip students with the necessary tools required for further mathematics and engineering courses.

- **FSPP 0014: PHYSICS I**

The course provides the basic theory and practice of concepts in physics which comprises kinematics, static, dynamics, fluid dynamics, properties of matter and heat. The concepts will be applied to linear, planar, circular, rotational and simple harmonic motion. The properties of matter flow of fluid and heat phenomenon will also be discussed. The physical laws involved will be explained so that they may be applied in solving various related problems. Upon completion, students should be able to describe, analyses, discuss and apply the concepts and laws introduced to solve related physical problems.

- **FSPP 0022: PHYSICS**

Students perform experiments related to the physics of mechanics, electricity and magnetism. These experiments will be performed either in a group or individually. At the end of each experiment, the students present a technical report which describes the experiment, the analysis and the findings.

Upon completion, the students should have the ability to relate the experiment to the theory learned in Physics class, that is, mechanics, electricity and magnetism, perform an experimental analysis on the laboratory works and write technical reports.

- **FSPC 0014: CHEMISTRY I**

This course introduces students to fundamental and basic concepts in chemistry, units and dimensions, reaction stoichiometry and concentration. The underlying theories and principles of electronic structure of atoms, periodic properties of elements, chemical bonding, bonding theories and states of matter are also discussed.

- **FSPC 0022: CHEMISTRY PRACTICAL I**

The emphasis of this course is to expose the students to the understanding of the fundamental chemistry through experiments conducted in the laboratory. The experiments in this course are designed in a step by step manner for easy understanding and working in the laboratory and also to built-up the student's technical skills. The experiments contain the basic laboratory techniques and core chemical principles, such as; apparatus precision and measurement technique, titration, qualitative and quantitative analysis, data analysis involving many variables, and analyzing chemical reactions. The fundamental topics cover in the Chemistry Practical I including Stoichiometry, Periodic Table, Chemical Bonding and State of Matter. In addition, this course is aimed to promote good working attitudes such as being disciplined, careful and precise in laboratory investigations.

- **FSPI 0012: PHILOSOPHY OF SCIENCE AND TECHNOLOGY**

This course is designed to build knowledge, application, communication, and teamwork. All of these skills are built through the learning and assignment activities set out to achieve course learning outcomes which covered the ability to discuss the philosophy of science and technology from the conceptual and historical aspects.

This course discusses the concept of philosophy and philosophy of knowledge according to Islamic and Western scholars, the classification of philosophy which includes epistemology, ontology, and axiology. Also discussed are science from concept point, science from Islamic perspective, methodology in Islamic science, and comparison between Islamic science, Western science, and modern science.

The next discussion is about technology from a conceptual perspective, development history, solutions to current issues, and the relationship between technology and divinity. Also included in the scope of this discussion are human-related matters from conceptual point of view, human creation process, human status and responsibility. This course also addresses scientist achievements in science and technology. Knowledge, application, and communication skills are measured through tests and final examinations and tasks pertaining to philosophy of science and technology.

- **FSPE0022: ACADEMIC LISTENING AND SPEAKING SKILLS**

This course focuses on the skills of listening to academic lectures and talks, as well as aspects of style and structures, to help students perform effectively and competently in the academic contexts. It also focuses on speaking skills such as participating in group discussions and giving academic oral presentations as to prepare students to speak confidently and fluently in academic settings. This course also aims to raise students' proficiency by having in-class practices and by exploiting a variety of materials in varied academic situations.

- **FSPM 0034: STATISTICS AND PROBABILITY**

This is an introductory course in statistics. Topics covered are descriptive statistics, counting techniques, probability, random variables and probability distributions. Students are introduced to basic definitions and concepts in statistics. Students learn to differentiate between permutations & combinations, calculate the probability of events, and identify binomial, Poisson & normal distributions. Normal approximations of the binomial and the Poisson distributions are also highlighted.

- **FSPP 0034: PHYSICS II**

The course begins with the introduction of electric forces and the field of electricity and magnetism is covered in detail. Optics covers both geometrical and physical optics. It continues into the basics in atomic physics and then into nuclear physics. Finally, the course ends with radioactivity. Upon completion, students should be able to apply these concepts and laws introduced to solve related physical problems.

- **FSPP 0042: PHYSICS PRACTICAL II**

Students perform experiments related to the physics of Thermodynamics, Optics and Modern Physics. These experiments will be performed either in a group or individually. At the end of each experiment, the students present a technical report which describes the experiment, the analysis and the findings. Upon completion, the students should have the ability to relate the experiment to the theory learned in Physics class, that is, perform an experimental analysis on the laboratory works and write technical reports.

- **FSPC 0034: CHEMISTRY II**

This course is the extension of Chemistry I. It emphasizes the theories and principles related to topics in Physical Chemistry; Thermochemistry, chemical kinetics, chemical equilibrium, acids and bases, electrochemistry. At the end of the course, students will be introduced to the basic knowledge of organic chemistry.

- **FSPC0042: CHEMISTRY PRACTICAL II**

The emphasis of this course is to expose the students to the understanding of the second part of the fundamental chemistry through experiments conducted in the laboratory. The experiments in this course are designed in a step-by- step manner for easy understanding and working in the laboratory and also to built-up the student's technical skills. The experiments contain the basic laboratory techniques and core chemical principles, such as; apparatus precise ion and measurement technique, titration, qualitative and quantitative analysis, data manipulation involving many variables, and analyzing chemical reactions.

The fundamental topics cover in the Chemistry Practical II including Chemical Equilibrium, Acid and Base, Chemical Kinetics, Chemical Energetics, Electrochemistry and Organic Chemistry. In addition, this course is aimed to promote good working attitudes such as being disciplined, careful and precise in laboratory investigations.

- **FSPK 0022: FUNDAMENTALS OF COMPUTING**

This course equips the students with theory and practice on problem solving techniques. Students are required to develop programs using C++ programming language, in order to solve simple to moderate problems. The course covers the following: preprocessor directives, constants and variables, data types, input and output statements, text files, control structures: sequential, selection and loop, built-in and user-defined functions.

- **FSPE 0032: ACADEMIC READING AND WRITING SKILLS**

The course is designed to help improve students' ability to read, write and think in academic settings regardless of what major or degree they will be pursuing. It prepares students to embark on university study by focusing on transferable literacy skills which are important for academic success. This course aims to improve students' abilities in reading comprehension, building spelling and vocabulary skills, and writing well-formed simple, compound and complex sentences, and well-organized paragraphs. Attention is paid to skills such as identifying the main idea and supporting ideas, extracting Information for note-making purpose, and using contextual clues for vocabulary. Emphasis is also placed on the writing process, in which students move from writing well-formed simple and compound sentences to well-formed complex sentences and then well- organized paragraphs with topic sentences, supporting details, and a conclusion. Readings are from a variety of texts such as academic and non-academic selections that often, along with discussions, form the basis of student writing.

# GRADING SYSTEM

The performance of the student in a course is represented by the grade obtained. The relationship between the marks, grade and grade point is as listed in Table below;

| Marks | Grade | Grade Point |
|---|---|---|
| 90 – 100 | A+ | 4.00 |
| 80 – 89 | A | 4.00 |
| 75 – 79 | A- | 3.67 |
| 70 – 74 | B+ | 3.33 |
| 65 – 79 | B | 3.00 |
| 60 – 64 | B- | 2.67 |
| 55 – 59 | C+ | 2.33 |
| 50 – 54 | C | 2.00 |
| 45 – 49 | C- | 1.67 |
| 40 – 44 | D+ | 1.33 |
| 35 – 39 | D | 1.00 |
| 30 - 34 | D- | 0.67 |
| 0 - 29 | E | 0.00 |

The passing grade of a course is subject to the requirements of the faculty with the Senate's approval. Generally, Grade D+ is the minimum passing grade.

Besides the grades listed above, the following grading is also used:

**TS (Incomplete)** - Grade given to students who did not sit for the final Examination or were unable to complete their coursework due to illness or other reasons accepted by the University.

**HS (Audit)** - Grade given to registered audit courses.

**HL (Pass)** - Passing Grade given to course registered with HW Status.

**HG (Fail)** - Failing Grade given to course registered with HW status.

## ACADEMIC STANDING

Performance of students is evaluated based on TWO (2) measurements namely GPA and CGPA which are as follows:

**GPA** = Total Grade Point per Semester/ Total No. Attempted Credit per Semester
**CGPA** = Total Grade Point for all Semesters/ Total No. of Credit Counted for all Semesters.

| **Academic Standing** | **CGPA** |
|---|---|
| Good Status (KB) | CGPA ≥ 2.00 |
| Probation Status (KS) | 1.70 ≤ CGPA < 2.00 |
| Fail Status (KG) (Study Terminated) | CGPA < 1.70 |

Students who obtain GPA < 1.00 even though the CGPA ≥ 1.70 may, with the Senate's approval;

- continue his/her study; or
- be instructed to defer his/her study to the following semester; or
- have his/her study be terminated.

Students who obtained THREE (3) consecutive Probation Status (KS) will be given a Fail Status (KG) and the student will be terminated from his/her study.

# ACADEMIC ADIVISORY

An academic advisor is assigned to students to assist them in their course and career planning to provide advice degree requirements and options, to provide advice on academic policies and procedures and to help them reach their academic goals.

- Productive academic advising is a collaborative activity in which both the student and advisor have particular responsibilities. Having faculty-student contact at least once per semester is especially important because:
- Informal student-faculty contact can enhance the quality of the undergraduate experience.
- Course offerings and curricula requirements are sometimes subject to change.
- Undergraduate Plan of Study and Graduation Requirements sometimes need review and/or change that advisors can often be helpful with.
- Regular contact with an advisor will help provide good source for recommendations later in your career.

**Advisor's Responsibilities**

- To be accessible to students throughout the year during designated office hours. Names of alternate advisors should be posted during extended absence of an advisor from campus.
- To set aside designated times for registration advising and individual discussions.
- To be knowledgeable about curriculum requirements, academic policies and procedures, referrals and resources on campus, and career opportunities in the major field.
- To guide students through academic programs that will complement their personal, educational and professional interests.

**Student's Responsibilities**

- To know your advisor's office hours and advising schedule
- To make an appointment and prepare for registration advising by reviewing the Curriculum and Class Hour Schedule.
- To be aware of academic and personal needs and to seek assistance when needed.
- To understand that the role of your supervisor is to advise, not to make decisions for you. Final decisions should be made by you, with advisement, since it's your education.