Bachelor of HEALTH SCIENCES
(Audiology/Biomedicine/Dietetics/
Environmental and Occupational
Health/Exercise and Sports Science/
Medical Radiation/ Nursing/
Nutrition/Speech Pathology)

SCIENCE (Forensic Science)

Diploma in Nursing

Academic Session 2012/2013
USM Vision
Transforming Higher Education for a Sustainable Tomorrow

USM Mission
USM is a pioneering, transdisciplinary research intensive university that empowers future talent and enables the bottom billions to transform their socio-economic well being
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**STRUCTURE PERIOD OF LONG VACATION COURSES (KSCP)**

|   |   | Holiday | Friday, 28/06/13 - Saturday, 07/09/13 |
|   |   | Teaching Period | Sunday, 21/07/13 - Thursday, 25/07/13 |
|   |   | Examination | Sunday, 28/07/13 - Thursday, 01/08/13 |
|   |   | Holiday | Friday, 02/08/13 - Saturday, 07/09/13 |
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### SCHOOL STAFF LIST

<table>
<thead>
<tr>
<th>NO.</th>
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### AUDIOLOGY PROGRAMME

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### BIOMEDICINE PROGRAMME

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### BIOMEDICINE PROGRAMME

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### DIETETICS PROGRAMME

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### ELECTIVE PROGRAMME

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### NURSING PROGRAMME

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<tr>
<td>125</td>
<td>Ms. Tuan Ruasmani Tuan Daud</td>
<td>Tutor</td>
<td>7750</td>
<td><a href="mailto:ruasmani@kk.usm.my">ruasmani@kk.usm.my</a></td>
</tr>
<tr>
<td>126</td>
<td>Ms. Zaihan Abd. Rahman</td>
<td>Tutor</td>
<td>7749</td>
<td><a href="mailto:zaihan@kk.usm.my">zaihan@kk.usm.my</a></td>
</tr>
<tr>
<td>127</td>
<td>Ms. Zuraida Yusoff</td>
<td>Tutor</td>
<td>7748</td>
<td><a href="mailto:zuraida@kck.usm.my">zuraida@kck.usm.my</a></td>
</tr>
<tr>
<td>128</td>
<td>Ms. Chu Be Lai</td>
<td>Clinical Instructor</td>
<td>6672</td>
<td><a href="mailto:chubelai@kck.usm.my">chubelai@kck.usm.my</a></td>
</tr>
<tr>
<td>129</td>
<td>Ms. Halizan Yusoff</td>
<td>Clinical Instructor</td>
<td>6672</td>
<td><a href="mailto:halizan@kk.usm.my">halizan@kk.usm.my</a></td>
</tr>
<tr>
<td></td>
<td><em>Study Leave</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>Ms. Masturah Hamzah</td>
<td>Clinical Instructor</td>
<td>6672</td>
<td><a href="mailto:masturah@kk.usm.my">masturah@kk.usm.my</a></td>
</tr>
<tr>
<td>131</td>
<td>Ms. Norizan Che Mohd Yusoff</td>
<td>Clinical Instructor</td>
<td>6672</td>
<td><a href="mailto:eijann@kck.usm.my">eijann@kck.usm.my</a></td>
</tr>
<tr>
<td></td>
<td><em>Study Leave</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>132</td>
<td>Ms. Zaharah Muhamad</td>
<td>Clinical Instructor</td>
<td>6672</td>
<td><a href="mailto:zaaharah@kck.usm.my">zaaharah@kck.usm.my</a></td>
</tr>
</tbody>
</table>

The School of Health Sciences is also supported by academic staff from the School of Medical Sciences, School of Dental Sciences, School of Physics, School of Social Science, School of Mathematics, School of Distance Education and external lecturers from Universiti Kebangsaan Malaysia, Universiti Putra Malaysia, Royal Malaysia Police, Department of Chemistry Malaysia and the Fire and Rescue Department of Malaysia.
<table>
<thead>
<tr>
<th>NO.</th>
<th>NAME</th>
<th>POSITION</th>
<th>TELEPHONE</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mr. Md. Lukmi Ismail</td>
<td>Chief Science Officer</td>
<td>7541</td>
<td><a href="mailto:mdlukmi@kb.usm.my">mdlukmi@kb.usm.my</a></td>
</tr>
<tr>
<td>2.</td>
<td>Mr. Hera Jauhar Lal Singh a/l Kishen Singh</td>
<td>Senior Science Officer</td>
<td>7629</td>
<td><a href="mailto:hera@kb.usm.my">hera@kb.usm.my</a></td>
</tr>
<tr>
<td>3.</td>
<td>Ms. Wan Suriati Wan Nik</td>
<td>Research &amp; Graduate Studies (Research) / Senior Science Officer</td>
<td>7545</td>
<td><a href="mailto:wsuriati@kck.usm.my">wsuriati@kck.usm.my</a></td>
</tr>
<tr>
<td>4.</td>
<td>Ms. Syuhazlina Marini Awg. Mat</td>
<td>Senior Assistant Registrar (Administrative)</td>
<td>7507</td>
<td><a href="mailto:marini@kck.usm.my">marini@kck.usm.my</a></td>
</tr>
<tr>
<td>5.</td>
<td>Ms. Mirawaty Mat Ghani</td>
<td>Assistant Registrar (Academic)</td>
<td>7516</td>
<td><a href="mailto:mirawaty@kck.usm.my">mirawaty@kck.usm.my</a></td>
</tr>
<tr>
<td>6.</td>
<td>Mr. Rohasreyn Hashim</td>
<td>Assistant Registrar (Research &amp; Graduate Studies)</td>
<td>7522</td>
<td><a href="mailto:rohasreyn@kk.usm.my">rohasreyn@kk.usm.my</a></td>
</tr>
</tbody>
</table>
1.0 INTRODUCTION

Background

The treatment and prevention of diseases have long been the foundation of conventional thoughts in matters of health. These thoughts have undergone changes, albeit slowly, towards the concept of a more holistic management of health, based not only on the biology of diseases but also incorporating aspects of sociological sciences, behavior and the environment. This concept of health gives cognizance not only to patients but to the healthy individual as well.

Rapid advancement in technology has helped to hasten these changes in concepts, methodologies and the way health services are disbursed. These facts are taken into account during the development of programmes at the School of Health Sciences with the expressed intention of producing graduates who would be able to compete in the job market both locally and at the international level.

With these principles as its foundations, the School of Health Sciences USM was established at the Health Campus in Kelantan on the 1st of November 1999. The School's main objective is to holistically expand the Health Sciences disciplines. Within the ambit of Health Sciences are included areas of specialties like Biomedicine, Dietetics, Nursing, Forensic Science, Medical Radiation, Exercise and Sports Science, Audiology, Speech Pathology, Nutrition and Environmental Health. In addition, several other potential health related subjects will also be offered in due course. Thus the establishment of the School of Health Sciences is a direct effort by USM to help fulfill the national requirement for manpower in the areas of health and paramedical disciplines which is currently experiencing a severe shortage of trained personnel.

The 2012/2013 academic session is the thirteenth for the School. Since the academic session 2002/2003, eight, batches of students have graduated from various programmes. In the academic session 2007/2008, the School of Health Sciences saw another milestone with the reintroduction of Diploma in Nursing which was previously offered under the School of Medical Sciences.

All programmes offered at the School of Health Sciences will be of four (4) years duration (eight semesters). At the end of the programmes, graduates will be conferred the Bachelor of Health Science (BHSc) (Ijazah Sarjana Muda Sains Kesihatan) for their respective disciplines with the exception of the Forensic Science programme which will be conferred the Bachelor of Science (Forensic Science) [Ijazah Sarjana Muda Sains (Sains Forensik)] degree. Meanwhile, graduates from the Diploma in Nursing Programme will be conferred a Diploma in Nursing.
Philosophy

The School of Health Sciences has a philosophy that values education as the driving force behind the progress and development of mankind. We are committed to producing graduates who are able to pursue their own goals and direction while contributing to the development of an industrialised and civilised Malaysia. To fulfil the above aspiration, the School provides an education that is sustainable, futures-oriented and globally focused.

The School adopts a diverse and comprehensive interdisciplinary wellness-based programme for educational, scientific and human capital development. The curriculum provides the foundation for intellectual inquiry as well as a pragmatic contribution focused on the wellness of individuals and communities. As a consequence, the teaching-learning methods are focused on integrative problem-solving where students are encouraged to make group decisions that have a local emphasis with globalised consequences.

Thus, the School of Health Sciences is committed to the promotion of scholarship that has a foundation in scientific thinking, and professional interdisciplinary education supported by a strong research culture. This will enable our graduates to respond to the challenges of the 21st century with a sense of social consciousness and accountability. This effort is expected to uplift the nation status towards attainment of being an advanced nation by the year 2020. Excellence is regarded as the foundation of this noble effort.

Mission

To achieve and maintain excellence in health sciences by:

- Producing graduates with a high level of intellectual inquiry and professionalism.
- Developing graduates with a strong sense of ethics and commitment to humanity.
- Transforming knowledge into an instrument for sustainable development and wellness of society.

Vision

We are committed to be a centre of excellence in health sciences towards the wellness of society through intellectual inquiry, creativity, innovation and dissemination of knowledge.
2.0 ACADEMIC SYSTEM AND GENERAL INFORMATION

2.1 Course Registration

Registration is an important activity during the period of study at the University. It is the first step for the students to sit for the examination at the end of each semester. Sign up for the right courses each semester will help to facilitate the graduation of each student from the first semester till the final semester.

2.1.1 Course Registration Secretariat for the Bachelor Degree and University’s Diploma Student

Student Data & Records Section (SDRP)
Academic Management Division Registry
(Level 1, Chancellory Building)

Tel. No.: 04-6532925/3169/4195
Fax No.: 04-6574641
Website: registry.usm.my/updr/

SDRP office is the secretariat / manager / coordinator of course registration for the Bachelor Degree and Diploma of the University.

Further enquiries about course registration activities for the first degree and diploma can be made at any time at the office of the Student Data & Records Section.

2.1.2 Course Registration Platform

i) E-Daftar (E-Registration)

E-Daftar is a platform for course registration through website. The registration is done directly through Campus Online portal (campusonline.usm.my). Only students with active account are allowed to register for courses in the E-Daftar.

Registration under E-Daftar for Semester 1 usually starts 1-2 days after the release of ‘Official’ examination result of the Semester 2 from the previous academic year. The system closes a day before Semester 1 begins (usually in September). E-Daftar registration for Semester 2 usually starts 1-2 days after Semester 1 ‘Provisional’ examination result is released until a day before Semester 2 begins (normally in February). The actual timing of registration under E-Daftar will be announced by the Student Data & Records Section usually during the Revision Week of every semester and will be displayed on the
schools/centres/hostels’ bulletin board and in the USM’s official website.

Under E-Daftar, students can register any courses offered by USM, except co-curriculum courses. Registration of Co-curriculum courses is still placed under the administration of the Director of the Centre for Co-Curriculum Programme at the Main Campus or the Coordinator of the Co-Curriculum Programme at the Engineering Campus and the Coordinator of the Co-Curriculum Programme at the Health Campus.

Co-Curriculum courses will be included in the students’ course registration account prior to the E-Daftar activity, if their pre-registration application successful.

ii) Access to E-Daftar System

a) E-Daftar System can be accessed through Campus Online portal (campusonline.usm.my).
b) Students need to register in this portal to be a member. Each member will be given an ID and password.
c) Students need to use the ID and password to access to their profile page, which includes the E-Daftar menu.
d) Students need to click at the E-Daftar menu to access and register for the relevant courses.
e) Students are advised to print the course registration confirmation slip upon completion of the registration process or after updating the course registration list (add/drop) within the E-Daftar period.
f) E-Daftar system can only be accessed for a certain period of time.
g) Guidelines to register/access to E-Daftar portal are available at the Campus Online portal’s main page.

iii) Online Course Registration (OCR)

OCR activities are conducted in the Schools/Centres and are applicable to students who are academically active and under Probation (P1/P2) status. Students, who face difficulties to register their courses in the E-Daftar can register their courses during the official period of OCR alternatively. Each school is responsible for scheduling this activity. Students must refer to the schedule at the notice board of their respective schools.
Official period for OCR normally starts on the first day of the semester (without the penalty charge of RM50.00). After this official period, the registration will be considered late. (The penalty of RM50.00 will be imposed if no reasonable excuse is given.) During the non-penalty period, OCR will be conducted at each school. After Week Six, all registration, including adding and dropping courses will be administered by the Examination & Graduation Section Office (Academic Management Division, Registry).

2.1.3 The Frequency of Course Registration in One Academic Session

i) Normal Study Semester
   - 2 times per year (beginning of Semester 1 & Semester 2)

ii) Long semester break (about one month after the final examination of Semester 2)
   - Once per year
   - Applicable for relevant students only

2.1.4 General Guidelines Before Students Register for Courses

i) Matters / Information / Documents Required to be noted / considered / referred by students before course registration:

   - Refer to the respective school’s website to get updated information for courses offered or course registration.
   - Decide courses to be registered according to the semester as stipulated in the Study Program Guide Book.
   - List courses to be registered and number of units (unit value) for each course.
   - Provide Cumulative Statement of Grades (Cangred).
   - Construct Teaching and Learning Timetable for the registered courses (to avoid overlapping in timetable).
   - Read and comprehend the reminders regarding policies/general requirements for the course registration.

ii) The number of maximum and minimum units that can be registered in every semester are stated as below:

<table>
<thead>
<tr>
<th>Academic Status</th>
<th>Minimum Unit</th>
<th>Maximum Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td>P1</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>P2</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>
Determination for an academic status in a semester is based on the academic performance of the students in the previous semester (Grade Point Average, GPA):

- GPA 2.00 & above = Active Academic Status
- GPA 1.99 & below = Probation Academic Status (P1/P2)

- Students who meet the minimum period of residency (6 semesters for 3 years programme, 7 semesters for 3.5 years programme or 8 semesters for 4 years programme) are allowed to register courses with total units below 9. The semester in which the student is on leave is not considered for the residency period.

iii) Type of course codes during registration:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>Core courses</td>
<td>Grade and number of units</td>
</tr>
<tr>
<td>E</td>
<td>Elective courses</td>
<td>obtain from these courses</td>
</tr>
<tr>
<td>M</td>
<td>Minor courses</td>
<td>are considered for graduation</td>
</tr>
<tr>
<td>U</td>
<td>University courses</td>
<td></td>
</tr>
</tbody>
</table>

Two (2) other course codes are:

- Y = audit courses
- Z = prerequisite courses

Grade and number of units obtain from these courses are not considered for graduation

iv) Advice and approval of the Academic Advisor.

- Approval from the Academic Advisor is required for the students under Probation status before being allowed to register during the OCR period. Probation students cannot assess E-Daftar for registration.

- Approval from the Academic Advisor is not required for the students under Active Status to register courses through E-Daftar.

v) Students are not allowed to register and to repeat any course that has achieved a grade 'C' and above.
2.1.5 Information/Document Given To All Students Through Campus Online Portal (www.campusonline.com.my)

i) The information of Academic Advisor.
ii) Academic information such as academic status, GPA value, CGPA value and year of study.
iii) Cangred and Course Registration Form.
iv) List of courses offered from all schools/centres.
v) Teaching and Learning Timetable for all schools/centres/units from the three campuses.
vi) List of pre-registered courses which have been added into the students’ course registration record (if any).
vii) Reminders about the University course registration policies/general requisites.

2.1.6 Registration of Language and Co-Curriculum Courses

a) Registration for Language courses through E-Daftar is allowed.

- However, if any problem occurs, registration for language courses can still be carried out / updated during the official period of OCR at the office of the School of Language, Literacies & Translation.

- All approval / registration / dropping / adding of the language courses are under the responsibility and administration of the School of Language, Literacies & Translation.

- Any problems related to the registration of language courses can be made to the School of Language, Literacies & Translation. The contact details are as follow:

<table>
<thead>
<tr>
<th></th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Office</td>
<td>04-6534542</td>
</tr>
<tr>
<td>Malay Language Programme</td>
<td></td>
</tr>
<tr>
<td>Chairperson</td>
<td>04-6533974</td>
</tr>
<tr>
<td>English Language Programme</td>
<td></td>
</tr>
<tr>
<td>Chairperson</td>
<td>04-6533406</td>
</tr>
<tr>
<td>Foreign Language Programme</td>
<td></td>
</tr>
<tr>
<td>Chairperson</td>
<td>04-6533396</td>
</tr>
<tr>
<td>Engineering Campus Programme</td>
<td></td>
</tr>
<tr>
<td>Chairperson</td>
<td>04-5995407</td>
</tr>
<tr>
<td>Health Campus Programme</td>
<td></td>
</tr>
<tr>
<td>Chairperson</td>
<td>09-7671252</td>
</tr>
</tbody>
</table>
b) Registration for Co-Curriculum courses through E-Daftar is not allowed.

- Registration for Co-Curriculum courses is either done through pre-registration before the semester begins or during the first/second week of the semester. Co-Curriculum courses will be included in the students’ course registration account prior to the E-Daftar activity, if their pre-registration application successful.

- All approval / registration / dropping / adding of the Co-Curriculum courses are under the responsibility and administration of the Director of the Centre for Co-Curriculum Programme for Main Campus (04-6535243/45/48), Coordinator of the Co-Curriculum Programme for Engineering Campus (04-5995091), Coordinator of the Co-Curriculum Programme for Health Campus (09-7677547).

c) Dropping of Language and Co-Curriculum courses, if necessary, must be made within the first week. After the first week, a fine of RM50.00 will be charged.

2.1.7 Registration of ‘Audit’ Course (Y code)

Registration for the ‘Audit’ course (Y code) is not allowed in the E-Daftar. It can only be made during the official period of OCR in the School or Centre involved. Students who are interested must complete the course registration form which can be printed from the Campus Online Portal or obtained it directly from the School. Approval from the lecturer of the course to be audited and the Dean / Deputy Dean (Academic) [signed and stamped] in the course registration form are required.

Registration on ‘Audit’ courses (Y code) is not included in the calculation of the total registered workload units. Grades obtained from ‘Audit’ course are not considered in the calculation of CGPA and total units for graduation.

2.1.8 Registration of Prerequisite Course (Z code)

Registration of the Prerequisite courses (Z code) is included in the total registered workload (unit). Grades obtained from the Prerequisite courses are not considered in the calculation of CGPA and units for graduation.
2.1.9 Late Course Registration / Late Course Addition

Late course registration or addition is not allowed after the official period of the OCR ends without any reasonable excuses. General information on this matter is as follows:

i) Late course registration and addition are only allowed in the first to the third week with the approval of the Dean. Students will be fined RM50.00 if the reasons given are not reasonable.

ii) Application to add a course after the third week will not be considered, except for the special cases approved by the University.

2.1.10 Dropping Courses

Dropping the course is allowed until the end of the sixth week.

For this purpose, students must meet the requirements set by the University as follows:

i) Dropping Course Form must be completed by the student and signed by the lecturer of the course involved and the Dean / Deputy Dean of their respective schools and submit it to the general office of the School/Centre which is responsible of offering the courses involved.

ii) Students who wish to drop a language course must obtain the signature and stamp of the Dean of the School of Language, Literacies and Translation, as well as the signature and stamp of the Dean of their respective schools.

iii) Students who wish to drop the Co-Curriculum courses must obtain the approval of the Centre for Co-Curriculum Programme and the signature and stamp of the Dean of their respective schools.

iv) The option for dropping courses cannot be misused. Lecturers have the right not to certify the course that the student wish to drop if the student is not serious, such as the record of attendance at lectures, tutorials and practical is unsatisfactory, as well as poor performance in course work. The student will be denied to sit for the examination and will be given grade 'X' and is not allowed to repeat the course during the period of Courses during the Long Vacation (KSCP).
2.1.11 Course Registration Confirmation Slip

Course registration confirmation slip that has been printed / obtained after registering the course should be checked carefully to ensure no errors, especially the code type of the registered course codes. Any data errors for course registration must be corrected immediately whether during the period of E-Daftar (for student with active status only) or during the period of OCR at the Schools.

2.1.12 Revising and Updating Data / Information / Students Personal and Academic Records

Personal and academic information for each student can be checked through the Campus Online portal (campusonline.usm.my).

Students are advised to always check all the information displayed on this website.

- Any application/notification for correction / updating of personal data such as the spelling of names (names must be spelled as shown on the Identification Card), Identification Card number and address (permanent address and correspondence address) must be notified to the office of the Student Data & Records Section.

- Any application / notification for correction of academic data such as information on Major, Minor, MUET result and the course code should be reported to the office of the Student Data & Records Section.

- Application / notification for correction of the examination/results data should be reported to the office of the Examination and Graduation Section.

2.1.13 Academic Advisor

Each School will appoint an Academic Advisor for each student. Academic Advisors are comprised of academic staff (lecturers). Normally, confirmation from Academic Advisors will be made known to every student during the first semester in the first year of their studies.

Academic Advisors will advice the students under their responsibility on the academic-related matters. Among the important advice for the student is the registration planning for certain courses in each semester during the study period. Before registering the course, students are advised to consult and discuss with their Academic Advisor to determine the courses to be registered in a semester.
Final year students are advised to consult their respective academic advisors before registering via E-Daftar to ensure they fulfil the graduation requirements. Students under the Probation status (P1/P2) should obtain the approval from the Academic Advisor before they register for courses in a semester through OCR at the School and they are not allowed to register through E-Daftar.

2.2 Interpretation of Unit/Credit

a) Unit

Each course is given a value, which is called a UNIT. The unit is determined by the scope of its syllabus and the workload for the students. In general, a unit is defined as follows:

<table>
<thead>
<tr>
<th>Type of Course</th>
<th>Definition of Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory</td>
<td>1 unit is equivalent to 1 contact hour per week for 13 - 14 weeks in one semester.</td>
</tr>
<tr>
<td>Practical/Laboratory</td>
<td>1 unit is equivalent to 1.5 contact hours per week for 13 - 14 hours in one semester</td>
</tr>
<tr>
<td>Language Proficiency</td>
<td>1 unit is equivalent to 1.5 contact hours per week for 13 - 14 weeks in one semester</td>
</tr>
<tr>
<td>Industrial Training/ Teaching Practice</td>
<td>1 unit is equivalent to 2 weeks of training.</td>
</tr>
</tbody>
</table>

b) Contact

Contact is defined as formal face-to-face meeting between an academic staff and his/her students and it may take the form of lectures, tutorials, seminar, laboratory and field work.

c) Accumulated Credit Unit

Units registered and passed are known as credits. To graduate, students must accumulate the total number of credits stipulated for the program concerned.

2.3 Examination System

Examination would be held at the end of every semester. Students have to sit for the examination of the courses they have registered. Students are required to settle all due fees and fulfil the standing requirements for lectures/tutorials/practical and other requirements before being allowed to sit for the examination of courses they registered. Course evaluation
will be based on the two components of coursework and final examinations. Coursework evaluation includes tests, essays, projects, assignments and participation in tutorials.

Duration of Examination

<table>
<thead>
<tr>
<th>Evaluated Courses</th>
<th>Examination Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 units</td>
<td>1 hour for coursework of more than 40%</td>
</tr>
<tr>
<td>2 units</td>
<td>2 hours for coursework of 40% and below</td>
</tr>
<tr>
<td>3 units or more</td>
<td>2 hours for coursework of more than 40%</td>
</tr>
<tr>
<td>3 units or more</td>
<td>3 hours for coursework of 40% and below</td>
</tr>
</tbody>
</table>

Barring from Examination

Students will be barred from sitting the final examination if they do not satisfy the course requirements, such as absence from lectures and tutorials for at least 70%, and have not completed/fulfilled the required components of coursework. Students will also be barred from sitting the final examination if they have not settled the academic fees. A grade 'X' would be awarded for a course in which a student is barred. Students will not be allowed repeating the course during Course during the Long Vacation (KSCP).

Grade Point Average System

Student academic achievement for registered courses will be graded as follows:

<table>
<thead>
<tr>
<th>Alphabetic Grade</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D+</th>
<th>D</th>
<th>D-</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Points</td>
<td>4.00</td>
<td>3.67</td>
<td>3.33</td>
<td>3.00</td>
<td>2.67</td>
<td>2.33</td>
<td>2.00</td>
<td>1.67</td>
<td>1.33</td>
<td>1.00</td>
<td>0.67</td>
<td>0</td>
</tr>
</tbody>
</table>

Students awarded with grade 'C-' and below for a particular course would be given a chance to improve their grades by repeating the course during the KSCP (See below) or normal semester. Students awarded with grade 'C' and above for a particular course will not be allowed to repeat the course whether during KSCP or normal semester.

The achievements of students in any semester are based on Grade Point Average (GPA) achieved from all the registered courses in a particular semester. GPA is the indicator to determine the academic performance of students in any semester.
CGPA is the Cumulative Grade Point Average accumulated by a student from one semester to another during the years of study.

The formula to compute GPA and CGPA is as follows:

\[
\text{Grade Point Average} = \frac{\sum_{i=1}^{n} U_i M_i}{\sum_{i=1}^{n} U_i}
\]

where

\(n\) = Number of courses taken
\(U_i\) = Course units for course \(i\)
\(M_i\) = Grade point for course \(i\)

Example of calculation for GPA and CGPA:

<table>
<thead>
<tr>
<th>Course</th>
<th>Unit</th>
<th>Grade Point (GP)</th>
<th>Grade (G )</th>
<th>Total GP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABC XX1</td>
<td>4</td>
<td>3.00</td>
<td>B</td>
<td>12.00</td>
</tr>
<tr>
<td>ABC XX2</td>
<td>4</td>
<td>2.33</td>
<td>C+</td>
<td>9.32</td>
</tr>
<tr>
<td>BCDXX3</td>
<td>3</td>
<td>1.67</td>
<td>C-</td>
<td>5.01</td>
</tr>
<tr>
<td>CDEXX4</td>
<td>4</td>
<td>2.00</td>
<td>C</td>
<td>8.00</td>
</tr>
<tr>
<td>EFGXX5</td>
<td>3</td>
<td>1.33</td>
<td>D+</td>
<td>3.99</td>
</tr>
<tr>
<td>EFGXX6</td>
<td>2</td>
<td>2.67</td>
<td>B-</td>
<td>5.34</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td></td>
<td></td>
<td>43.66</td>
</tr>
</tbody>
</table>

\(\text{GPA} = \frac{43.66}{20} = 2.18\)

<table>
<thead>
<tr>
<th>Course</th>
<th>Unit</th>
<th>Grade Point (GP)</th>
<th>Grade (G )</th>
<th>Total GP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABCXX7</td>
<td>3</td>
<td>1.00</td>
<td>D</td>
<td>3.00</td>
</tr>
<tr>
<td>ABBXX8</td>
<td>4</td>
<td>2.33</td>
<td>C+</td>
<td>9.32</td>
</tr>
<tr>
<td>BBCXX9</td>
<td>4</td>
<td>2.00</td>
<td>C</td>
<td>8.00</td>
</tr>
<tr>
<td>BCBX10</td>
<td>4</td>
<td>2.67</td>
<td>B-</td>
<td>10.68</td>
</tr>
<tr>
<td>YZXX1</td>
<td>3</td>
<td>3.33</td>
<td>B+</td>
<td>9.99</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td></td>
<td></td>
<td>40.99</td>
</tr>
</tbody>
</table>

\(\text{GPA} = \frac{40.99}{18} = 2.28\)

\(\text{CGPA} = \frac{\text{Total Accumulated GP}}{\text{Total Accumulated Unit}} = \frac{43.66 + 40.99}{20 + 18} = \frac{84.65}{38} = 2.23\)
From the above examples, the CGPA is calculated as the total grade point accumulated for all the registered courses and divided by the total number of the registered units.

Courses During the Long Vacation (Kursus Semasa Cuti Panjang) (KSCP)

KSCP is offered to students who have taken a course earlier and obtained a grade of 'C-', 'D+', 'D', 'D-', 'F' and 'DK' only. Students who have obtained 'X' or 'F*' grade are not allowed to take the course during KSCP.

The purpose of KSCP is to:

i) Give an opportunity to students who are facing time constraints for graduation.
ii) Assist students who need to accumulate a few more credits for graduation.
iii) Assist "probationary" students to enhance their academic status.
iv) Assist students who need to repeat a prerequisite course, which is not offered in the following semester.

However, this opportunity is only given to students who are taking courses that they have attempted before and achieved a grade as stipulated above, provided that the course is being offered. Priority is given to the final year students. Usually, formal lectures are not held, and teaching is via tutorials.

The duration of KSCP is 3 weeks, i.e. 2 weeks of tutorial and 1 week of examination, all held during the long vacation. The KSCP schedule is available in the University's Academic Calendar.

The Implementation KSCP

a) Students are allowed to register a maximum of 3 courses and the total number of units registered must not exceed 10.

b) Marks/grades for coursework are taken from the highest marks/the best grades obtained in a particular course in the normal semester before KSCP. The final overall grade is determined as follows:

\[
\text{Final Grade} = \text{The best coursework marks or grade} + \text{Marks or grade for KSCP examination}
\]
c) GPA calculation involves the **LATEST** grades (obtained in KSCP) and also involves courses taken in the second semester and those repeated in KSCP. If the GPA during KSCP as calculated above is 2.00 or better, the academic status will be active, even though the academic status for the second semester was on probation status. However, if the GPA for KSCP (as calculated above) is 1.99 or below, the academic status will remain as probation status for the second semester.

d) Graduating students (those who have fulfilled the graduation requirements) in the second semester are not allowed to register for KSCP.

**Academic Status**

**Active Status**: Any student who achieves a GPA of 2.00 and above for any examination in a semester will be recognised as ACTIVE and be allowed to pursue his/her studies for the following semester.

**Probation Status**: A probation status is given to any student who achieves a GPA of 1.99 and below. A student who is under probation status for three consecutive semesters (P1, P2, FO) will not be allowed to pursue his/her studies at the university. On the other hand, if the CGPA is 2.00 and above, the student concerned will be allowed to pursue his/her studies and will be maintained at P2 status.

Without any prejudice to the above regulations, the University Examination Council has the absolute right to terminate any student's studies if his/her academic achievement do not satisfy and fulfil the accumulated minimum credit in line with the number of semesters completed by the student as given in the table below.

<table>
<thead>
<tr>
<th>Number of Semesters</th>
<th>Total Accumulated Minimum Credit Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pure</td>
</tr>
<tr>
<td>End of 2\textsuperscript{nd} semester</td>
<td>15</td>
</tr>
<tr>
<td>End of 4\textsuperscript{th} semester</td>
<td>35</td>
</tr>
<tr>
<td>End of 6\textsuperscript{th} semester</td>
<td>55</td>
</tr>
<tr>
<td>End of 8\textsuperscript{th} semester</td>
<td>75</td>
</tr>
</tbody>
</table>

The University Examination Council has the right to terminate any student's studies due to certain reasons (a student who has not registered for the courses, has not attended examination without valid reasons), as well as medical reasons can be disqualified from pursuing his/her studies.
Examination Result

A provisional result (pass/fail) through the Tele-academic line: (600-83-7899), Campus Online Portal and short message service (SMS) will usually be released and announced after the School Examination Council meeting and presumably one month after final examination.

Full result (grade) can be enquired through the Tele-academic line: (600-83-7899), Campus Online Portal and short message service (SMS) will be released and announced after the University Examination Council meeting and is usually two weeks after the provisional results are released.

The official semester results (SEMGRED) will be issued to students during the second week of the following semester.

2.4 Unit Exemption/Credit Transfer

Definition of Unit Exemption

Unit exemption is defined as the total number of units given to students who are pursuing their studies in USM that are exempted from the graduation requirements. Students only need to accumulate the remaining units for graduating purpose. Only passes or course grades accumulated or acquired in USM will be included in the calculation of the Cumulative Grade Point Average (CGPA) for graduation purpose.

Regulations and Implementation of Unit Exemption

a) Diploma holders from recognised Public and Private Institutions of Higher Learning:

i) Unit exemption can only be given to courses taken at diploma level.

ii) Courses for unit exemption may be combined (in two or more combinations) in order to obtain exemption of one course at degree level. However if the School would like to approve only one course at the diploma level for unit exemption of one course at degree level, the course at diploma level must be equivalent to the degree course and has the same or more units.

iii) Courses taken during employment (in service) for diploma holders cannot be considered for unit exemption.
iv) The minimum achievement at diploma level that can be considered for unit exemption is at least 'C' grade or 2.0 or equivalent.

v) The total number of semesters exempted should not exceed two semesters.

vi) In order to obtain unit exemption for industrial training, a student must have work experience continuously for at least two years in the area. If the student has undergone industrial training during the diploma level study, a student must have work experience for at least one year. The students are also required to produce the report on the level and type of work performed. Industrial training unit exemption cannot be considered for semester exemption as the industrial training is carried out during the long vacation in USM.

vii) Unit exemption for university and option courses can only be given for courses such as Bahasa Malaysia (LKM400), English Language, Islamic and Asian Civilisations and as well as co-curriculm.

b) IPTS (Private Institution of Higher Learning) USM Supervised/External Diploma Graduates

i) Students who are IPTS USM supervised/external diploma graduates are given unit exemption as stipulated by the specific programme of study. Normally, unit exemption in this category is given as a block according to the agreement between USM (through School that offers the programme) with the IPTS.

c) Students from recognised local or foreign IPTA (Public Institution of Higher Learning)/IPTS who are studying at the Bachelor Degree level may apply to study in this university and if successful, can be considered for unit exemptions subject to the following conditions:

i) Courses taken in the previous IPT are equivalent (at least 50% of the course must be the same) with courses offered in USM.

ii) Students taking courses at advanced diploma level in IPT that is recognised to be equivalent to the Bachelor Degree course at USM may be considered for unit exemption as in c) i).
iii) The total maximum unit exemption allowed should not exceed one third of the total unit requirement for graduation.

**Total Number of Exempted Semesters**

Semester exemption is based on the total unit exempted as below:

<table>
<thead>
<tr>
<th>Total Unit Exempted</th>
<th>Total Semester Exempted</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;9</td>
<td>-</td>
</tr>
<tr>
<td>9-32</td>
<td>1</td>
</tr>
<tr>
<td>&gt;32</td>
<td>2</td>
</tr>
</tbody>
</table>

**Application Procedure for Unit Exemption**

Any student who would like to apply for exemption unit is required to complete the Unit Exemption Form which can be obtained at the counter of Admission and Enrolments Unit or the respective schools.

The form must to be approved by the Dean/Deputy Dean of the School prior to the submission to the Admission and Enrolments Unit for consideration.

**Definition of Credit Transfer**

Credit transfer is defined as the recognition of a total number of credits obtained by USM students taking courses in other IPTA (Public Institution of Higher Learning) within the period of study at USM, and is combined with credits obtained at USM to fulfil units requirement for his/her programme of study. The transferred examination result or grades obtained in courses taken at other IPTA will be combined in the Cumulative Grade Point Average (CGPA) calculation.

**Category of Students Who Can Be Considered for Credit Transfer**

USM full-time Bachelor Degree level students who would like to attend specific Bachelor Degree level courses at other IPTA.

USM full-time diploma level students who would like to attend specific diploma level courses at other IPTA.
Conditions

a) Basic and Core Courses
   
i) Credit transfer can only be considered for credits obtained from other courses in other IPTA that are equivalent (at least 50% of the content are the same) with the courses offered by the programme.

   ii) Courses that can be transferred are only courses that have the same number of units or more. For equivalent courses but with less number of units, credit transfers can be approved by combining a few courses. Credits transferred are the same as the course units as offered in USM. Average grade of the combined course will be taken into account in CGPA calculation.

b) Elective or Option Courses
   
i) Students may attend any appropriate courses in other IPTA subject to permission from the School as well as the approval of other IPTA.

   ii) The transferred credits are credits obtained from courses at other IPTA. No course equivalence condition is required.

c) Minor Courses
   
i) For credit transfer of minor courses, the School should adhere to either conditions (a) or (b), and take into account of the programme requirement.

   d) The total maximum units transferred should not exceed one third of the total number of units for the programme.

   e) Credit exemption from other IPTA can be considered only once for each IPTA.

   f) The examination results obtained by a student taken at other IPTA will be taken into account for graduation purpose. Grade obtained for each course will be combined with the grades obtained at USM for CGPA calculation.

   g) Students who have applied and approved for credit transfer are not allowed to cancel the approval after the examination result is obtained.
h) Students are required to register courses at other IPTA with not less than the total minimum units as well as not exceeding the maximum units as stipulated in their programme of study. However, for specific cases (e.g. students on extended semester and only require a few units for graduation), the Dean may approve such students to register less than the minimum and the semester will not be counted in the residential requirement. In this case, the CGPA calculation will be carried out as in KSCP.

i) USM students attending courses at other IPTA and if failed in any courses are allowed to resit the examination if there is such provision in that IPTA.

j) If the method of calculation of examination marks in the other IPTA is not the same as in USM, a grade conversion method will be carried out according to the existing scales.

k) USM students who have registered courses at other IPTA and decided to return to study in USM, must adhere to the existing course registration conditions in USM.

Application Procedure for Attending Courses/Credit Transfer

USM students who would like to attend courses/credit transfer at other IPTAs should apply using Unit Exemption Form.

The application form should be submitted for the Dean's approval for the programme of study within three months before the application is submitted to other IPTA for consideration.

2.5 Academic Integrity

"Integrity without knowledge is weak and useless. Knowledge without integrity is dangerous and weak" – Samuel Johnson

Being a student of the University Sains Malaysia requires a firm adherence to the basic values, integrity, purpose and meaning of a university education. The most essential values in academia are rooted on the principles of truth seeking in knowledge and honesty with regards to the intellectual property of oneself and of others. Thus, students must bear the responsibility of maintaining these principles in all work done in their academic endeavour.
Academic dishonesty violates the fundamental purpose of preserving and maintaining the integrity of university education and will not be tolerated. The following, although not exhaustive, are examples of practices or actions that are considered dishonest acts in academic pursuit.

(a) Cheating

Cheating is the unauthorised use of information or other aids in any academic exercise. There are numerous "infamous" ways and methods of cheating including:

- Copying from others during a test or an exam.
- Using unauthorised materials or devices (calculator, PDA, mobile phone, pager, etc.) during a test or an exam.
- Asking or allowing another student to take a test or an exam for you and vice-versa.
- Sharing answers or programmes for an assignment or project.
- Tampering with marked/graded work after it has been returned, then resubmitting it for remarking/regrading.
- Allowing others to do the research, writing, programming, or other types of assignment.
- Submitting identical or similar work in more than one course without consulting or prior permission from the lecturers involved.

Below is an excerpt from the University and University College Act 1971, Universiti Sains Malaysia, Discipline of Students, Rule 1999 regarding conduct during examination (Part II, Provision 8):

<table>
<thead>
<tr>
<th>Conduct during examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. No student can-</td>
</tr>
<tr>
<td>(a) take any form of books, worksheets, documents, pictures or any other materials, other than those authorised by the examiner, into or out of any examination room, or receive any form of books, worksheets, documents, pictures or any other materials from outsiders when in examination room. Students can receive any form of books, worksheets, documents, pictures or any other materials recommended by the examiner or the Board of Examiners, and authorized by the Vice-Chancellor</td>
</tr>
<tr>
<td>(b) write, or have somebody else to write, any information or to draw diagrams which can be related to the examination taken by the student, on any parts of the body, or on the clothing’s worn by the student.</td>
</tr>
<tr>
<td>(c) contact with other students during an examination through any form of communication, or</td>
</tr>
<tr>
<td>(d) cheat or try to cheat or act in any way that can be interpreted as cheating.</td>
</tr>
</tbody>
</table>
Plagiarism

Plagiarism is "academic theft". It violates the intellectual property rights of the author. Simply put, it is the use, in part or whole, of other's words or ideas and claiming it as yours without proper attribution to the original author. It includes:

- Copying and pasting information, graphics or media from the Internet into your work without citing the source.
- Paraphrasing or summarising other's written or spoken words that are not common knowledge, without referencing the source.
- Not putting quote marks around parts of the source that you copy exactly.
- Using someone else's work or acquiring papers, assignment, project or research you did not do and turning it in as if you had done the work yourself.
- Giving incorrect information about the source of reference.
- Not acknowledging collaborators in an assignment, paper, project or research.

Plagiarism is, however, often misunderstood. There are numerous sources in the Internet that describe plagiarism and explain acceptable ways for using borrowed words. Students should explore the relevant materials.
Prohibitions against plagiarism

6. (1) A student shall not plagiarise any idea, writing, data or invention belonging to another person.

(2) For the purpose of this rule, plagiarism includes:

(a) the act of taking an idea, writing, data or invention of another person and claiming that the idea, writing, data or invention is the result of one's own findings or creation; or

(b) an attempt to make out or the act of making out, in such a way, that one is the original source or the creator of an idea, writing, data or invention which has actually been taken from some other source.

(3) Without prejudice to the generality of sub rule (2), a student plagiarises when he/she:

(a) publishes, with himself/herself as the author, an abstract, article, scientific or academic paper, or book which is wholly or partly written by some other person;

(b) incorporates himself/herself or allows himself/herself to be incorporated as a co-author of an abstract, article, scientific or academic paper, or book, when he/she has not at all made any written contribution to the abstract, article, scientific or academic paper, or book;

(c) forces another person to include his/her name in the list of co-researchers for a particular research project or in the list of co-authors for a publication when he/she has not made any contribution which may qualify him/her as a co-researcher or co-author;

(d) extract academic data which are the result of research undertaken by some other person, such as laboratory findings or field work findings or data obtained through library research, whether published or unpublished, and incorporate those data as part of his/her academic research without giving due acknowledgement to the actual source;

(e) uses research data obtained through collaborative work with some other person, whether or not that other person is a staff member or a student of the University, as part of another distinct personal academic research of his/her, or for a publication in his/her own name as sole author, without obtaining the consent of his/her co-researchers prior to embarking on his/her personal research or prior to publishing the data;
(f) transcribes the ideas or creations of others kept in whatever form, whether written, printed or available in electronic form, or in slide form, or in whatever form of teaching or research apparatus, or in any other form, and claims whether directly or indirectly that he/she is the creator of that idea or creation;

(g) translates the writing or creation of another person from one language to another whether or not wholly or partly, and subsequently presents the translation in whatever form or manner as his/her own writing or creation; or

(h) extracts ideas from another person's writing or creation and makes certain modifications without due reference to the original source and rearranges them in such a way that it appears as if he/she is the creator of those ideas.

(c) Fabrication

Unauthorised invention, alteration, falsification or misleading use of data, information or citation in any academic work constitutes fabrication. Fabricated information neither represent the student’s own effort nor the truth concerning a particular investigation or study thus violates the principle of truth seeking in knowledge. Some examples are:

- Making up or changing of data or result, or using someone else's result, in an experiment, assignment or research.
- Citing sources that are not actually used or referred to.
- Intentional listing of incorrect or fictitious references.
- Falsifying of academic records or documents to gain academic advantage.
- Forging signatures of authorisation in any academic record or other university document.

(d) Collusion

The School does not differentiate between those who commit an act of academic dishonesty with those who knowingly allow or help others in performing those acts. Some examples of collusion include:

- Paying, bribing or allowing someone to do an assignment, test/exam, project or research for you.
- Doing or assisting others in an assignment, test/exam, project or research for something in return.
- Permitting your work to be submitted as the work of others.
- Providing material, information, or sources to others knowing that such aids could be used in any dishonest act.
(e) **Unfair Advantage**

A student may obtain an unfair advantage over another, which is also a breach of academic integrity, in several ways including:

- Gaining access to, stealing, reproducing or circulating of test or exam material prior to its authorised time.
- Depriving others of the use of library material by stealing, defacing, destroying or hiding it.
- Intentionally interfering with other's effort to do their academic work.
- Altering or destroying work or computer files/programmes that belong to others or those that are meant for the whole class.

(f) **Consequences of Violating Academic Integrity**

Both students and academic staff must assume the responsibility of protecting and upholding the academic integrity of the university. In the event that a student encounters any incident that denotes academic dishonesty, the student is expected to report it to the relevant lecturer. The lecturer is then responsible to substantiate the violation and is encouraged to confront the perpetrator(s) to discuss the facts surrounding the allegation, and report the matter to the Deputy Deans or the Dean of the School.

If the lecturer found that the student is guilty, an appropriate punitive grading may be applied, depending on the extent of the violation. Examples of punitive grading are giving lower grade or "F" on the assignment, test, project, or lower grade or "F" for the whole course.

If the violation is deemed serious by the lecturer, the matter will be brought to the attention of the University Disciplinary Authority where appropriate action will be taken. If a student is caught in an examination, the University Examination Board will pursue the matter according to the university's procedure. The consequence then may range from a warning, fine not exceeding RM200, exclusion from any specific part or parts of the University for a specified period, suspension from being a student of the University for a specified period, or expulsion from the University (University and University College Act 1971, Universiti Sains Malaysia, Discipline of Students, Rule 1999).
Disciplinary Punishment

48. A student who commits a disciplinary offense under these Rules and found guilty of the offense can be punished according to any one or any two or more of the following appropriate actions;

(a) warning;
(b) fine not more than two hundred ringgit;
(c) banned from entering any or certain premises of the University for a specified period;
(d) suspended from being a student of the University for a specified period;
(e) dismissed from the University

2.6 USM Mentor Programme

Mentor Programme acts as a support-aid that involves the staff undergoing special training as a consultant and guide to USM community who would like to share their feelings and any psychosocial aspects that could harm their social functions. This programme manages psychosocial issues in a more effective manner and finally could improve the well-being of individuals in order to achieve life of better quality.

Objectives

(a) As a co-operation and mutual assistance mechanism for dealing with stress, psychosocial problems and many more in order to reinforce the well-being of the USM community.

(b) To inculcate the spirit of unity and the concept of helping one another by appointing a well-trained mentor as a social agent who promotes caring society for USM

(c) To produce more volunteers to assist those who need help

(d) To prevent damages in any psychosocial aspects before they reach a critical stage.

For more information, please visit www.usm.my/mentor
2.7 Student Exchange Programme

(a) Study Abroad Scheme

The student exchange programme is an opportunity for USM students to study one or two semesters abroad at any USM partners institutions. Ideally, students are encouraged to participate in the exchange programme within their third to fifth semester (3 years degree programme) and within third to seventh semester (4 years degree programme).

Studies abroad are planned beforehand with the Dean or Deputy Dean of the respective School, and with the International Office. Credits earned at an associate university are transferable as a part of credit accumulation for graduation.

(b) Student Exchange Programme between Local Higher Education Institutions (RPPIPT)

This is a programme that allows students of public higher learning institutions to do an exchange programme for a semester between the public higher institutions itself. Students can choose any relevant courses and apply for credit transfers.

For more information, please visit http://www.usm.my/io or contact the Academic Collaboration Unit, International Office at +604-653 2775/2778.

2.8 Graduation Requirements

In order to graduate, students must fulfil both the minimum residence and the academic requirement such as:

(a) Satisfy all credit requirements for the Academic Programme i.e total credits and the required number of credits for each component in the programme [Core, Elective, University and Optional (if appropriate) courses].
(b) Obtain a minimum grade points of 2.00 and above for all Core courses.
(c) Obtain a final CGPA of 2.00 and above for the whole programme.
(d) Obtain a minimum grade C or grade point 2.00 for the language courses (Bahasa Malaysia and English), Ethnics Relation and the TITAS courses.
3.0 UNIVERSITY REQUIREMENTS

3.1 Summary of University Requirements

Students are required to take 15 - 22 units of the following University/Option courses for University requirements:

<table>
<thead>
<tr>
<th>University Requirements</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Bahasa Malaysia</td>
<td>2</td>
</tr>
<tr>
<td>2 English Language</td>
<td>4</td>
</tr>
<tr>
<td>3 Local Students</td>
<td>6</td>
</tr>
<tr>
<td>• Islamic and Asian Civilisations (TITAS)</td>
<td></td>
</tr>
<tr>
<td>• Ethnic Relations</td>
<td></td>
</tr>
<tr>
<td>• Core Entrepreneurship*</td>
<td></td>
</tr>
</tbody>
</table>

| International Students                      |      |
| • Malaysian Studies                        |      |
| • Option/Bahasa Malaysia/English Language   |      |

| 4 Third Language/Co-Curriculum /Skill Course/Options | 3 - 10 |
| Students have to choose one of the followings:      |      |
| • Third Language Package                          |      |
| • Co-Curriculum** (1-6 units)                     |      |
| • Skill Course/Options                            |      |

| Total                                           | 15 - 22 |

* Students from Schools which have a similar course as this are exempted from following this course. The units should be replaced by an option course.

** Students from the School of Education are required to choose a uniformed body co-curriculum package. Students from the School of Medical Sciences and School of Dentistry are required to register two (2) units of Co-Curriculum course in year Two. Students from the School of Health Sciences are required to register one (1) unit of Co-Curriculum course.

Details of the University requirements are given in the following sections.
3.2 Bahasa Malaysia

(a) Local Students

The requirements are as follows:

- LKM400/2 - Bahasa Malaysia IV
  All Malaysian students must take LKM400 and pass with the minimum of grade C in order to graduate.

Entry requirements for Bahasa Malaysia are as follows:

<table>
<thead>
<tr>
<th>No</th>
<th>Qualification</th>
<th>Grade</th>
<th>Level of Entry</th>
<th>Type</th>
<th>Units</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>(a) SPM/MCE/SC (or equivalent qualification)</td>
<td>1 - 6</td>
<td>LKM400</td>
<td>U</td>
<td>2</td>
<td>Graduation requirement</td>
</tr>
<tr>
<td></td>
<td>(b) STPM/HSC (or equivalent qualification)</td>
<td>P/S</td>
<td>LKM400</td>
<td>U</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** To obtain credit units for Bahasa Malaysia courses, a minimum grade of C is required.
Students may obtain advice from the School of Languages, Literacies and Translation if they have different Bahasa Malaysia qualification from the above.

(b) International Students

- International students pursuing Bachelor’s degrees in Science, Accounting, Arts (ELLS), Education (TESL) and Housing, Building and Planning.

All international students in this category are required to take the following courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LKM100</td>
<td>U</td>
<td>2</td>
</tr>
</tbody>
</table>

- International students (non-Indonesian) pursuing Bachelor’s degrees in Arts.
International students in this category are required to take and pass three Intensive Malay Language courses before they commence their Bachelor’s degree programmes.

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LKM101</td>
<td>Bahasa Malaysia Persediaan I</td>
<td>4 months</td>
</tr>
<tr>
<td>LKM102</td>
<td>Bahasa Malaysia Persediaan II</td>
<td>4 months</td>
</tr>
<tr>
<td>LKM201</td>
<td>Bahasa Malaysia Pertengahan</td>
<td>4 months</td>
</tr>
</tbody>
</table>

The Bahasa Malaysia graduation requirement for this category of students is as follows:

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LKM300</td>
<td>U</td>
<td>2</td>
</tr>
</tbody>
</table>

- International students (Indonesian) pursuing Bachelor’s degrees in Arts.

The Bahasa Malaysia graduation requirement for this category of students is as follows:

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LKM200</td>
<td>U</td>
<td>2</td>
</tr>
<tr>
<td>LKM300</td>
<td>U</td>
<td>2</td>
</tr>
</tbody>
</table>

**Note:** Students must pass with a minimum grade of C for type U courses.
3.3 English Language

All Bachelor’s degree students must take 4 units of English Language courses in fulfillment of the University requirement for graduation.

(e) Entry Requirements for English Language Courses

<table>
<thead>
<tr>
<th>No</th>
<th>English Language Qualification</th>
<th>Grade</th>
<th>Level of Entry</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*MUET LSP401/402/403/404 †Discretion of Dean</td>
<td>Band 6 A - C</td>
<td>LHP 451/452/453/454/455/456/457/458/459</td>
<td>Compulsory/ Option/Type U (2 Units)</td>
</tr>
<tr>
<td>2</td>
<td>*MUET LSP300 †Discretion of Dean</td>
<td>Band 5 A - C</td>
<td>LSP 401/402/403/404</td>
<td>Compulsory/ Type U (2 Units)</td>
</tr>
<tr>
<td>3</td>
<td>*MUET LMT100 †Discretion of Dean</td>
<td>Band 4 A - C</td>
<td>LMT100</td>
<td>Compulsory/ Type U (2 Units)</td>
</tr>
<tr>
<td>4</td>
<td>*MUET †Discretion of Dean</td>
<td>Band 3/2/1 (Score 0 - 179)</td>
<td>Pre-requisite/ Type Z (2 Units)</td>
<td></td>
</tr>
</tbody>
</table>

* MUET: Malaysia University English Test.
† Students may obtain advice from the School of Languages, Literacies and Translation if they have different English Language qualification from the above.

Note:
- Students are required to accumulate four (4) units of English for graduation.
- In order to obtain units in English Language courses, students have to pass with a minimum grade of C.
- Students with a Score 260 - 300 (Band 6) in MUET must accumulate the 4 units of English from the courses in the post-advanced level (LHP451/452/453/454/455/456/457/458/459*). They can also take foreign language courses to replace their English language units but they must first obtain a written consent from the Dean of the School of Languages, Literacies and Translation. (Please use the form that can be obtained from the School of Languages, Literacies and Translation.)
  [*The number of units for LHP457 is 4 and for LHP451, 452, 453, 454, 455, 456, 458 and 459 is 2.]
- Students with a score of 179 and below in MUET are required to resit MUET to improve their score to Band 4 or take LMT100 and pass with a minimum grade of C.
(b) **English Language Courses (Compulsory English Language Units)**

The English Language courses offered as University courses are as follows:

<table>
<thead>
<tr>
<th>No</th>
<th>Code/Unit</th>
<th>Course Title</th>
<th>School (If Applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>LMT100/2</td>
<td>Preparatory English</td>
<td>Students from all Schools</td>
</tr>
<tr>
<td>2.</td>
<td>LSP300/2</td>
<td>Academic English</td>
<td>Students from all Schools</td>
</tr>
<tr>
<td>3.</td>
<td>LSP401/2</td>
<td>General English</td>
<td>Students from:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Education Studies (Arts)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Fine Arts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Humanities</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Social Sciences</td>
</tr>
<tr>
<td>4.</td>
<td>LSP402/2</td>
<td>Scientific and Medical English</td>
<td>Students from:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Biological Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Physics</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Chemical Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Mathematical Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Industrial Technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Education Studies (Science)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Medical Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Health &amp; Dental Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Pharmaceutical Sciences</td>
</tr>
<tr>
<td>5.</td>
<td>LSP403/2</td>
<td>Business and Communication English</td>
<td>Students from:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Management</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Communication</td>
</tr>
<tr>
<td>6.</td>
<td>LSP404/2</td>
<td>Technical and Engineering English</td>
<td>Students from:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Computer Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School of Housing, Building and Planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Schools of Engineering</td>
</tr>
<tr>
<td>7.</td>
<td>LDN 101/2</td>
<td>English For Nursing I</td>
<td>Students from School of Health Sciences</td>
</tr>
<tr>
<td>8.</td>
<td>LDN 201/2</td>
<td>English For Nursing II</td>
<td>Students from School of Health Sciences</td>
</tr>
</tbody>
</table>
3.4 Local Students - Islamic and Asian Civilisations/Ethnic Relations/Core Entrepreneurship

(a) Islamic and Asian Civilisations (The course is conducted in Bahasa Malaysia)

The following course is compulsory to pass (with a minimum grade of C):

HTU 223 - Islamic and Asian Civilisation (TITAS) (2 units)

This course aims to increase students’ knowledge on history, principles, values, main aspect of Malay civilization, Islamic civilization and its culture. With the academic exposure to cultural issues and civilization in Malaysia, it is hoped that students will be more aware of issues that can contribute to the cultivation of the culture of respect and harmony among the plural society of Malaysia.

Among the topics in this course are Interaction among Various Civilization, Islamic Civilization, Malay Civilization, Contemporary Challenges faced by the Islamic and Asian Civilization and Islamic Hadhari Principles.

(b) Ethnic Relations (The course is conducted in Bahasa Malaysia)

The following course is compulsory to pass (with a minimum grade of C):

SHE 101 - Ethnic Relations (2 units)

This course is an introduction to ethnic relations in Malaysia. This course is designed with 3 main objectives: (1) to introduce students to the basic concept and the practices of social accord in Malaysia, (2) to reinforce basic understanding of challenges and problems in a multi-ethnic society, and (3) to provide an understanding and awareness in managing the complexity of ethnic relations in Malaysia. At the end of this course, it is hoped that students will be able to identify and apply the skills to issues associated with ethnic relations in Malaysia.

(c) Core Entrepreneurship (The course is conducted in Bahasa Malaysia)

The following course is compulsory to pass (with a minimum grade of C):

WUS 101 - Core Entrepreneurship (2 units)
This course aims to provide basic exposure to students in the field of entrepreneurship and business, with emphasis on the implementation of the learning aspects while experiencing the process of executing business projects in campus. The mode of teaching is through interactive lectures, practical, business plan proposal, execution of entrepreneurial projects and report presentations. Practical experiences through hands-on participation of students in business projects management will generate interest and provide a clearer picture of entrepreneurship world. The main learning outcome is the assimilation of culture and entrepreneurship work ethics in their everyday life. This initiative is made to open the minds and arouse the spirit of entrepreneurship among target groups that possess the potentials to become successful entrepreneurs. By exposing entrepreneurial knowledge to all students, it is hoped that it will accelerate the effort to increase the number of middle class entrepreneurs in the country.

For more information, please refer to the Co-curriculum Program Reference Book.

3.5 **International Students - Malaysian Studies/Option**

(a) **Malaysian Studies**

The following course is compulsory to pass (with a minimum grade of C) for all international students:

**SEA205E - Malaysian Studies (4 Units)**

This course investigates the structure of the Malaysian system of government and the major trends in contemporary Malaysia. Emphasis will be given both to current issues in Malaysian politics and the historical and economic developments and trends of the country. The discussion begins with a review of the independence process. An analysis of the formation and workings of the major institutions of government – parliament, judiciary, bureaucracy, and the electoral and party systems will follow this. The scope and extent of Malaysian democracy will be considered, especially in light of current changes and developments in Malaysian politics. The second part of the course focuses on specific issues: ethnic relations, national unity and the national ideology; development and political change; federal-state relations; the role of religion in Malaysian politics; politics and business; Malaysia in the modern world system; civil society; law, justice and order; and directions for the future.
(b) **Option/Bahasa Malaysia/English Language** (2 Units)

International students need to fulfill a further 2 units of option course or additional Bahasa Malaysia/English Language course.

### 3.6 Third Language/Co-Curriculum/Skill Courses/Options

Students have to choose one of the followings (A/B/C):

**(A) Third Language Package (6 Units)**

Third Language Courses are offered as University courses. They are offered as a package of three (3) levels, 2 units per level. The total number of units per package is 6. Students are requested to complete all levels (3 semesters). The packages offered are as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LTA100/2</td>
<td>LTC100/2</td>
<td>LTJ100/2</td>
<td>LTG100/2</td>
<td>LTK100/2</td>
</tr>
<tr>
<td>LTA200/2</td>
<td>LTC200/2</td>
<td>LTJ200/2</td>
<td>LTG200/2</td>
<td>LTK200/2</td>
</tr>
<tr>
<td>LTA300/2</td>
<td>LTC300/2</td>
<td>LTJ300/2</td>
<td>LTG300/2</td>
<td>LTK300/2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LTP100/2</td>
<td>LTE100/2</td>
<td>LTT100/2</td>
<td>LTS100/2</td>
</tr>
<tr>
<td>LTP200/2</td>
<td>LTE200/2</td>
<td>LTT200/2</td>
<td>LTS200/2</td>
</tr>
<tr>
<td>LTP300/2</td>
<td>LTE300/2</td>
<td>LTT300/2</td>
<td>LTS300/2</td>
</tr>
</tbody>
</table>

**(B) Uniformed/Seni Silat Cekak Co-Curriculum Package (4 - 6 Units)**

Students who choose to take packaged co-curriculum courses are required to complete all levels of the package. It is compulsory for students from the School of Education to choose a uniformed body co-curriculum package from the list below (excluding Seni Silat Cekak). The co-curriculum packages offered are as follows:

- Armed Uniformed/Seni Silat Cekak Co-Curriculum Package (6 Units) (3 years)
<table>
<thead>
<tr>
<th>PALAPES Tentera Darat (Army)</th>
<th>PALAPES Tentera Laut (Navy)</th>
<th>PALAPES Tentera Udara (Air Force)</th>
<th>SUKSIS (Student Police Volunteer)</th>
<th>Seni Silat Cekak</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTD102/2</td>
<td>WTL102/2</td>
<td>WTU102/2</td>
<td>WPD101/2</td>
<td>WCC123/2</td>
</tr>
<tr>
<td>WTD202/2</td>
<td>WTL202/2</td>
<td>WTU202/2</td>
<td>WPD201/2</td>
<td>WCC223/2</td>
</tr>
<tr>
<td>WTD302/2</td>
<td>WTL302/2</td>
<td>WTU302/2</td>
<td>WPD301/2</td>
<td>WCC323/2</td>
</tr>
</tbody>
</table>

- Unarmed Uniformed Co-Curriculum Package (4 Units) (2 Years)

<table>
<thead>
<tr>
<th>Kelana Siswa (Rover Training)</th>
<th>Bulan Sabit Merah (Red Crescent)</th>
<th>Ambulans St. John (St. John Ambulance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLK101/2</td>
<td>WBM101/2</td>
<td>WJA101/2</td>
</tr>
<tr>
<td>WLK201/2</td>
<td>WBM201/2</td>
<td>WJA201/2</td>
</tr>
</tbody>
</table>

- Unarmed Uniformed Co-Curriculum Package (2 Units) (1 Year)

<table>
<thead>
<tr>
<th>SISPA (Siswa Siswi Pertahanan Awam) (Public Defense) (offered in Health Campus only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLK101/2</td>
</tr>
<tr>
<td>WLK201/2</td>
</tr>
</tbody>
</table>

(C) Co-Curriculum/Skill Course/Options (1 – 6 Units)

All students are encouraged to follow the co-curriculum courses and are given a maximum total of 6 units for Community Service, Culture, Sports, Innovation & Initiatives and Leadership (Students from the School of Medical Sciences and School of Dentistry are required to register for two (2) units of Co-Curriculum course in Year Two). (Students from the School of Health Sciences must take at least one of the co-curriculum courses while those from the School of Education must take the uniformed co-curriculum package [excluding Seni Silat Cekak]). Students who do not enroll for any co-curriculum courses or who enroll for only a portion of the 3 units need to replace these units with skill/option courses. The co-curriculum, skill and option courses offered are as follows:

(i) Community Service, Culture, Sports, Innovation & Initiatives and Leadership Co-Curriculum Courses
## Packaged
(Students are required to complete all levels)

<table>
<thead>
<tr>
<th>Khidmat Masyarakat (Community Service) (2 Years)</th>
<th>Jazz Band (3 Years)</th>
<th>Karate (3 Semesters)</th>
<th>Taekwondo (3 Semesters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WKM101/1</td>
<td>WCC108/1</td>
<td>WSC108/1</td>
<td>WSC115/1</td>
</tr>
<tr>
<td>WKM201/1</td>
<td>WCC208/1</td>
<td>WSC208/1</td>
<td>WSC215/1</td>
</tr>
<tr>
<td></td>
<td>WCC308/1</td>
<td>WSC308/1</td>
<td>WSC315/1</td>
</tr>
</tbody>
</table>

## Non-Packaged (1 Semester)

<table>
<thead>
<tr>
<th>Culture</th>
<th>Sports</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCC103/1 - Catan (Painting)</td>
<td>WSC105/1 - Bola Tampar (Volley Ball)</td>
</tr>
<tr>
<td>WCC105/1 - Gamelan</td>
<td>WSC106/1 - Golf</td>
</tr>
<tr>
<td>WCC107/1 - Guitar</td>
<td>WSC110/1 - Memanah (Archery)</td>
</tr>
<tr>
<td>WCC109/1 - Koir (Choir)</td>
<td>WSC111/1 - Ping Pong (Table Tennis)</td>
</tr>
<tr>
<td>WCC110/1 - Kraftangan (Handcrafting)</td>
<td>WSC112/1 - Renang (Swimming)</td>
</tr>
<tr>
<td>WCC115/1 - Tarian Moden (Modern Dance)</td>
<td>WSC113/1 - Aerobik (Aerobic)</td>
</tr>
<tr>
<td>WCC116/1 - Tarian Tradisional (Traditional Dance)</td>
<td>WSC114/1 - Skuasy (Squash)</td>
</tr>
<tr>
<td>WCC117/1 - Teater Moden (Modern Theatre)</td>
<td>WSC116/1 - Tenis (Tennis)</td>
</tr>
<tr>
<td>WCC118/1 - Wayang Kulit Melayu (Malay Shadow Play)</td>
<td>WSC119/1 - Badminton</td>
</tr>
<tr>
<td>WCC119/1 - Senaman Qigong Asas (Basic Qigong Exercise)</td>
<td>WSC122/1 - Selaman SCUBA (SCUBA Diving)</td>
</tr>
<tr>
<td>WCC219 - Senaman Qigong Pertengahan (Intermediate Qigong Exercise)</td>
<td>WSC123/1 - Kriket (Cricket)</td>
</tr>
<tr>
<td>WCC124/1 - Kompang Berlagu</td>
<td>WCC124/1 - Sepak Takraw</td>
</tr>
<tr>
<td>WCC122/1 - Seni Memasak (Culinary Art)</td>
<td>WSC 125/1 - Futsal</td>
</tr>
<tr>
<td>WCC127/1 - Kesenian Muzik Nasyid (Nasyid Musical Art)</td>
<td>WSC 126/1 - Bola Jaring (Netball)</td>
</tr>
</tbody>
</table>

## Innovation & Initiative

| WCC120/1 - Canting Batik (Batik Painting)                              | WSC 127/1 - Pengurusan Acara 1 (Event Management 1)                  |
| WCC121/1 - Seni Khat (Calligraphic Art)                               | WSC 227/1 - Pengurusan Acara 2 (Event Management 2)                  |
| WCC125/1 - Seni Wau Tradisional (Traditional Kite Art)                |                                                        |
| WCC128 - Seni Sulaman & Manik Labuci (Embroidery & Beads Sequins Art) |                                                        |
| WCC 130 - Seni Fotografi SLR Digital (Digital SLR Photography Art)    |                                                        |
(ii) HTV201/2 - Teknik Berfikir (Thinking Techniques)

(iii) Other option/skill courses as recommended or required by the respective school (if any)

(iv) English Language Courses

The following courses may be taken as university courses to fulfill the compulsory English Language requirements (for Band 5 and Band 6 in MUET) or as skill/option courses:

<table>
<thead>
<tr>
<th>No</th>
<th>Code/Unit</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LHP451/2</td>
<td>Effective Reading</td>
</tr>
<tr>
<td>2</td>
<td>LHP452/2</td>
<td>Business Writing</td>
</tr>
<tr>
<td>3</td>
<td>LHP453/2</td>
<td>Creative Writing</td>
</tr>
<tr>
<td>4</td>
<td>LHP454/2</td>
<td>Academic Writing</td>
</tr>
<tr>
<td>5</td>
<td>LHP455/2</td>
<td>English Pronunciation Skills</td>
</tr>
<tr>
<td>6</td>
<td>LHP456/2</td>
<td>Spoken English</td>
</tr>
<tr>
<td>7</td>
<td>LHP457/4</td>
<td>Speech Writing and Public Speaking</td>
</tr>
<tr>
<td>8</td>
<td>LHP458/2</td>
<td>English for Translation</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>(Offered only in Semester II)</em></td>
</tr>
<tr>
<td>9</td>
<td>LHP459/2</td>
<td>English for Interpretation</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>(Offered only in Semester I)</em></td>
</tr>
</tbody>
</table>
(v) Foreign Language Courses

The foreign language courses offered by the School of Languages, Literacies and Translation can be taken by students as option or compulsory courses to fulfill the number of units required for graduation. Students are not allowed to register for more than one foreign language course per semester. They must complete at least two levels of a foreign language course before they are allowed to register for another foreign language course. However, students are not required to complete all four levels of one particular foreign language course. The foreign language courses offered are as follows:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Chinese</th>
<th>Japanese</th>
<th>German</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAA100/2</td>
<td>LAC100/2</td>
<td>LAJ100/2</td>
<td>LAG100/2</td>
<td>LAE100/2</td>
</tr>
<tr>
<td>LAA200/2</td>
<td>LAC200/2</td>
<td>LAJ200/2</td>
<td>LAG200/2</td>
<td>LAE200/2</td>
</tr>
<tr>
<td>LAA300/2</td>
<td>LAC300/2</td>
<td>LAJ300/2</td>
<td>LAG300/2</td>
<td>LAE300/2</td>
</tr>
<tr>
<td>LAA400/2</td>
<td>LAC400/2</td>
<td>LAJ400/2</td>
<td>LAG400/2</td>
<td>LAE400/2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>French</th>
<th>Thai</th>
<th>Tamil</th>
<th>Korean</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAP100/2</td>
<td>LAS100/2</td>
<td>LAT100/2</td>
<td>LAK100/2</td>
</tr>
<tr>
<td>LAP200/2</td>
<td>LAS200/2</td>
<td>LAT200/2</td>
<td>LAK200/2</td>
</tr>
<tr>
<td>LAP300/2</td>
<td>LAS300/2</td>
<td>LAT300/2</td>
<td>LAK300/2</td>
</tr>
<tr>
<td>LAP400/2</td>
<td>LAS400/2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.7 Foundation Courses

Foundation courses are compulsory for all students pursuing the health science bachelor degrees in School of Health Sciences. These courses cover the basic knowledge and skills essential for various health related disciplines and are intended to prepare the students to undertake more advance courses later on. The total number of units required for graduation varies according to the respective programmes. Generally, each student is required to take between 16-25 units. Below is the summary of the Foundation Courses:

<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>GTU101/3</td>
<td>Structure and Function of Human I</td>
<td>1 I</td>
</tr>
<tr>
<td>2.</td>
<td>GTU106/3</td>
<td>Biochemistry and Basic Genetic</td>
<td>1 I</td>
</tr>
<tr>
<td>3.</td>
<td>GTU103/3</td>
<td>Fundamental of Health Informatics</td>
<td>1 I &amp; II</td>
</tr>
<tr>
<td>4.</td>
<td>GTU104/3</td>
<td>Structure and Function of Human II</td>
<td>1 II</td>
</tr>
<tr>
<td>5.</td>
<td>GTU105/3</td>
<td>Psychology and Behavioural Science</td>
<td>1 I &amp; II</td>
</tr>
<tr>
<td>6.</td>
<td>GTU201/2</td>
<td>Health and Society</td>
<td>2 I &amp; II</td>
</tr>
<tr>
<td>7.</td>
<td>GTU301/3</td>
<td>Ethics and Law for the Health Professionals</td>
<td>3 I &amp; II</td>
</tr>
<tr>
<td>8.</td>
<td>GTU302/3</td>
<td>Biostatistics</td>
<td>3 I &amp; II</td>
</tr>
<tr>
<td>9.</td>
<td>GTU303/2</td>
<td>Research Methodology</td>
<td>3 I &amp; II</td>
</tr>
</tbody>
</table>

3.8 Core Courses

These courses form the major component of the programme of studies and reflect the specialisation and expertise of each programme. Please refer to the list of core courses of the respective programme.

3.9 Electives Courses

The purpose of offering elective courses is to ensure that students are presented with knowledge which not only complement the core courses but also will enhance and broaden their foundation of knowledge. The school encourages students to freely select any of the courses offered. All students of the school of Health Sciences are required to register a total of 8-20 units of elective courses. The units from electives courses will contribute to the total number of units for graduation.
Students are reminded to ONLY select courses indicated by the school and to avoid selecting courses from own programme or any programmes unless permitted and approved by the School Board. Students are strongly encouraged to select electives courses offered within their respective academic year level. They may choose courses from one level lower or higher than their academic year, though this practice should be guided closely by academic advisor. The Elective Courses offered by School of Health Sciences are as listed below.

Courses offered as Elective Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title of Course</th>
<th>Unit</th>
<th>Course Code</th>
<th>Title of Course</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEG103/3</td>
<td>Fitness and Health</td>
<td>3</td>
<td>GEG109/2</td>
<td>History of Health Sciences</td>
<td>2</td>
</tr>
<tr>
<td>GTX 101/2</td>
<td>Science of Medical Radiation</td>
<td>2</td>
<td>GTX 103/2</td>
<td>Physics of Medical Radiation</td>
<td>2</td>
</tr>
<tr>
<td>GEG109/2</td>
<td>History of Health Sciences</td>
<td>2</td>
<td>GEG114/2</td>
<td>Oral Health</td>
<td>2</td>
</tr>
<tr>
<td>GEG204/3</td>
<td>Gender Perspectives in Health</td>
<td>3</td>
<td>GEG201/2</td>
<td>Women’s Health</td>
<td>2</td>
</tr>
<tr>
<td>GEG208/2</td>
<td>Human Resource Management in Healthcare Organizations</td>
<td>2</td>
<td>GEG203/2</td>
<td>Health Economics</td>
<td>2</td>
</tr>
<tr>
<td>GEG213/3</td>
<td>Stress Management</td>
<td>3</td>
<td>GEG204/3</td>
<td>Gender Perspectives in Health</td>
<td>2</td>
</tr>
<tr>
<td>GEG302/3</td>
<td>Violence &amp; Society</td>
<td>3</td>
<td>GTS207/3</td>
<td>Principle of Individual and Team Sports</td>
<td>3</td>
</tr>
<tr>
<td>GEG308/2</td>
<td>Tropical Natural Resource Management</td>
<td>2</td>
<td>GEG209/2</td>
<td>Aquatic Ecosystems</td>
<td>2</td>
</tr>
<tr>
<td>GTF101/3</td>
<td>Basic Chemistry</td>
<td>3</td>
<td>GEG213/3</td>
<td>Stress Management</td>
<td>3</td>
</tr>
<tr>
<td>GTB203/1</td>
<td>Basic Immunology</td>
<td>1</td>
<td>GEG214/2</td>
<td>Health and Personality</td>
<td>2</td>
</tr>
<tr>
<td>GEG304/2</td>
<td>Communication &amp; Self Development</td>
<td>2</td>
<td>GEG303/2</td>
<td>Tissue Banking</td>
<td>2</td>
</tr>
<tr>
<td>GTJ317/2</td>
<td>Principles of Health Management</td>
<td>2</td>
<td>GEG304/2</td>
<td>Communication &amp; Self Development</td>
<td>2</td>
</tr>
<tr>
<td>GTB404/3</td>
<td>Toxicology</td>
<td>2</td>
<td>GEG305/2</td>
<td>Forensic Sciences</td>
<td>2</td>
</tr>
<tr>
<td>LAA100/2</td>
<td>Arabic Language I</td>
<td>2</td>
<td>GEG309/2</td>
<td>Principles of Forensic Dentistry</td>
<td>2</td>
</tr>
<tr>
<td>LAJ100/2</td>
<td>Japanese Language I</td>
<td>2</td>
<td>GEG310/2</td>
<td>Principle of Laboratory Animal Sciences</td>
<td>2</td>
</tr>
<tr>
<td>LAA200/2</td>
<td>Arabic Language II</td>
<td>2</td>
<td>GEG311/2</td>
<td>Botany and Health</td>
<td>2</td>
</tr>
<tr>
<td>LAJ200/2</td>
<td>Japanese Language II</td>
<td>2</td>
<td>GTB107/3</td>
<td>Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GTJ108/2</td>
<td>Health Communication &amp; Education</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LAA100/2</td>
<td>Arabic Language I</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LAJ100/2</td>
<td>Japanese Language I</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LAA200/2</td>
<td>Arabic Language II</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LAJ200/2</td>
<td>Japanese Language II</td>
<td>2</td>
</tr>
</tbody>
</table>

*GEGxxx/x= Courses are offered only as Elective Course and is subjected to changes.*
3.10 PROGRAMME

3.10.1 Status of Students and Level of Study

Students are designated as equivalent to first, second, third or fourth year according to the total units accumulated as follows:

<table>
<thead>
<tr>
<th>Course of Study</th>
<th>Year Equivalent Based on Cumulative Credit Acquired</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Total Credit Unit Required for Graduation)</td>
<td>First</td>
</tr>
<tr>
<td>Biomedicine (124 Units)</td>
<td>0 - 32</td>
</tr>
<tr>
<td>Dietetics (122 Units)</td>
<td>0 - 30</td>
</tr>
<tr>
<td>Nursing (132 Units)</td>
<td>0 - 38</td>
</tr>
<tr>
<td>Medical Radiation (124 Units)</td>
<td>0 - 36</td>
</tr>
<tr>
<td>Forensic Science (130 Units)</td>
<td>0 - 40</td>
</tr>
<tr>
<td>Audiology (130 Units)</td>
<td>0 - 35</td>
</tr>
<tr>
<td>Speech Pathology (134 Units)</td>
<td>0 - 33</td>
</tr>
<tr>
<td>Exercise And Sports Science (126 Units)</td>
<td>0 - 31</td>
</tr>
<tr>
<td>Nutrition (121 Units)</td>
<td>0 - 32</td>
</tr>
<tr>
<td>Environmental and Occupational Health (125 Units)</td>
<td>0 - 38</td>
</tr>
</tbody>
</table>

3.10.2 Biomedicine Programme

This is a 4-year programme. The total unit required for graduation is 124, which includes core (99 units), elective (10 units) and university (15 units) courses.
3.10.3 Nursing Programme

The nursing programme was developed by taking into account the following criteria:

(i) The requirement of the Malaysian Nursing Board is to have sufficient nursing skill training components for registration. The registered nurse does not need to adhere to this requirement.

(ii) However, this component must be taken by students with matriculation, ‘Sijil Tinggi Pelajaran Malaysia’ and other diploma qualifications.

The nursing programme is structured as follows:

Semester 1-6: The courses in Semester 1-6 must be taken by all students. Registered nurses can be awarded the Bachelor of Health Sciences (Nursing) upon completion of 115 units (core course-85 units; elective courses-15 units; university courses-15 units) in three years. Registered nurses may be given unit exemptions of not more than 1/3 of the total unit requirement for graduation.

Semester 7-8: Students other than registered nurses are required to undergo nursing skill training components over a period of one year in order to fulfill the Malaysian Nursing Board registration. These students will then be eligible to be awarded the Bachelor of Health Science (Nursing) upon completion of 132 units (4 years).

3.10.4 Forensic Science Programme

This is a 4-year programme requiring a total of 130 units for graduation. This consists of core courses (107 units), elective courses (8 units) and university courses (15 units).

3.10.5 Dietetics Programme

This is a 4-year programme requiring 122 units for graduation. It consists of core courses (91 units), elective courses (16 units) and university courses (15 units).

3.10.6 Medical Radiation Programme

This is a 4-year programme. It requires a total of 124 units for graduation. It consists of core courses (94 units), elective courses (15 units) and university courses (15 units).
3.10.7  Audiology Programme

This is a 4-year programme. It requires a total of 130 units for graduation. It consists of core courses (100 units), elective courses (15 units) and university courses (15 units).

3.10.8  Speech Pathology Programme

This is a 4-year programme. It requires a total of 134 units for graduation. It consists of core courses (104 units), elective courses (15 units) and university courses (15 units).

3.10.9  Exercise and Sports Science Programme

This is a 4-year programme. It requires a total of 126 units for graduation. It consists of core courses (96 units), elective courses (15 units) and university courses (15 units).

3.10.10 Nutrition Programme

This is a 4-year programme. It requires a total of 121 units for graduation. It consists of core courses (86 units), elective courses (20 units) and university courses (15 units).

3.10.11 Environmental and Occupational Health Programme

This is a 4-year programme. It requires a total of 125 units for graduation. It consists of core courses (100 units), elective courses (10 units) and university courses (15 units).
Below is the synopsis of the structure of degree programme

<table>
<thead>
<tr>
<th>Programme</th>
<th>Core Courses</th>
<th>Elective Courses</th>
<th>University Courses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedicine</td>
<td>99</td>
<td>10</td>
<td>15</td>
<td>124</td>
</tr>
<tr>
<td>Nursing</td>
<td>102</td>
<td>15</td>
<td>15</td>
<td>132</td>
</tr>
<tr>
<td>Forensic Science</td>
<td>107</td>
<td>8</td>
<td>15</td>
<td>130</td>
</tr>
<tr>
<td>Dietetics</td>
<td>91</td>
<td>16</td>
<td>15</td>
<td>122</td>
</tr>
<tr>
<td>Medical Radiation</td>
<td>94</td>
<td>15</td>
<td>15</td>
<td>124</td>
</tr>
<tr>
<td>Audiology</td>
<td>100</td>
<td>15</td>
<td>15</td>
<td>130</td>
</tr>
<tr>
<td>Speech Pathology</td>
<td>104</td>
<td>15</td>
<td>15</td>
<td>134</td>
</tr>
<tr>
<td>Exercise and Sports Science</td>
<td>96</td>
<td>15</td>
<td>15</td>
<td>126</td>
</tr>
<tr>
<td>Nutrition</td>
<td>86</td>
<td>20</td>
<td>15</td>
<td>121</td>
</tr>
<tr>
<td>Environmental and Occupational Health</td>
<td>100</td>
<td>10</td>
<td>15</td>
<td>125</td>
</tr>
</tbody>
</table>

4.0 MAJOR PROGRAMMES

4.1 BIOMEDICINE

Introduction

The Biomedicine programme offered by the School of Health Sciences is a full time educational programme requiring 4 years or 8 semesters to complete. At the end of the programme, graduates will be awarded the Bachelor of Health Science (Biomedicine). This programme was started in the 2000/2001 academic session with the initial intake of 30 students. The intake depends on the availability of appropriate infrastructure and number of academic staff of the school.

The programme is multidisciplinary in nature and allows students to explore the latest information and technology in the fields of Biomedical Sciences. It encompasses all aspects of laboratory diagnosis, disease prevention and research in the fields of Biomedical Sciences, which includes Pathology, Immunology, Haematology, Transfusion Science, Human Biochemistry, Clinical Biochemistry, Medical Microbiology and Parasitology, Pharmacology, Physiology, Anatomy and Genetics. In addition, courses such as Psychology and Behavioural Science, Health and Society, Ethics and Law for Health Professionals, Biostatistics and Research Methodology, Laboratory Animal Sciences, Epidemiology and Information Technology will be offered. Industrial
training, Biomedical Practicum and Research Project will be introduced in the final stage of the studies to equip the students with the knowledge and skills in the diagnostic and clinical laboratory, disease prevention and research fields. Students are also required to take several elective courses and some university courses. The latter includes Malay Language, English Language, Advanced English, Islamic and Asian Civilization (TITAS). Skill development courses such as Thinking Techniques and English Language are also included to better equip them with the working environment.

This programme was carefully designed to cater for the man-power requirements of both the private and public sectors of the nation. The curriculum takes cognizance of the need to be proactive in its approach, whereby curricula of institutions from the US, Europe and Australia were used as benchmarks. This is to ensure that the curriculum is of quality and of high standards capable of producing graduates who are competent and are comparable to any in the world. Academic staff of the school together with those from the Medical and Dental Schools are responsible for the teaching of all courses. All of them are well trained and are experts in their respective fields.

Students of the Biomedicine Programme must complete a total of 124 credit units as explained in the Course Structure before they can graduate.

**List of Core Courses in the Biomedicine Programme**

<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Title of Core Courses in the Biomedicine Programme</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>GTU101/3</td>
<td>Structure and Function of Humans I</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>GTU106/3</td>
<td>Biochemistry and Basic Genetics</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>GTU105/3</td>
<td>Psychology and Behavioural Science</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>GTU104/3</td>
<td>Structure and Function of Humans II</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>GTB105/3</td>
<td>Human Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>GTB106/3</td>
<td>Laboratory Science</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>GTB107/3</td>
<td>Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>GTU103/3</td>
<td>Fundamentals of Health Informatics</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>GTB217/2</td>
<td>Immunology I</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>GTB204/3</td>
<td>Molecular Biology Techniques</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>GTB218/3</td>
<td>Immunology II</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>GTU302/3</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>GTB212/3</td>
<td>Basic Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>14.</td>
<td>GTB221/3</td>
<td>Basic Haematology</td>
<td>3</td>
</tr>
<tr>
<td>15.</td>
<td>GTB219/3</td>
<td>Pharmacology I</td>
<td>3</td>
</tr>
<tr>
<td>16.</td>
<td>GTB222/4</td>
<td>Pathology</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>GTB220/3</td>
<td>Medical Bacteriology</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>GTB310/3</td>
<td>Clinical Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>GTB315/2</td>
<td>Medical Virology and Micology</td>
<td>2</td>
</tr>
<tr>
<td>20.</td>
<td>GTB307/3</td>
<td>Medical Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>No.</td>
<td>Course Code</td>
<td>Title of Core Courses in the Biomedicine Programme</td>
<td>Unit</td>
</tr>
<tr>
<td>-----</td>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>21.</td>
<td>GTB318/3</td>
<td>Pharmacology II</td>
<td>3</td>
</tr>
<tr>
<td>22.</td>
<td>GTU303/2</td>
<td>Research Methodology</td>
<td>2</td>
</tr>
<tr>
<td>23.</td>
<td>GTB316/3</td>
<td>Transfusion Science and Blood Banking</td>
<td>3</td>
</tr>
<tr>
<td>24.</td>
<td>GTB317/3</td>
<td>Clinical and Laboratory Haematology</td>
<td>3</td>
</tr>
<tr>
<td>25.</td>
<td>GTB407/4</td>
<td>Industrial Training</td>
<td>4</td>
</tr>
<tr>
<td>26.</td>
<td>GTB408/9</td>
<td>Biomedical Practicum</td>
<td>9</td>
</tr>
<tr>
<td>27.</td>
<td>GTB409/4</td>
<td>Research Project</td>
<td>4</td>
</tr>
<tr>
<td>28.</td>
<td>GTB404/3</td>
<td>Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>29.</td>
<td>GTB410/3</td>
<td>Laboratory Management</td>
<td>3</td>
</tr>
<tr>
<td>30.</td>
<td>GTU201/2</td>
<td>Health and Society</td>
<td>2</td>
</tr>
<tr>
<td>31.</td>
<td>GTU301/3</td>
<td>Ethics and Law for the Health Professionals</td>
<td>3</td>
</tr>
<tr>
<td>32.</td>
<td>GEG310/2</td>
<td>Laboratory Animal Sciences</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credit Unit of Core Courses 99**

**Programme Learning Outcome:**

At the completion of the programme, graduates will be able to:

PO1: Apply core knowledge in biomedical sciences and display theoretical and practical skills in diagnosis and research.

PO2: Perform laboratory diagnostic tests based on standard protocols; manage diagnostic and/or research laboratories; perform research projects under supervision; and utilise up-to-date information and communication technologies.

PO3: Demonstrate and apply critical and creative thinking skills in solving problems and making decisions in diagnostic laboratories.

PO4: Apply communication skills at working environment in a diagnostic laboratory, medical and research institutions.

PO5: Work in groups to solve health-related problems and participate as a team player in community healthcare and services.

PO6: Demonstrate ethics and professional values in performing diagnosis and solving problems in laboratory investigations.

PO7: Apply lifelong education and ICT skills to enhance laboratory services and research in biomedical sciences.

PO8: Apply management skills and display entrepreneurship skills in biomedical fields and relevant professions.

PO9: Demonstrate and apply leadership skills through active involvement in activities related to teaching, service and research in biomedical sciences.

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Recommended Registration Guidelines for the Core Courses of the Biomedicine Programme

<table>
<thead>
<tr>
<th>Code</th>
<th>Core Courses</th>
<th>Unit</th>
<th>Code</th>
<th>Core Course</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Year 1 Semester I</strong></td>
<td></td>
<td></td>
<td><strong>Year 1 Semester II</strong></td>
<td></td>
</tr>
<tr>
<td>GTU101/3</td>
<td>Structure and Function of Humans I</td>
<td>3</td>
<td>GTU104/3</td>
<td>Structure and Function of Humans II</td>
<td>3</td>
</tr>
<tr>
<td>GTU106/3</td>
<td>Biochemistry and Basic Genetics</td>
<td>3</td>
<td>GTB105/3</td>
<td>Human Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>GTU103/3</td>
<td>Fundamentals of Health Informatics</td>
<td>3</td>
<td>GTU105/3</td>
<td>Psychology and Behavioural Science</td>
<td>3</td>
</tr>
<tr>
<td>GTB106/3</td>
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<td><strong>Total</strong></td>
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</table>

<table>
<thead>
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<th>Core Courses</th>
<th>Unit</th>
<th>Code</th>
<th>Core Course</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Year 2 Semester I</strong></td>
<td></td>
<td></td>
<td><strong>Year 2 Semester II</strong></td>
<td></td>
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<td>GTU201/2</td>
<td>Health and Society</td>
<td>2</td>
<td>GTB107/3</td>
<td>Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>GTB217/2</td>
<td>Immunology I</td>
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<td>GTB212/3</td>
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Recommended Registration Guidelines for the Core Courses of the Biomedicine Programme

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<td>Clinical Biochemistry</td>
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<td>GTB222/4</td>
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<td>GTB316/3</td>
<td>Transfusion Science and Blood Banking</td>
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<td>GTU301/3</td>
<td>Ethics and Law for the Health</td>
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<td>GTB315/2</td>
<td>Medical Virology and Micology</td>
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Year 3 Semester I: 16 units
Year 3 Semester II: 16 units

Year 4 Semester I: 11 units
Year 4 Semester II: 11 units
4.2 DIETETICS

Introduction

The Dietetics programme is a full time programme offered over 4 years or 8 semesters. Graduates will be awarded the Bachelor of Health Science (Dietetics). The programme will help to fulfill the manpower needs for Dieticians in Malaysia. Students will be exposed to all aspects of food care and nutritional requirements for patients especially those requiring special diets as well as knowledge of community nutritional requirements. The graduates are expected to be able to function as dietitians as well as consultants in related fields and in the field of nutrition as therapeutic food.

Core Courses in the Dietetics Programme

<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Title of Core Courses in the Dietetics Programme</th>
<th>Unit</th>
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<tbody>
<tr>
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<td>GTU101/3</td>
<td>Structure and Function of Humans I</td>
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<td>2.</td>
<td>GTU103/3</td>
<td>Fundamental of Health Informatics</td>
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</tr>
<tr>
<td>3.</td>
<td>GTU104/3</td>
<td>Structure and Function of Humans II</td>
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<td>GTU105/3</td>
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<td>5.</td>
<td>GTU201/2</td>
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<td>6.</td>
<td>GTU301/3</td>
<td>Ethics and Law for the Health Professionals</td>
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<td>7.</td>
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<td>Biostatistics</td>
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<td>8.</td>
<td>GTN101/3</td>
<td>Food Science</td>
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<td>9.</td>
<td>GTN202/3</td>
<td>Principles of Food Preparation</td>
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</tr>
<tr>
<td>10.</td>
<td>GTN207/3</td>
<td>Principles of Nutrition</td>
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<tr>
<td>11.</td>
<td>GTN208/3</td>
<td>Nutritional Biochemistry</td>
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<td>12.</td>
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<td>Nutrition in the Life Cycle</td>
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<td>13.</td>
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<td>Nutrition for Health and Fitness</td>
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<td>14.</td>
<td>GTN211/3</td>
<td>Food Analysis</td>
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<td>15.</td>
<td>GTN212/3</td>
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<td>Dietetics Skills and Communication</td>
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<td>17.</td>
<td>GTN301/3</td>
<td>Community Nutrition and Dietetics Services Practicum</td>
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<tr>
<td>18.</td>
<td>GTN309/3</td>
<td>Nutrition and Diseases</td>
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<tr>
<td>19.</td>
<td>GTD311/3</td>
<td>Principles of Medical Nutrition Therapy I</td>
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<td>20.</td>
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<td>Food and Nutritional Toxicology</td>
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<td>Therapeutic Diet Preparation</td>
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<td>Principles of Medical Nutrition Therapy II</td>
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<td>23.</td>
<td>GTN311/3</td>
<td>Food Service Management</td>
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<td>24.</td>
<td>GTD318/4</td>
<td>Outpatient Dietetics Practicum I</td>
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<td>GTD310/4</td>
<td>Dietetics Practicum in the Ward I</td>
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<td>27.</td>
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<td>No.</td>
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<td><strong>Total Credit Unit of Core Courses</strong></td>
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**Programme Learning Outcome**

At the end of the programme, the graduates will be able to:

PO1: Apply knowledge in nutrition and dietetics for problem identification, formulation and solution.

PO2: Apply in-depth dietetics knowledge to analyse, interpret, evaluate and improve nutritional status of patients in hospital and community in general.

PO3: Demonstrate critical thinking and scientific knowledge in dietetics.

PO4: Communicate effectively as an individual and in groups.

PO5: Demonstrate the ability to work as a team in healthcare settings.

PO6: Demonstrate professional ethics and moral values in their profession.

PO7: Undertake professional development and engage in life-long learning.

PO8: Integrate knowledge in nutrition and dietetics in entrepreneurship.

PO9: Demonstrate the ability to be a leader among the healthcare professionals.
### Recommended Registration Guidelines for the Core Courses of the Dietetics Programme

<table>
<thead>
<tr>
<th>Code</th>
<th>Core Course</th>
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<td>GTU105/3</td>
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## Recommended Registration Guidelines for the Core Courses of the Dietetics Programme

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<td>Outpatient Dietetics Practicum I</td>
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<td>GTN309/3</td>
<td>Nutrition and Disease</td>
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<td>GTD311/3</td>
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4.3  **NURSING**

**Introduction**

The Bachelor of Health Science (Nursing) is one of the programmes offered by the School of Health Sciences, USM.

This is a 4-year (8-semester) programme. It consists of the following components:

(a) Biological Sciences  
(b) Behavioural Sciences  
(c) Nursing Sciences  
(d) Clinical Skills  
(e) Computer Skills  
(f) Research and Scientific Writing Skills  
(g) Communication and Information Distribution Skills  
(h) Critical Thinking and Problem Solving Skills  
(i) Co-Curricular Activities  
(j) Social Skills  
(k) Teaching and Patient Management Skills

These components are incorporated into the nursing curriculum to strengthen the basic knowledge of nursing practice. In addition, it improves the nursing profession at par with other healthcare professions. Scientific knowledge and evidenced-based care aid in promoting competent, independent and safe practitioners. The graduates of this programme are expected to be of calibre, innovative, proactive, with critical thinking and problem solving abilities. The university and elective courses enable the graduates to expand their mind set and horizon.
### 4.3.1 List of Core Courses of the Nursing Programme

<table>
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<tr>
<th>No.</th>
<th>Course Code</th>
<th>Title of Core Courses in the Nursing Programme</th>
<th>Unit</th>
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<td>GTU101/3</td>
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<td>GTU103/3</td>
<td>Fundamentals of Health Informatics</td>
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<td>GTU104/3</td>
<td>Structure and Function of Humans II</td>
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<td>4</td>
<td>GTU105/3</td>
<td>Psychology and Behavioural Science</td>
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<td>GTU106/3</td>
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<td>Primary Health Care, Family and Community</td>
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<td>GTJ211/2</td>
<td>Medical-Surgical Nursing I (Cardiovascular and Respiratory)</td>
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<td>21</td>
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<td>Obstetrics and Gynecology Nursing</td>
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<td>22</td>
<td>GTU301/3</td>
<td>Ethics and Law for the Health Professionals</td>
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<td>GTU303/2</td>
<td>Research Methodology</td>
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<td>24</td>
<td>GTJ309/2</td>
<td>Critical Care Nursing</td>
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<td>Medical-Surgical Nursing III (Endocrine and Musculoskeletal)</td>
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<td>26</td>
<td>GTJ311/2</td>
<td>Mental Health and Psychiatric Nursing</td>
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<td>GTJ312/6</td>
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<td>GTJ405/5</td>
<td>Medical Nursing Practicum</td>
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<td>35</td>
<td>GTJ406/4</td>
<td>Surgical Nursing Practicum</td>
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<td>36</td>
<td>GTJ407/4</td>
<td>Critical Care and Community Nursing Practicum</td>
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<td>37</td>
<td>GTJ408/4</td>
<td>Maternal, Child and Women Health Nursing Practicum</td>
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</table>

**Total Unit of Core Courses**: 102
Programme Learning Outcome

At the end of the programme, the graduates will be able to:

PO1- Demonstrate application of knowledge in nursing profession.

PO2- Practices holistic, competent and safe nursing practice

PO3- Acquire critical thinking and problem solving skills to make appropriate decision in nursing practice and management.

PO4- Communicate effectively in every level of the organisation and society.

PO5- Practice social responsibilities as a team members in nursing management of patients.

PO6- Apply learned nursing knowledge in a professional and ethical manner.

PO7- Practice continuous lifelong learning in nursing profession.

PO8- Apply scientific and analytical thinking in research and entrepreneurship for sustainability.

PO9- Acquire effective management principles and demonstrate effective leadership.
### Recommended Registration Guidelines for the Core Courses of the Nursing Programme

<table>
<thead>
<tr>
<th>Code</th>
<th>Core Courses</th>
<th>Unit</th>
<th>Code</th>
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<th>Unit</th>
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<td>GTU103/3</td>
<td>Fundamentals of Health Informatics</td>
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<td>GTB212/3</td>
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<td>GTJ210/3</td>
<td>Primary Health Care, Family and Community</td>
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<td></td>
<td>(Cardiovascular and Respiratory)</td>
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<td>GTJ209/3</td>
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<td>GTJ212/2</td>
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<td></td>
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<td></td>
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<td>(Gastrointestinal and Renal/Urology)</td>
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### Recommended Registration Guidelines for the Core Courses of the Nursing Programme

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<td>GTU303/2</td>
<td>Research Methodology</td>
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<td>GTJ314/2</td>
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<td>GTJ310/2</td>
<td>Medical-Surgical Nursing III (Endocrine and Musculoskeletal)</td>
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<td>GTJ315/2</td>
<td>Medical-Surgical Nursing V (Dermatology, Immunology, Hematology and Oncology)</td>
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<tr>
<td>GTJ311/2</td>
<td>Mental Health and Psychiatric Nursing</td>
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<td>GTJ316/2</td>
<td>Gerontology Nursing</td>
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<tr>
<td>GTJ313/2</td>
<td>Medical-Surgical Nursing IV (Neurology, Otorhinolaryngology and Ophthalmology)</td>
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<td>GTJ309/2</td>
<td>Critical Care Nursing</td>
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<td>GTJ317/2</td>
<td>Principles of Health Management</td>
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<td>GTJ318/2</td>
<td>Neonatal and Pediatric Nursing</td>
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<td>GTJ312/6*</td>
<td>Research Project (one academic session course)</td>
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<td>GTU301/3</td>
<td>Ethics and Law for the Health Professionals</td>
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<table>
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<th>Unit</th>
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<td><strong>Year 4 Semester II</strong></td>
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<td>Medical Nursing Practicum</td>
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<td>GTJ407/4</td>
<td>Critical Care and Community Nursing Practicum</td>
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<td>GTJ406/4</td>
<td>Surgical Nursing Practicum</td>
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<td>*GTJ312/6</td>
<td>Research Project (one academic session)</td>
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<td>GTJ408/4</td>
<td>Maternal, Child and Women Health Nursing Practicum</td>
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</tbody>
</table>

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*The research project (one academic session) will be offered in Year 3 (Semester 1) to registered nurses that have been given exemption from the practicum courses (the whole of Year 4). Matriculation and STPM students must take this course in Year 4 (Semester 1).
4.4 FORENSIC SCIENCE

Introduction

This programme is the first forensic science programme offered in Malaysia. It is a very popular programme and is highly demanded amongst prospective students. Students will be exposed to the latest knowledge and technologies in the field of Forensic Science via courses which have been developed meticulously. Renowned programmes from other countries such as the US, Europe and Australia were used as a benchmark. Teaching staff of the School together with others from the Medical and Dental Schools of USM, Chemistry Department of Malaysia, The Fire and Rescue Department, and The Royal Malaysia Police will together ensure that the programme is run smoothly and in an excellent manner. This programme is expected to help cater for the national requirements for Forensic scientists which are very much needed in the country. A total of 130 credit units is required for graduation as explained under the course structure section.

List of Core Courses in the Forensic Science Programme

<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Title of Core Courses in the Forensic Science Programme</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>GTU101/3</td>
<td>Structure and Function of Humans I</td>
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<tr>
<td>2.</td>
<td>GTU106/3</td>
<td>Biochemistry and Basic Genetics</td>
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</tr>
<tr>
<td>3.</td>
<td>GTU104/3</td>
<td>Structure and Function of Humans II</td>
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</tr>
<tr>
<td>4.</td>
<td>GTF103/3</td>
<td>Physical Chemistry</td>
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<tr>
<td>5.</td>
<td>GTF104/3</td>
<td>Inorganic Chemistry</td>
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<tr>
<td>6.</td>
<td>GTF105/2</td>
<td>General Chemistry Practical I</td>
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</tr>
<tr>
<td>7.</td>
<td>GTF106/3</td>
<td>Analytical Chemistry I</td>
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<tr>
<td>8.</td>
<td>GTF107/3</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>GTF108/2</td>
<td>General Chemistry Practical II</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>GTB204/3</td>
<td>Molecular Biology Techniques</td>
<td>3</td>
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<td>11.</td>
<td>GTF200/3</td>
<td>Criminalistic</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>GTF203/2</td>
<td>Introduction to Criminology</td>
<td>2</td>
</tr>
<tr>
<td>13.</td>
<td>GTF204/3</td>
<td>Forensic Psychology</td>
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<tr>
<td>14.</td>
<td>GTF205/3</td>
<td>Analytical Chemistry II</td>
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<tr>
<td>15.</td>
<td>GTF206/3</td>
<td>Organic Chemistry II</td>
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<tr>
<td>16.</td>
<td>GTF207/2</td>
<td>Analytical Chemistry Practical</td>
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<td>17.</td>
<td>GTF208/2</td>
<td>Organic Chemistry Practical</td>
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<td>18.</td>
<td>GTF209/2</td>
<td>Pollutions and Environment Chemistry</td>
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<td>19.</td>
<td>GTF210/3</td>
<td>Material Chemistry</td>
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<td>GTF211/2</td>
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<td>21.</td>
<td>GTU302/3</td>
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<td>22.</td>
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<td>Research Methodology</td>
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<tr>
<td>23.</td>
<td>GTF300/2</td>
<td>Biological Evidence</td>
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<td>24.</td>
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<td>Physical Evidence</td>
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<tr>
<td>25.</td>
<td>GTF305/4</td>
<td>Forensic Toxicology and Chemistry of Drugs</td>
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<td>26.</td>
<td>GTF306/3</td>
<td>Fire Investigation</td>
<td>3</td>
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</table>
Programme Learning Outcome

At the end of the programme, the graduates will be able to:

PO1: Apply the core knowledge of forensic sciences together with the other specialty areas of forensic sciences and display the ability to organize them specifically in the analysis of evidence in forensic investigations.

PO2: Demonstrate technical skills required in the process of analysis, application and problem solving in forensic laboratory and/or at the real scene of crime.

PO3: Demonstrate the ability to use scientific critical thinking skills to obtain necessary information, investigate and conduct experiment or research in solving forensic related problems.

PO4: Communicate clearly and manage the scene of crime, and identify other associated skills in determining the type of forensic investigations with ethics and professional manners.

PO5: Work in groups or peers in different stages of criminal investigations; searching for forensic evidences, forensic analysis, crime scene management, and reporting the findings.

PO6: Display ethics and professional manners in the practice of forensic investigation and case presentation.

PO7: Identify and adapt with the most recent technologies and resources and opportunities for the advancement of forensic science services and lifelong education.

PO8: Apply good management skills and demonstrate entrepreneurship capacities particularly in decision making and planning.

PO9: Demonstrate leadership skills through active involvement in social projects and the employment of fundamental knowledge in forensic sciences for the purpose of crime prevention.
### Recommended Registration Guidelines for the Core Courses of the Forensic Science Programme

<table>
<thead>
<tr>
<th>Code</th>
<th>Core Courses</th>
<th>Unit</th>
<th>Code</th>
<th>Core Courses</th>
<th>Unit</th>
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<tbody>
<tr>
<td><strong>Year 1 Semester 1</strong></td>
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<td>GTU101/3</td>
<td>Structure and Function of Humans I</td>
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<td>GTF106/3</td>
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<th>Core Courses</th>
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<td>Introduction to Criminology</td>
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<td>Pollutions and Environment</td>
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## Recommended Registration Guidelines for the Core Courses of the Forensic Science Programme

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<td><strong>Year 3 Semester 1I</strong></td>
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<td>GTU303/2</td>
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<td>Fire Investigation</td>
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<td>GTF305/4</td>
<td>Forensic Toxicology and Chemistry</td>
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4.5 MEDICAL RADIATION

The Bachelor of Health Science (Medical Radiation) is a 4-year (8 semesters) full time academic programme which has been offered since academic year 2001/2002 to students with qualification of A-level, STPM, matriculation, diploma in radiography or equivalent. The government of Malaysia has accredited this programme since 2004.

This programme provides theoretical and practical training experiences, which will allow students to understand, able to explain and utilise ionising and non-ionising radiation in the diagnosis and treatment of patients. The offering of this programme is expected to assist in fulfilling the national requirements for trained personnel in the medical radiation science disciplines. This programme opens up career opportunities in the field of diagnostic radiology, nuclear medicine, radiotherapy and medical radiation protection which required knowledge and skills in these areas in order to ensure the safety of the graduates, medical and health professionals, patients and members of the general public.

The students are required to complete a total of 124 units for the purpose of graduation. The whole programme consists of 94 units of core courses, 15 units of university courses and 15 units of elective courses.

List of Core Courses of the Medical Radiation Programme

<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Title of Core Courses in the Medical Radiation Programme</th>
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<tbody>
<tr>
<td>1.</td>
<td>GTU101/3</td>
<td>Structure and Function of Humans I</td>
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<td>2.</td>
<td>GTU103/3</td>
<td>Fundamental of Health Informatics</td>
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<td>3.</td>
<td>GTU104/3</td>
<td>Structure and Function of Humans II</td>
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<tr>
<td>4.</td>
<td>GTU105/3</td>
<td>Psychology and Behavioral Sciences</td>
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<td>7.</td>
<td>GTX102/3</td>
<td>Mathematics of Radiation Science</td>
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<td><strong>Total Unit of Core Courses</strong></td>
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**Programme Learning Outcomes**

At the completion of the programme, graduates will be able to:

PO1: Apply the knowledge of medical radiation sciences and display related skills in diagnostic radiology, nuclear medicine, radiation therapy and radiation protection in medical application.

PO2: Demonstrate technical and practical skills required in medical imaging and radiotherapy procedures.

PO3: Apply scientific thinking in solving problem related to medical imaging and radiation therapy.

PO4: Apply communication skills in a hospital based working environment or research institutions.

PO5: Display good social ability and able to work as a team member with other healthcare professionals.

PO6: Demonstrate professionalism, good attitude and ethical values during patient management and clinical practices.

PO7: Apply lifelong education and information management by having up-to-date ICT skills.

PO8: Apply management skills and display entrepreneurship in medical radiation profession.

PO9: Demonstrate and apply leadership skills through active involvement in patient management and medically related professional activities.
## Recommended Registration Guidelines for the Core Courses of the Medical Radiation Programme

<table>
<thead>
<tr>
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Recommended Registration Guidelines for the Courses of the Medical Radiation Programme

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### 4.6 AUDIOLOGY

**Introduction**

This programme is designed to produce audiologists who are knowledgeable and able to practice in the field of audiology to fulfill the needs of public and private sectors. Graduates will be awarded the Bachelor of Health Science (Audiology). This 4-year (8 semesters) programme includes the theoretical and practical (clinical) learning experience through our Core, University and Elective courses to equip the students to be competent as a practicing audiologist. Thus, students will acquire the necessary academic qualification to become a professional audiologist and play their role as part of the health care team.

**List of Courses of the Audiology Programme**

<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Title of Core Courses in the Audiology Programme</th>
<th>Unit</th>
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<td>GTU101/3</td>
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<td>GTU105/3</td>
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<td>GTA101/2</td>
<td>Anatomy and Physiology of Hearing and Speech</td>
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<td>GTA102/3</td>
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<td>GTP101/2</td>
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</table>

**Total Unit of Core Courses** 130
Programme Learning Outcome:

At the completion of the programme, graduates will be able to:

PO1: Demonstrate fundamental and advanced knowledge, (theoretically and clinically) in the field of audiological sciences.

PO2: Demonstrate technical and practical skills in diagnosis and re/habilitative audiology.

PO3: Display critical and scientific thinking in integrating the audiological knowledge in assessment, interpretation, management, and re/habilitation aspects of hearing, balance and related disorders.

PO4: Demonstrate communication skills in dealing with patients, family members and health-related professionals and other related working environments.

PO5: Participate effectively in multi-disciplinary teams in managing patients with hearing and balance disorders.

PO6: Adhere to professional codes of conducts and ethical standards and demonstrate sensitivity to the differences in culture and religion.

PO7: Apply lifelong education and ICT skills to enhance clinical services and research in audiology.

PO8: Display entrepreneurship skills in audiology-related fields and practice systemic management in clinical audiology.

PO9: Demonstrate and apply leadership skills through active involvement in patient management and health-related professions.
**Recommended Registration Guidelines for the Courses of the Audiology Programme**

<table>
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<tr>
<th>Code</th>
<th>Core Courses</th>
<th>Unit</th>
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## Recommended Registration Guidelines for the Courses of the Audiology Programme

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16
4.7 SPEECH PATHOLOGY

Introduction

Speech pathology is a health science profession that deals with the identification, assessment, diagnosis, intervention and management of communication disorders (disorders of language, speech sounds, fluency and voice) and swallowing problems. The professionals in this profession are known as Pegawai Pemulihan Perubatan (Pertuturan) in the government sector or Speech-Language Pathologist in the private sector.

Speech Pathology Programme provides an academic program for students to obtain Bachelors of Health Science (Speech Pathology) as a qualification to work as the Pegawai Pemulihan Perubatan (Pertuturan) or Speech-Language Pathologist. The main aim of Speech Pathology Programme is to produce professionals who have the theoretical knowledge and clinical skills in speech pathology. Therefore, to achieve this main aim, the objectives of Speech Pathology Program are to:

- Offer an academic programme that can produce professional who are knowledgeable and skilful in speech pathology.
- Provide students with the theoretical knowledge and clinical skills in preparation to work as competence professionals.
- Develop sense of professionalism to ensure ethical practices provided to the public.
- Give initial exposure to encourage involvement in research, parallel to advancement in speech pathology profession.

This is a 4-year professional programme that provides students with theoretical knowledge and clinical skills in speech pathology. Students will undertake programme core courses that cover topics on communication sciences and disorders, medical and health sciences, linguistics, education, psychology and research, plus several elective and university courses. The students will also have to accumulate 400 clinical educational hours during clinical years i.e. from Year 2 to Year 4 and complete a research project during the final year.

List of Core Courses of the Speech Pathology Programme

<table>
<thead>
<tr>
<th>No.</th>
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**Total Unit of Core Courses** 104
Programme Learning Outcome

At the completion of the programme, graduates will be able to:

PO1: Demonstrate theoretical and clinical knowledge related to speech sciences specifically the principles and methods of assessment, intervention and prevention of communication and swallowing disorders.

PO2: Demonstrate appropriate technical and clinical skills in speech sciences during formulation and execution of the prevention, assessment and intervention process.

PO3: Apply critical thinking in integrating the theoretical knowledge, analysing and interpreting assessment findings for prognosis and diagnosis, problem solving and decision making.

PO4: Demonstrate communication and interpersonal skills in dealing with patients, family members, other healthcare professionals and community.

PO5: Collaborate effectively with other team members of healthcare professionals in managing patients with communication and swallowing disorders.

PO6: Adhere to professional codes of conduct and ethical standard and demonstrate sensitivity to the differences in culture and religion practices.

PO7: Apply current development in speech sciences, clinical skills and utilise ICT knowledge to enhance their profession and support lifelong learning.

PO8: Display entrepreneurship skills and practice systemic management in speech sciences.

PO9: Demonstrate leadership and social skills.
Recommended Registration Guidelines for the Core Courses of the Speech Pathology Programme

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78
4.8 EXERCISE AND SPORTS SCIENCE

Introduction

The objective of this programme is to produce graduates who are academically sound and able to function as the experts in the field of Exercise and Sports Science relevant to the requirement of the public and private sectors of the industry. It also takes cognisance of helping to achieve the national aspiration of creating healthy citizens.

Students undergoing this programme are expected to acquire a high level of academic competency and knowledge that is at par with graduates of similar institutions within and outside the country. The uniqueness of this programme is that it allows the graduates to be flexible and capable of continued development in their specific career. This is based on the curriculum design which helps strengthen the knowledge of exercise and sports sciences while at the same time students will be exposed to the health and sporting events relevant to the field.

List of Core Courses of the Exercise and Sports Science Programme

<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Title of Core Courses in the Exercise and Sports Science Programme</th>
<th>Unit</th>
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<td>GTU106/3</td>
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<td>Immunology I</td>
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**Total Unit of Core Courses** 96

**Programme Learning Outcomes**

At the end of the programme, the graduates will be able to:

PO1: Posess comprehensive knowledge with a strong foundation in exercise and sports physiology.

PO2: Proficiently identify and apply the appropriate tests and technical analysis.

PO3: Demonstrate analytical thinking, application of knowledge and problem-solving in research laboratories and at the actual playing field.

PO4: Display professional communication skills for accurate information dissemination.

PO5: Provide professional services to aid optimum health and fitness for the community.

PO6: Demonstrate responsibility, accountability and portray professional ethics and noble values.

PO7: Apply continuous learning and exploration of new knowledge in line with the latest development.

PO8: Incorporate management and entrepreneurship skills that will branch out as other career options related to the field.

PO9: Display leadership and team management skills in taking charge of group tasks and in community.
# Recommended Registration Guidelines for the Core Courses of the Exercise and Sports Science Programme

<table>
<thead>
<tr>
<th>Code</th>
<th>Core Courses</th>
<th>Unit</th>
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Recommended Registration Guidelines for the Core Courses of the Exercise and Sports Science Programme

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4.9 NUTRITION

Introduction

The nutrition programme offers a 4-year (8 semesters) full time course leading to a Bachelor Degree in Health Science (Nutrition). The offering of the programme is to cater for the needs for more nutritionists in Malaysia.

The programme applies multidisciplinary approaches, and is taught by experts from basic sciences, food science, and dietetic, medical, social science and community services.

The nutrition programme has the purpose in delivering knowledge in the basic human nutrition and focuses towards community nutrition in Malaysia. It provides an academic programme that is able to produce versatile graduates and in fulfilling the needs of the job market in the future.

Students will be exposed to every aspect of food, dietary nutrient requirement, evaluation of nutritional status and issues of lifelong nutrition cycle. Students will also learn the problems of nutrition in a community and methods in overcoming these problems. The research component will also be taught and students are required to carry out a research project in the final year. Teaching is conducted via lectures, seminar, practical, self study and directed learning.

List of Core Courses of the Nutrition Programme

<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Title of Core Courses in the Nutrition Programme</th>
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<td><strong>Total Unit for Core Courses</strong></td>
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</table>

**Programme Learning Outcome**

At the end of the programme, the graduates will be able to:

PO1: Apply core knowledge and display the ability to use theoretical and practical skills for problem identification and solution.

PO2: Demonstrate technical and practical skills required in patient care, patients and community services, and apply scientific knowledge in research.

PO3: Apply critical and creative thinking skills in solving problems and making decisions related to nutrition field.

PO4: Apply communication skills at any working environment in nutrition laboratory, health and research institutions.

PO5: Work in groups as healthcare professionals to solve nutrition- and health-related problems and participate as a team player in community healthcare and services.

PO6: Demonstrate good values, attitudes and professional ethics in nutrition applications and services.

PO7: Apply lifelong education and ICT skills, and to identify resources to enhance services and research in nutrition.

PO8: Display management and entrepreneurship skills in nutrition-related fields and professions.

PO9: Demonstrate and apply leadership skills as healthcare professionals in activities related to nutrition, healthcare and research.
Recommended Registration Guidelines for the Core Courses of the Nutrition Programme

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<tr>
<th>Code</th>
<th>Core Courses</th>
<th>Unit</th>
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<td>GTD211/3</td>
<td>Dietetic and Communication Skills</td>
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<td>Ethics and Law for the Health Professionals</td>
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# Recommended Registration Guidelines for the Core Courses of the Nutrition Programme

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**4.10 ENVIRONMENTAL AND OCCUPATIONAL HEALTH**

**Introduction**

The Environmental and Occupational Health Programme is a full time 4 years (8 semesters) undergraduate academic programme. The students will be awarded the Bachelor Degree of Health Science (Environmental and Occupational Health) upon successful completion of the programme.

This programme emphasises knowledge in the field of environmental and occupational as a competitive advantage, which enables graduates to communicate effectively with medical professionals involved in treatment and rehabilitation of individuals suffering environmental and occupational related diseases. The programme is designed and developed with care to fulfill the specific needs of potential employers, regulators and modern society in general. The students will be trained on international quality management systems, including ISO9001, ISO14001, OSHAS18000, ILO-OSH 2001 and MS 1722: 2003.

Students will also be exposed to knowledge in the field of quantitative chemistry with special attention on skills of handling analytical instruments in quantifying pollutants in outdoors and indoors samples, independently. Students will gain real life experience through an 4 months Smart Partnership Scheme established between the university, industries and government institutions.
<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Title of Core Courses in the Environmental and Occupational Health Programme</th>
<th>Unit</th>
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<tbody>
<tr>
<td>1.</td>
<td>GTK101/3</td>
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<td>GTK102/3</td>
<td>Environmental and Occupational Health : Ecological Perspectives</td>
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<td>GTK103/3</td>
<td>Biodiversity</td>
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<td>Structure and Function of Humans I</td>
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<td>Fundamentals of Health Informatics</td>
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<td>GTB107/3</td>
<td>Epidemiology</td>
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<td>GTK301/4</td>
<td>Environmental and Occupational Toxicology</td>
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<td>17.</td>
<td>GTK302/3</td>
<td>Environmental and Occupational Health from Engineering Perspectives</td>
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<td>18.</td>
<td>GTK303/3</td>
<td>Domestic, Laboratory and Industrial Waste Management</td>
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<td>19.</td>
<td>GTK304/3</td>
<td>Measurement and Monitoring of Contaminants</td>
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<td>20.</td>
<td>GTK305/3</td>
<td>Environmental and Occupational Related Diseases</td>
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<td>21.</td>
<td>GTK306/3</td>
<td>Environmental and Occupational Emergency</td>
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<td>Occupational Rehabilitation</td>
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<td>Ethics and Law for the Health Professionals</td>
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<td>30.</td>
<td>GTK405/3</td>
<td>Management of Occupational Safety and Health</td>
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</table>

**Total Unit of Core Courses**: 100
Programme Learning Outcome (PO)

At the end of the programme, the graduates will be able to:

PO1:  Apply core knowledge and display the ability to use theoretical and practical skills in all situations involving environmental and occupational hazards and safety.

PO2:  Demonstrate technical skills and capable in creating perception in order to identify environmental and occupational health’s problems.

PO3:  Apply critical and creative thinking in acquiring environmental and occupational health information and apply scientific knowledge in research towards effective services.

PO4:  Apply communication skills effectively at any working environment in all organizations, industrials and society.

PO5:  Demonstrate social skills and participate as team player in order to catch the organization goal and able to solve environmental and occupational health’s problem as a group.

PO6:  Demonstrate good values, attitudes, and professional ethics in environmental and occupational safety, applications and services.

PO7:  Apply lifelong education and ICT skills, and identify resources to enhance services and research in environmental and occupational.

PO8:  Identify and manipulate entrepreneur resources and skills in environmental and occupational related-skills and professions to facilitate society group in need.

PO9:  Demonstrate and apply leadership as healthcare professionals in activities related to environmental, occupational, healthcare and research.
Recommended Registration Guidelines for the Core Courses of the Environmental and Occupational Health Programme

<table>
<thead>
<tr>
<th>Code</th>
<th>Core Courses</th>
<th>Unit</th>
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<td>GTK302/3</td>
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91
5.0 COURSES SYNOPSIS
5.1. Core Courses
Level 100
GTA101/2-Anatomy and Physiology of Hearing and Speech

This course introduces anatomy terminologies and correlation between structure and function of the human body. It emphasizes on organs related to hearing and speech, i.e. head, neck and thorax and their interrelationships. Topics which will be discussed include introduction to anatomical terminology, main systems of speech and hearing, the skull, respiration system, larynx and phonetic mechanism.

List of text/reference books:


GTA102/3-Physics for Audiologist

This course discusses the basic acoustics, electricity and electronics, such as magnetism and electromagnetism, electrostatics, battery and mobile energy sources, electric circuits, resistors, capacitors, semiconductors, amplifiers, oscillators, interference effects and electrical noises.

List of text/reference books:


GTA103/2-Anatomy and Physiology for Hearing and Speech (Ear & Throat)

This course discusses the anatomy and physiology related to detailed speech production mechanism. This includes the skeleton, face, structures in neck, muscles and ligaments that are involved in voice and speech production and swallowing. In addition, this course will also include the physiology of articulation and phonation, vestibular and auditory systems.
List of text/reference books:


**GTB105/3-Human Biochemistry**

This course discusses aspects of human biochemistry including protein, carbohydrate and lipid metabolism, enzymes, hormones, and liver and renal functions. The focus will be towards the theory and methods used in measuring biochemical parameters in human.

List of text/reference books:


**GTB106/3-Laboratory Science**

This course introduces students to the basic laboratory techniques, management and maintenance of laboratory equipment. Topics will be discussed include professional attitude and ethics, safety methods and disposal of dangerous chemicals, storage and maintenance of chemicals and reagents, keeping and record, use of laboratory plastics and glasses, sterilization and disinfection, principle of quality management, receiving and managing specimens. Students will also be trained in using and maintenance of laboratory equipments such as micropipette, centrifuge, pH meter, balances, spectrophotometer and other common laboratory analytical instruments.

List of text/reference books:

GTF107/3-Epidemiology

This course aims to provide a comprehensive introduction to the principles and methods of epidemiology. Discussions will begin with explanation on the causes of disease with special emphasis on environmental factors that explain how epidemiology can be used for the prevention of disease and for health promotion, including environmental and occupational health. The course will provide students with the knowledge on how to best use suitable epidemiological study design for evaluation of health programs. Students are also encouraged to develop health skills within the clinical epidemiological framework.

List of text/reference books:


GTF103/3-Physical Chemistry

This course exposes students to properties of gas and liquid, matter state principles, gas kinetic theory, chemical kinetic and chemistry thermodynamic.

List of text/reference books:


GTF104/3-Inorganic Chemistry

This course exposes students to various topics on basic chemistry including stoichiometry, atomic structures, nuclear chemistry, periodic table, chemical bonding and properties of matters.
List of text/reference books:


**GTF105/2-General Chemistry Practical I**

This course exposes students to general chemistry practical such as basic laboratory techniques, identification of substances based on physical properties, separation of component mixture, chemical formula, gravimetric analysis of chloride salt, paper chromatography for separation of cations and dyes, acid-base titration, salt hydrolysis and pH of buffer solutions, determination of the dissociation constant of a weak acid and determination of solubility-product constat for sparingly soluble salts.

List of text/reference books:


**GTF106/3-Analytical Chemistry I**

This course exposes students to basic knowledge on chemical analysis which covers concentration expression, statistic for analytical chemistry, chemical equilibrium, acid-base equilibrium, acid-base titration and titration, complexometry titration, gravimetry analysis, precipitation titration, redoxs equilibrium and redox titration.

List of text/reference books:

GTF107/3-Organic Chemistry I

This course introduces the students to the origin of organic chemistry and to study the basic concepts of electronic structure and bonding, structures and properties of organic molecules, chemistry of hydrocarbons, alkane, cycloalkane, alkene and alkyne. The course provides the study of chemical reactions in organic chemistry and stereochemistry. This course also provides the knowledge of alkyl halide and nucleophilic substitution and elimination reactions.

Main references supporting this course:


Additional references supporting the course:


GTF108/2-General Chemistry Practical II

This course exposes students to general chemistry practical which is continued from GTF105-General Chemistry Practical I. It covers chemical reactions, analysis of aspirin, chemical equilibrium: Le Chatelier Principle, gravimetric determination of phosphorus in plant food, chemical reactions of copper and percent yield, chemicals in everyday life: what are they and how do we know?, colorimetric determination of an equilibrium instant in aqueous solution, oxidation-reduction titration II: Analysis of bleach, activity serried and titration currus of polyprotic acids.

List of text/reference books:


GTJ101/4-Nursing Foundation I

This course comprises of three components: (1) history and nursing development; (2) practice and nursing focus; and (3) health assessment and nursing process.

History and nursing development provides students with introduction to basic nursing, including the roles of the nurse, philosophy of the nursing practice and nursing education, nursing history, development of the nursing profession at the national and international level, Malaysian health care system, traditional health systems, transcultural nursing, evidenced based practice, as well as legal and ethical issues in nursing practice.
Practice and nursing focus introduces students to the theories and principles of nursing, basic theories and primary dynamic health concepts. These theories are foundations to the other courses in years 2, 3 and 4. These are practiced in the hospitals, community and home in a holistic manner. The focus is on critical thinking, problem solving and use of nursing process within the nursing context.

Health assessment and nursing process focus on the practical aspects of basic nursing such as history taking, health assessment, formulating nursing diagnosis, implementing nursing actions, and evaluation.

List of text/reference books:


**GTJ108/2-Health Communication and Education**

This course exposes students to various topics on basic knowledge of health promotion. Students will be introduced to the concepts and resources particularly concern the role of health promoter in health promotion, education and communication in the context of national health care system. Knowledge delivery of health promotion will be further extended to the strategy identification, designing, planning, management, research, material development and testing, monitoring and evaluation of the related health promotion programs introduce nationwide.

List of text/reference books:


**GTK101/3-Introduction To Environmental And Occupational Health**

This course exposes students to the areas of environmental health, occupational health, environmental safety, and occupational safety. The importance of responsibility and civil liberties of an individual towards the environment will be discussed. The implication and significant of nurturing environmental and occupational health will also be highlighted.
List of text/reference books:


GTK102/3-Environmental And Occupational Health: Ecological Perspectives

This course exposes students to basic ecological components (e.g., abiotic, biotic, physical, and social). The students are taught the compatibility between human health and those basic ecological components and be aware of how the latter affects human health. The impact of destabilise basic components with respect to human health will also be further discussed.

List of text/reference books:


GTK103/3-Biodiversity

The course introduces students to major phylum of organisms in earth. Emphasis is given to differentiate the organisms based on their distinct characteristics. The importance of interspecific interactions and its surroundings will be highlighted. At end of this course, students will be able to identify various organism living in their neighbourhood and be more conscious on activities that destroys earth biodiversity.

List of text/reference books:


GTN101/3-Food Science

This course introduces students to foods and the different kinds of fundamental changes in food as a result of food processing. It will focus on the scientific aspects of food research. The basic knowledge of foods will be taught through theoretical and practical aspects of food science.
List of text/reference books:


**GTP101/2-Child Language Development**

This is a theoretical course that gives initial exposures on language development. It focuses on the acquisition and development of language among normal children. The topics covered are theories of language acquisition and language development processes in terms of language components i.e. semantics, syntax, morphology, phonology and pragmatics. Relationship between language development and other relevant aspects such as social and cognitive development are also covered in this course.

List of text/reference books:


**GTP102/2-Basic Linguistics**

This is a theoretical course that gives initial exposures to linguistics. It focuses on the fundamental knowledge in linguistics such as phonetics, phonology, morphology, syntax, semantic and pragmatics. Applied linguistics such as sociolinguistics and dialectology will be also covered in this course.

List of text/reference books:

GTP103/2-Introduction to Clinical Audiology and Speech-Language Pathology

This is an orientation course which provides initial exposure to the clinical aspects of audiology and speech pathology. It focuses on the common procedures and managements in audiology or speech therapy. The topics covered are scope of practice of the audiologists and the speech pathologist. Assessment and management procedures for audiology and speech pathology cases are highlighted. This course also emphasises the theoretical and application aspects of observation skills.

List of text/reference books:


GTP104/3-Developmental Psychology for Speech and Hearing

This is a theoretical course that gives initial exposures to the field of psychology. It focuses on the developmental psychology of the human from prenatal to late adulthood. The topics covered include theories in developmental psychology and human development in relation to biological, cognitive, personality and social aspects.

List of text/reference books:


GTS101/2-Introduction to Exercise and Sports Science

The course introduces the student to the scientific discipline known as Exercise and Sports Science through the exposure to the history and consequently to the latest knowledge and the application of current technology in the field. Students will be exposed to the basic and the sub-disciplines of exercise and sports science. The course will also introduce students to the characteristic, employment and career opportunities available in this area of expertise.
List of text/reference books:


**GTS102/3-Sociology and Philosophy of Sports**

This course provides the students with the basic concepts in sociology and the philosophy of sports. In addition, there will be discussions and considerations on the sociological and philosophical implications of previous and current development in the field of sports.

List of text/reference books:


**GTU101/3-Structure and Function of Humans I**

This course discusses aspects of basic anatomy including the terminologies related to cell structures, primary tissues and human organ systems from the macro and micro perspectives. Emphasis will be directed towards the anatomical and physiological aspects of the various human organ systems.

List of text/reference books:

GTU103/3-Fundamentals of Health Informatics

The fundamental of health informatics course will introduce students to the concept and application of information and communication technology (ICT) in the field of health sciences. Students will be exposed to latest ICT technology, technology application in health sciences, security and usage procedure, and introduction to data structure. To create more understanding of applied health informatics, students will be exposed to practical applications, covering topics of computer basic such as E-learning System, Windows XP, Mac OS X, Office Suite Application (Word Processor, Presentation and Spreadsheet); website development, graphic and animation editing applications. For group project, students will be assigned to a project based on their understanding on health informatics (HI) describing a scenario of using HI in healthcare delivery.

List of text/reference books:


GTU104/3-Structure and Function of Humans II

This course concentrates on the various anatomical and physiological aspects of the respiratory, urinary, gastrointestinal, endocrine and reproductive systems as well as the skin.

List of text/reference books:

GTU105/3-Psychology and Behavioural Science

This course provides students with basic theoretical knowledge and principles of psychology and behavioural sciences.

List of text/reference books:


GTU106/3-Biochemistry and Basic Genetics

This course discusses the structures and the functions of cellular organelles. The focus will be towards the characteristics, synthesis and biomolecular metabolism, which includes carbohydrates, nucleic acids, lipids, proteins and vitamins and also the characteristics and the role of enzymes in the regulation of metabolism. The second part of the course will introduce basic genetics, which includes the structure and functions of DNA and RNA as the genetic materials, transcription and translation, structure and chromosomal organizations, Mendel’s Law and other traits inheritance.

List of text/reference books:


GTX101/3-Introduction to Medical Radiation

This course introduces students to ionising and non-ionising radiation and their use in medical science and effects on general population including properties and spectrum of electromagnetic radiation. It also provides knowledge regarding historical background and modern concept of atom including its quantum mechanical model and sub-atomic particles. Radioactivity, types of radioactive decays and production and use of...
radionuclides in medicine will be taught. Types and production of x-rays and interaction of x-ray and gamma ray with matter and living being are also covered in this course. Students will be exposed to the production of non-ionising radiations such as infrared, short wave, microwave, ultrasound, lasers and their use in medicine.

List of text/reference books:


**GTX102/3-Mathematics of Radiation Science**

This course discusses advanced mathematics and calculus. It will focus on function and graph, advance function and equality solution, advance geometry, matrix, vector, complex number, limit and the use of first principles in polynomial differentiation, differentiation, differentiation techniques and applications, integration, advance differentiation and integration.

List of text/reference books:


**GTX103/3-Medical Radiation Physics I**

This course discusses basic concepts of classical physics and relativity. The topics include kinematics and motion, forces, work and kinetic energy, potential energy and conservation of energy, impulse and linear momentum, rotation, static equilibrium and relativity.

List of text/reference books:

5.2. Core Courses
Level 200
GTA201/2-Audiology Instrumentation

This course discusses instrumentations used in audiology such as sound level meter, tympanometer and audiometer. It also covers room acoustics for audiological tests, factors which affect sound level meter measurement and utility, types of microphone, audiometer block diagram, the function and standards of each component of calibrator (artificial mastoid) in audiometer calibration will also be discussed. Introduction to other audiological instrumentations are also discussed in this course.

List of text/reference books:


GTA202/3-Introduction to Psychoacoustic and Audiology Techniques

This course introduces students to psychoacoustics that relates to hearing science. Basic theories of immitance audiometry, pure tone audiometry, and speech audiometry will be introduced.

List of text/reference books:


GTA203/3-Advanced Audiology Technique

This course discusses detailed audiological tests in diagnosing organic and non-organic hearing impairment and balance disorders. The related issues in audiological tests and reports writing of hearing tests results will also be discussed.

List of text/reference books:

GTA204/2-Basic Clinical Management and Hearing Screening

This course exposes students to case management in audiology clinic via observation and lectures related to basic clinical management such as, report-writing, code of ethics, and their responsibility. It also discusses the concepts of hearing screening, its principal, objectives and methods of screening tests of all stages of life, including the needs of conducting hearing screening test at industrial sector. The sensitivity and specificity, advantages and disadvantages of each test, factors affecting test, and the differences between screening and diagnostic test are also discussed.

List of text/reference books:


GTA205/2-Neurology for Hearing and Speech

This course introduces basic neurology related to hearing, balance, speech and language. The topics will be discussed include neuroaudiology and neurology related to speech and language. It also discusses the neurological diseases related to hearing, balance, speech and language aspects. The topics include neuroaudiology and neurology related to speech and language.

List of text/reference books:

GTA206/2-Otology

This course includes the pathological processes, clinical symptoms, diagnostic algorithm and protocol, and of management otological disorders. This course also discusses clinical otology, hearing assessment, outer, middle, and inner ear pathologies, tinnitus, vertigo, sudden hearing loss, presbycusis and congenital deafness. Students will be given the opportunity to practice otoscopy, voice test, tuning fork test and exposure to patients at Otolarinolaringology (ORL) clinic.

List of text/reference books:


GTA207/2-Electrophysiology Test for Auditory System

This course discusses electrophysiological tests for auditory system. A variety of electrophysiological tests will be introduced including both theory and practical. Students are also exposed to knowledge about factors affecting accuracy of the test results. The relationship between the test results and ear pathology will also be discussed.

List of text/reference books:


GTB204/3-Molecular Biology Techniques

This course introduces the students to basic techniques, principles as well as the application of molecular biology technologies in research and medicine. Topics that are covered include chromosomal structure, gene expression and regulation, extraction and purification of nucleic acids, DNA and protein analysis, restriction endonuclease and other enzymes in molecular biology, gene cloning and libraries, the concept of Southern, Northern and Western blotting, bacterial transformation and amplification methods such as PCR, LCR, SDA etc. The other advanced components of this course will also discuss the emerging research fields of Regulatory RNAs, Genomic Imprinting, Systems Biology and give particular focus on RNAi, microRNAs, the opportunities offered by the new generation of genome technologies and the elucidation of gene regulatory networks.
Basic laboratory training in extraction of nucleic acids and protein expression will be given. Students will also be exposed to latest molecular biology techniques such as PCR, rt-PCR, quantitative-PCR, EMSA and Microarray. All students will be trained to use various bioinformatics software applications related to Genomics & Proteomics such as BioEdit, DNAsis, OLIGO etc. via a compulsory Cloning Simulation Project’ exercise.

List of text/reference books:


GTB212/3-Basic Microbiology

This course introduces students to basic principles in microbiology, which covers bacteria, viruses, fungi and parasites. Topics which will be discussed, include microbial diversity, genetics, physiology, biochemistry and metabolism, reproduction and control of microorganisms, microbial interactions, medically important organisms in human diseases, nosocomial infection, and antimicrobial therapy and resistant. Basic practical skills such as staining methods, culture techniques and microscopy will be introduced.

List of text/reference books:

GTB217/2-Immunology I

This course describes the basic concepts in immunology which include the concept of immunity and the immune response. Description of the types of lymphoid tissues and cells, the characteristics, types and functions of various molecules such as immunoglobulins, cytokines and the various components of the complement system as well as immune cells such as B and T lymphocytes will also be addressed. In addition, the concepts of antigen, immunogen, antigenicity and immunogenicity, as well as the importance of vaccination (immunization) and the basic concept of immunopathology will be described. The use of antigen-antibody interactions in diagnosis will be introduced.

List of text/reference books:


GTB218/3-Immunology II

This course encompasses advanced concepts in immunology particularly from the molecular immunological point of view. The involvement of immunological mechanisms in various diseases such as autoimmune diseases, immunodeficiency, HIV infection, transplantation and tumour immunology will be discussed. The students will also be exposed to the principles and immunological methods such as immunoprecipitation and agglutination reactions, ELISA, immunofluorescence, immunoenzymatic staining and flow cytometry as well as the production and use of monoclonal and polyclonal antibodies. Students will undergo a short placement in the Immunology Laboratory (School of Medical Sciences) to expose them to the actual situation in a diagnostic immunology laboratory.
List of text/reference books:


**GTB219/3-Pharmacology I**

This course exposes students to the basic principles of Pharmacology including pharmacokinetics, pharmacodynamics and relationships between chemical structure and activity of drugs. Aspects of cellular pharmacology and biochemical pharmacology are also included. Some areas of systemic pharmacology (autonomic, cardiovascular, respiratory, gastrointestinal, endocrine, antimicrobials, central nervous system, anticoagulants and antiinflammation) will also be addressed. Methods of assessing effects of drugs and measurements of blood levels using the latest techniques of chemical analysis will be introduced.

List of text/reference books:


**GTB220/3-Medical Bacteriology**

This course provides the students with knowledge on general characteristics of medically important bacteria, the role of organisms in disease and health, the source, reservoirs and transmission of bacterial diseases and its pathogenesis. This course will also provide the students with skills in handling and processing of clinical specimens and various techniques in the identification of pathogenic bacteria (staining, culture, serology, molecular) and the advantages and limitations of these techniques. Knowledge and techniques related to laboratory procedures - antibiotic sensitivity test, serological tests, rapid diagnosis and tests for bacterial infections will also be taught.
List of text/reference books:


GTB221/3-Basic Haematology

This course introduces the students to theoretical and practical concepts of basic haematology which include structure and function of blood cells and blood components, hematopoiesis, ferrous metabolism, vitamin B₁₂ and folate metabolism, red cell metabolism and haemostasis. Particular emphasis will be given to a few important basic concepts such as haemoglobin synthesis, structure and function of blood cells, introduction to anemia. The students will also be exposed to basic haematological tests, laboratory management and instrumentations used in a hematology laboratory.

List of text/reference books:


GTB222/4-Pathology

This course introduces the students to basic pathological processes including tissue damaging agents, cell injury, adaptations, inflammation, wound healing, haemodynamic disturbances and neoplasm. Pathological investigative procedures such as preparation and fixation of tissues, processing of tissues, slicing of the processed tissues with microtome and staining techniques including routine, special and immunostains will be covered. The students will also gain basic knowledge on cytological and museum techniques. Students will also be exposed to actual working environment through practical classes in Biomedicine laboratory of School of Health sciences and short attachments at the Pathology Laboratory of the School of Medical Sciences.
List of text/reference books:


**GTB224/2-Laboratory Animal Sciences**

The course provides opportunities for students to learn the basic knowledge of anatomy and physiology, care, safety and management of laboratory animals. Students will also be introduced to rules and ethical issues involving laboratory animal in research and teaching.

List of text/reference books:


**GTD211/2-Dietetics Skills and Communication**

This course focuses on the theoretical and practical aspects of dietetics and communication skills. This course will also enhance individual skills in communicating with individual clients and a group of clients both verbally and in written form, establishing rapport with the health care team, obtaining and evaluating food records, planning menus, using relevant equations for the determining of calories, documentation of nutritional care process using the SOAP and ADIME formats and other educational tools.
This course also exposes students to many activities such as development of educational tools, conducting mock diet interviews, case presentations, case discussions and case report writing. The students will also attend various tutorial sessions emphasizing on the aspects of nutritional education and cultural factors which influences the patients’ diet.

List of text/reference books:


GTF200/3-Criminalistics

The course introduces the students to the basic elements of Forensic Sciences. It provides fundamental information on crime scene and collection and preservation of evidence. It also describes the different types of impression evidence such as finger prints, foot prints, tool marks, and tyre prints used in identification of individuals and objects. A brief account on trace evidence materials like dust, glass, soil, fibres and hairs too is included. Introductory topics on DNA evidence, firearm identification, explosives, and questioned documents also form part of the syllabus. The students are also taught photographic techniques, digital cameras, and uses of invisible radiation in crime detection.

List of text/reference books:


GTF203/2-Introduction to Criminology

This course introduces students to basic concepts and theories of criminology. The knowledge would enable students to understand issues and problems in various crimes including juvenile, environment, media technology and institutions. Students are also exposed to various psychometrics for criminal profiling.

List of text/reference books:

GTF204/4-Forensic Psychology

This course discusses areas relating to behavioural aspects and human cognitive in crime from the perspectives of perpetrators and victims. Discussions will be concentrated on multifarious forms of crimes, juvenile issues, and adult criminals. The role of forensic psychologists, connections between psychology and law, the use of psychological measurements, treatment and rehabilitation will also be clarified.

List of text/reference books:


GTF205/3-Analytical Chemistry II

This course exposes students to analytical chemistry knowledge that has not been covered in Analytical Chemistry I which include spectrochemistry topics such as introduction to spectrochemistry methods, instrumentation of optical spectrometry, molecular absorption spectrometry, molecular flouresence spectroscopy and atomic spectroscopy. The students are also introduced to absorption methods which include an introduction of solvent extraction, gas chromatography and high pressure liquid chromatography (HPLC). Under electrochemistry methods, students are exposed to potentiometry and voltammetry.

List of text/reference books:

GTF206/3-Organic Chemistry II

This course exposes students to aromacity, reactions of benzene and substituted benzenes, reactions of carbonyl compounds (carboxylic acids and their derivatives, aldehydes and ketones) with oxygen and nitrogen nucleophiles, carbon nucleophiles and the hydride ion. It also covers the identification of organic compounds using mass spectrometry, infrared spectroscopy, ultraviolet/visible spectroscopy and NMR.

Main references supporting this course:


Additional references supporting the course:


GTF207/2-Analytical Chemistry Practical

This course exposes student to various analytical chemistry practicals such as absorption spectroscopy for determination of iron complex with 1,10-phenanthroline, application of ion selective electrode for determination of sodium and magnesium and also determination of fluoride in drink water and toothpaste samples, separation of mixing acid using ion exchange resin, application of infrared spectrometry technique for quantitative analysis of m-xylene dan p-xylene in xylene mixing sample, application of gas chromatography for separation and quantitative identification of a mixing solution of cyclohexane, methylene chloride in toulene, High Performance Liquid Chromatography (HPLC) technique for separation of hydrocarbon mixture, visible spectrometry technique for determination of mole ratio of 1,10-phenanthroline in complex form, atomic absorption spectrometry for determination of calcium, determination of sodium using flame spectroscopy technique, voltammetric determination of lead in water samples and also polarographic determination of ascorbic acid in fruit juice samples.

List of text/reference books:


**GTF208/2-Organic Chemistry Practical**

This course exposes students to organic chemistry practicals such as application of thin layer chromatography and column chromatography for analysis of organic compounds, qualitative analysis of organic compounds, identification of functional groups, distillation of organic samples, gas chromatographic analysis, photo-reduction of benzophenone to benzophinacole, application of high pressure liquid chromatography (HPLC) for analysis of natural product samples, extraction and crystallization, acid-base properties and transesterification.

**List of text/reference books:**


**GTF209/2-Pollutions and Environmental Chemistry**

This course will cover introduction to the environmental components, environmental act and water quality standard, nutrient and eutrophication, heavy metals, biology oxygen demand (BOD), chemical oxygen demand (COD), meteorology of air contamination, concept of water population, and water contaminants, distribution of air pollutant and environmental forensics.

**List of text/reference books:**


GTF210/3-Material Chemistry

This course covers the fundamentals of materials chemistry including principles of materials synthesis and methods of materials characterization. It introduces to students a broad view of how the fundamentals of chemistry are used to create the sophisticated material and devices that improve modern life. Various classes of materials such as solids, organic and inorganic polymers, glasses and ceramics, metals, alloys, semiconductors, superconductors and composite materials are covered. The course also discusses how different materials are used in science, technology and engineering.

List of text/reference books:


GTF211/3-Natural Product Chemistry

This course exposes students to natural products. It covers the biosynthesis of natural secondary metabolites. Synthetic pathway of natural products such as acetate, shikimate, mevalonate and alkaloid are introduced using various examples. Development and synthetic works of natural product and its analogues are introduced. This course also explores current developments and future directions in the field of natural products.

List of text/reference books:

GTJ205/4-Nursing Foundation III

This course provides basic theoretical and skill components of therapeutic interventions in nursing. The students will learn the concept and technique of asepsis, medication administration, oxygenation, resuscitation, stress management, pain management, perioperative care, wound care, therapeutic diet and counselling.

List of text/reference books:


GTJ207/2-Medical-Surgical Nursing 11 (Gastrointestinal and Renal/Urology)

This course exposes the students to the theoretical and professional aspects of medical-surgical nursing practice related to gastrointestinal and renal/urology system. It focuses on the etiology, clinical manifestations, diagnostic investigations, medical and surgical management and complications. Students will acquire experience in providing nursing care and health promotion for patients with gastrointestinal and renal/urology disorders in hospital and community. The nursing practice is approached from the wellness-illness continuum and holistic context.

List of text/reference books:


GTJ209/3-Nursing Foundation II

Nursing Foundation II course helps to develop a strong understanding of the basic nursing care concept in students. Specifically the knowledge and skills related to activity of daily living (ADL). The course caters as the first attempt to general nursing care, which can later enable student to integrate the knowledge and skills gained in this course to other nursing disciplines.
List of text/reference books:


GTJ210/3-Primary Health Care, Family and Community

This course provides students with knowledge on principles and strategies that is utilised as a framework for primary health care in the community. This course also provides emphasize on the main health care problems and measures used to overcome the problems including communicable disease.

List of text/reference books:


GTJ211/2-Medical-Surgical Nursing I (Cardiovascular and Respiratory)

This course exposes the students to the theoretical and professional aspects of medical-surgical nursing practice related to cardiovascular and respiratory system. It focuses on the etiology, pathophysiology, clinical manifestation, diagnostic investigations, medical and surgical management and complications. Students will acquire experience in providing nursing care and health promotion for patients with cardiovascular and respiratory disorders in hospital and community. The nursing practice is approached from the wellness-illness continuum and holistic context.

List of text/reference books:

GTJ212/2-Obstetrics and Gynecology Nursing

This course introduces student to theory and practical in maternal and newborn care that begins from conception to the postpartum period in hospital and in the home. It assists the student to acquire the necessary elements in providing care to those individuals with conditions related to obstetrics and gynecology.

**List of text/reference books:**


GTK201/3-Occupational Health

This course introduces students to various safety hazards at workplace. Measures required to minimise risks of work injury due to these hazards will be discussed. Content of this course is streamlined with the content of module IV of the Safety and Health Officer course as regulated by the Department of Occupational Safety and Health (DOSH).

**List of text/reference books:**


GTK202/3-Pollution And Health

This course introduces students to the science of water, soil, atmosphere and wavelengths. Students are taught on the quality standards for water, soil, atmosphere and wavelengths. Students are also exposed to strategy of pollution management and steps that can be taken to control and reduce pollution.
List of text/reference books:


GTK203/3-Occupational Health

This course introduces student to various health hazards at workplace. Measures required to minimise risks of occupational diseases due to these hazards will be discussed. Content of this course is streamlined with the content of module III of the Safety and Health Officer course as regulated by the Department of Occupational Safety and Health (DOSH).

List of text/reference books:

GTN202/3-Principles of Food Preparation

This course covers basic food chemistry and basic cooking methods for various types of foods such as meat, chicken, fish, vegetables, legumes and bakery products. It will also discuss personal hygiene, sanitation and safety related to food preparation and the cooking of food. Besides the conventional method of cooking, the latest technique such as using microwave for the preparation of food will also be discussed. Factors influencing the structure, colour, texture and nutritional value during preparation of food will be emphasised. Students will have the opportunity to use some of the cooking equipment in the laboratory and to evaluate the effectiveness of the kitchen tools and equipments.

List of text/reference books:


GTN207/3-Principles of Nutrition

This course focuses on the importance of essential nutrients and optimal nutrition in the growth process and human development. Students will be introduced to functions, needs and food sources for essential nutrients of the human diet. They will also learn the role of food and its relationship with the economy, psychology, sociology and culture. The students are expected to exhibit proper attention and attitude towards nutrition in terms of personal, family and community health.

List of text/reference book:

GTN208/3-Nutritional Biochemistry

This course focuses on metabolism and homeostasis of several key nutrients of macronutrients and micronutrients such as vitamins and minerals, body fluid and electrolyte balance, and inter-interaction between nutrients as well as the relationships between nutrients metabolism in maintaining optimal physiological and development of human body and also its relationship in the aetiology and development of chronic diseases such as cardiovascular diseases, diabetes, certain types of cancers and other nutritional-related disorders. Several aspects of utilisation and adaptation regulation related to nutrients metabolism will also be discussed.

List of text/reference books:


GTN209/3-Nutrition in a Life Cycle

This course focuses on nutritional aspects and the problems related with the growth and physiological development of infants and the increasing nutritional demand during pregnancy and breastfeeding. The course will also emphasise on the nutrition and growth of children, teenagers, adults and elderly people. The discussions will cover nutritional issues and human development in their life cycle from the fetus to the elderly.

List of text/reference books:


GTN210/2-Nutrition for Health and Fitness

This course provides the student with thorough coverage of the role that nutrition plays in enhancing one's health, fitness and sport performance. The focus of the course will be on general effects of nutrition and exercise on health-related and sports-related fitness, nutrition for optimal health and physical performance, and the role of energy and nutrients as the key to all exercise and sports activities. Body composition and weight control in relation to losing or gaining weight through diet and exercise will be discussed. Current research and practical activities will be incorporated throughout.
List of text/reference books:


**GTN211/3-Food Analysis**

This course discusses food intake techniques, preservation and food sample preparation prior to analysis. In depth studies about the principles of physical and chemical analyses in determining physico-chemical properties and food nutrient contents will also be covered. Chemical analyses cover proximate analysis, determination of fat properties, fat content, detection of preservatives, colouring and contaminants. The students will also be exposed to the basic techniques of food microbiology.

List of text/reference books:


**GTN212/3-Assessment of Nutritional Status**

This course exposes students to methods of nutritional evaluation in the individual and community. They will be introduced to direct and indirect methods of assessment of nutritional status. The focus is on food calculation and nutrient intake, anthropometric measurement, dietary evaluation, biochemical evaluation and clinical assessment. The students will collect data and use reference standards for the different stages of age and classification criteria.

List of text/reference books:


**GTP201/2-Linguistics for Speech Pathology**

This is an advance component of the linguistics course that focuses on various assessments of speech and language from the linguist’s perspective with reference to the main languages in Malaysia and dialectal variations of these languages. Students will be exposed to qualitative and quantitative methods in phonology, morphology, syntax, semantics, pragmatics and discourse. This course also emphasises on the application of this knowledge in the management of speech pathology cases.

*List of text/reference books:*


**GTP202/3-Introduction to Speech and Language Disorders**

This is a basic course of human communication and swallowing disorders. This course focuses on the disorders of speech, language, voice, fluency, hearing and swallowing. The topics covered include definitions, etiologies and characteristics of each type of communication and swallowing disorders. Overview of the basic principles of common management procedures for the individual with these disorders is also covered.

*List of text/reference books:*

GTP203/2-Speech Pathology Clinic I

In this course, students are expected to engage actively in clinical observation session. The focus of observation is on the interviewing process and history taking skills, formal and informal assessment procedures, and on the techniques and intervention strategies for speech and language disorders. The students are also expected to prepare the materials for therapy and to undergo placement at several specialist clinic.

List of text/reference books:


GTP204/2-Paediatrics for Audiology and Speech Pathology

This course provides knowledge on important aspects of paediatrics that are relevant to the field of audiology and speech pathology. It covers the normal aspects and conditions associated with prenatal, perinatal and postnatal periods, etiologies of communication disorders and their characteristics found in paediatric cases. Basic knowledge of the management of normal or abnormal paediatric cases seen by the paediatrician will also be covered in this course. This course also emphasizes on the application this knowledge in the management of speech pathology cases.

List of text/reference books:


GTP205/2-Speech Acoustics and Phonetics

This course provides fundamental knowledge on the production and perception of speech acoustics. It covers the basic knowledge on speech acoustics such as sound waves, resonance, frequency, intensity, acoustic features of vowels and consonants. Relationship between phonetic and acoustics in human communication will also be covered.
List of text/reference books:


**GTP206/1-Practical Phonetics for Speech Pathology**

This course focuses in depth on the practical aspects of phonetics based on the International Phonetic Alphabet (IPA). It emphasizes the transcription practices and analysis of normal and disordered speech sounds. Transcription practices based on IPA of dialectal variations in the Malay Language will also be covered.

List of text/reference books:


**GTP207/2-Speech Pathology Clinic II**

In this course, the students are required to conduct interviewing session under supervision to obtain history of the patients. The students also have to work on building rapport with patients, especially the paediatric cases. Depending on the supervisor’s decision, the students may be asked to assist the clinician during these sessions. The student also are required to discuss their therapy goals, therapy plan and the issues related to the diagnosis and prognosis of cases with their supervisor at the end of each clinical session.

List of text/reference books:

GTP208/3-Speech Disorders

This is a theoretical course on the study of speech disorders and fluency disorders. The study of speech disorders focuses on the articulation disorders and phonological disorders. Meanwhile, the study of fluency disorders emphasizes on stuttering. The topics covered are definitions, etiologies and characteristics of each type of speech disorders and fluency disorders. This course also discusses the methods of assessments and principles of interventions in managing individuals with speech disorders or fluency disorders.

List of text/reference books:


GTS201/3-Exercise Physiology

This course focuses on the effects of training and exercise on various systems such as the cardiorespiratory, muscular, endocrine, metabolic systems as well as on the bioenergetics. Discussions on the various methods of physiological assessments catering for the trained and untrained individuals, the elderly and children will be included.

List of text/reference books:


GTS202/2-First Aid and Cardiopulmonary Resuscitation (CPR)

This course introduces the students to first-aid techniques and cardiopulmonary resuscitation (CPR) methods used in various situations with the emphasis on sports related incidences.

List of text/reference books:


**GTS203/2-Kinanthropometry**

The course introduces students to the measurements of individual movements in connection with size, shape, composition and ratio. It will provide students with knowledge on both the theoretical and practical methods in assessing professional athletes from the structural and functional perspective with considerations to differences in size and shape.

*List of text/reference books:*


**GTS204/2-Test and Measurements for Sports Science**

This course introduces students to the terms, concepts and procedures related to the measurements and assessments of exercise and sports. These include validity and reliability of tests, their references, norms and criteria. Selection of methods, alteration and building skill tests, physical fitness tests, effective serial tests, and the valuation of the merit score test relative to the absolute standard will also be covered.

*List of text/reference books:*


**GTS205/3-Sports Psychology**

This course exposes the students to the psychological skills and training strategies that can be applied to improve sports performance. The course will emphasise on the significance of emotional, cognitive and social processes in understanding sporting behaviour.
List of text/reference books:


**GTS206/3-Sports Training Methodology**

The course covers topics such as sports competitions, sports qualification, motor development training, planning and scheduling in sports. It also introduces the methods utilised in perfecting a technique, body shape, tactical preparation and psychological make-up.

List of text/reference books:


**GTS207/3- Principles and Training in Individual and Team Sports**

This course introduces basic badminton, soccer and volleyball skills and game play including the knowledge and skills of these games with consideration of relevant kinesiological, physiological, biomechanical and socio-psychological factors/principles. This course also emphasises on skill acquisition, performance, and analysis of these games.

List of text/reference books:

GTU201/2-Health and Society

This course introduces basic concepts of health and illness with emphasis the importance of culture, religion, social class (poverty, gender and diseases prevention and treatment. The discussion on the health system will be focused in the context of social wellbeing and sustainable development in the society.

List of text/reference books:


GTX210/3-Medical Radiation Physics II

This course introduces the students to basic fundamentals of electricity, magnetism and modern physics and its role in the modern world and important connections with almost all areas of technological developments.

List of text/reference books:


GTX212/3-Introduction to Medical Imaging Mathematics

This course discusses ordinary differential equations (ODE) of first and second orders, their solutions, meanings and methods of solutions that include Laplace transforms, series solution. It also introduces Fourier series and method of separation of variable for the partial differential equation (PDE). Simple applications relevant to medical imaging science will be covered such as vibrating string, vibrating membrane.

List of text/reference books:

GTX213/3-Basic Science of Nuclear Medicine

This course provides theoretical exposure to the students about the basic principles in nuclear medicine. Students will acquire basic knowledge related to radioactivity, radioactive decays, radionuclide and radiopharmaceutical production methods, types of radiopharmaceuticals used in nuclear medicine, radiation detection and radiation monitoring statistics and internal dose calculations in nuclear medicine imaging.

List of text/reference books:


GTX214/3-Basic Science of Diagnostic Radiology

This course introduces the students to the principles of basic sciences in the area of diagnostic radiology, imaging, focusing and conventional imaging. These include x-ray production and equipment, introduction to imaging, radiography production and factors that influence the quality of a radiograph.

List of text/reference books:

5.3. Core Courses
Level 300
GTA301/3-Basic Hearing Amplification Technology

This course discusses topics related to hearing amplification devices. These include physical and electroacoustic features, types of hearing aids and earmoulds, evaluation and prescription of hearing aids, acoustic and electroacoustic modification and counseling.

List of text/reference books:


GTA302/3-Audiology Clinic I

In this course, students will have clinical attachment at audiology clinic to take case history, observe and perform basic audiological assessments. Students are expected to involve actively in all aspects with close supervision.

List of text/reference books:


GTA303/3- Paediatric Audiology

This course discusses the audiological assessments in paediatric population. Students will also learn appropriate test selection for children, necessary modification for special needs children, integrating test results, and explaining results and make appropriate suggestions to parents.

List of text/reference books:


**GTA304/4-Audiology Clinic II**

In this course, students will have clinical attachment to practice history taking, audiological assessments (subjective and objective test), hearing aid prescription, verification and validation, and ear-impression taking under supervision. Students will actively involve in all clinical aspects but under lesser supervision.

*List of text/reference books:*


**GTA305/3-Advanced Hearing Amplification Technology**

This course discusses assistive listening devices (ALDs) including vibrotactile aids, loop, FM (frequency modulated), and infrared systems. The selection criteria for cochlear implant, midbrain implant and bone anchored hearing aids (BAHA) and other implantable hearing aids will be discussed in this course.

*List of text/reference books:*


**GTA306/3-Auditory Rehabilitation**

This course discusses rehabilitation involved in hearing impaired patients at all stages of life. It also covers the importance of team work (audiologist, speech-language pathologist, teacher, social worker) and the roles of other professionals in aural rehabilitation. The selection of communication mode (e.g. cued speech, signing etc) based on residual hearing, speech and language development of hearing impaired will also been discussed.
List of text/reference books:


**GTB307/3-Medical Parasitology**

This course covers the definitions, classifications and nomenclatures of protozoa and helminths that infect humans. In addition, focus will be on the theoretical and practical aspects of routine and molecular diagnosis of various medically important parasites. The morphology, life cycle, epidemiology, brief pathogenesis, prevention and control of protozoal and helminthic infections will also be discussed. Identification keys and principles of controlling the four medically important genera of Malaysian mosquitoes will also be covered. The final topic will cover the structure, function and administration of a typical parasitology laboratory.

List of text/reference books:


**GTB310/3-Clinical Biochemistry**

This course introduces the students to the theory and pathophysiological biochemistry of the human body. They will also be exposed to the principles of biochemical tests in the laboratory, and the interpretation of results from laboratory analyses performed on samples. The students are also expected to acquire some skills in performing laboratory diagnostic procedures in chemical pathology including specimen receiving and processing, reagent preparation related to biochemical analyses performing diagnostic tests such as liver function test, renal, heart, pancreas, gastrointestinal tract, measurement of pH, acid-base haemostasis of the body, electrolytes, determination of enzyme activities, blood glucose protein, albumin, urea, cholesterol and triglyceride levels, and other major biochemical parameters in diagnostic biochemistry. The students will also be exposed to the manual diagnostic procedures and in the application of laboratory automation for clinical diagnosis, quality control program and laboratory administration.
Further, students will be exposed to actual working environment through short attachments at the Chemical Pathology Laboratory, School of Medical Sciences.

**List of text/reference books:**


**GTB315/2-Medical Virology and Mycology**

This course covers the details of general characteristics of medically important viruses, molds and yeasts. It also explains about the role of these pathogens in the course of diseases, epidemiology, reservoirs, transmission, pathogenesis of diseases and clinical manifestations. The students will also be taught on appropriate clinical specimens collection and transportation techniques, the principle and processing techniques of laboratory detection, isolation and identification of these pathogens. Apart from that, student will acquire knowledge concerning on advantages and disadvantages of available laboratory techniques or tests (such as staining, culture, serological tests and molecular methods) used for bacterial detection. Prevention, control methods and treatment of the diseases caused by those pathogens are also discussed.

**List of text/reference books:**


**GTB316/3-Transfusion Science and Blood Banking**

This course covers theory and practical aspects of immunology and genetic of blood group and related tests for blood and blood component transfusion to patients. Complication of blood transfusion and application of blood and blood components in medical field are also discussed. Students will be exposed to knowledge and practical skills in pretransfusion testing, blood taking, preparation and processing of blood components and storage to ensure good quality management of blood products.
**List of text/reference books:**


**GTB317/3-Advanced Haematology**

This course correlates the basic principles of hematology which comprise of structure and function of blood cells and other normal blood components previously introduced in Hematology 1 with blood pathophysiological condition that caused by factor deficiencies which is needed for normal blood function and production or caused by genetic or environmental factors. This course will be focusing on the disease that involved blood and its related system which is frequently seen in clinical hematology practice for eg: Nutritional anaemias, Hemolytic anaemia, leukemias and genetic hematological malignancies, assessment of blood morphology from full blood picture and bone marrow smear, bleeding disorder caused vascular problem, platelet and clotting factors, thrombotic problem and antithrombotic treatment, automation in hematology and laboratory management.

**List of text/reference books:**


**GTB318/3-Pharmacology II**

This course discusses the principles of pharmacology including pharmacokinetics, pharmacodynamics, quantitative and systemic pharmacology (autonomic, cardiovascular, respiratory, gastrointestinal, endocrine, antimicrobials, central nervous system, anticoagulant and anti-inflammatory). The latest methodology in the development and production of pharmaceutical drugs and alternative medicines will be introduced. This course is expected to emphasize various aspects of applied pharmacology and efficacy studies in relation to health sciences.
List of text/reference books:


GTD310/4-Dietetics Practicum in the Ward I

This course provides clinical training to the students with the intention of enhancing their dietetic skills while giving medical nutrition therapy to the patients in hospital wards. This internship programme covers individual patient approach, bed side counseling, nutrient intake analysis and therapeutic diet planning according to patients' dietary requirements based on diagnosis and medical report. Activities such as assessment of nutritional status and diet surveillance are also included. The students are required to give diet education to patients and their families. The students will understand the role and importance of dietitians in a healthcare team. Upon completion of this course the students are expected to submit case reports and to give case presentation of their respective case studies.

List of text/reference books:


GTD311/3-Principles of Medical Nutrition Therapy I

This course explains the rationale of modifying normal diet to therapeutic diet in terms of nutrient composition, texture and presentation. It enables students to understand the importance of therapeutic diet in the prevention and treatment of various diseases. Topics include dietary management of gastrointestinal diseases, cardiovascular diseases, diabetes, inborn errors of metabolism, body weight control, eating disorders, failure to thrive, food allergy, food intolerance and rehabilitation. The application of food exchange lists and various dietary guidelines will also be discussed.
List of text/reference books:


GTD315/2-Principles of Medical Nutrition Therapy II

This course is a continuation of Principles of Diet Therapy I. It covers the principles and dietary management including the physiological and biochemical changes that occur during renal diseases, hepatobiliary diseases, cancer, skeletal and muscle diseases, pre and post operation conditions, trauma and burns. This course also deals with pediatric nutrition, total enteral and parenteral nutritions. Each topic will discuss about the theoretical and practical aspects of medical nutrition therapy that has to be given to the patients which includes assessment, planning, implementation, evaluation and documentation of the nutritional care processes.

List of text/reference books:


GTD317/4-Dietetics Practicum in Special Unit I

This course is a continuation of the Dietetic Internship I which will focus on dietetic services at special units in hospitals and clinics such as ICU, CCU, pediatric, hypertension unit and diabetes mellitus clinic. Evaluation of nutritional status, specific diet treatment and diet surveillance of patients before discharge will also be conducted. Patient diet management in wards whether normal, therapeutic or effective enteral-parenteral and the lag of diet regime planning including the evaluation of the effectiveness diet regimes will also be discussed. Students will be introduced to nutritional status evaluation and therapeutic care of HIV, kidney, neuro-muscular and skeletal systems diseases patients and those who suffer from cancer. Those enrolled in this course will also learn about topics related to operations and burns patients. Ethics and bed side counseling procedures during diet treatment session will be focussed in order to enhance students’ communication skills. This will be undertaken with counselors. Emphasis will be on communicative ability with the patient's family especially on the diet of patients suffering from cancer and HIV.
List of text/reference books:


**GTD318/4-Outpatient Dietetics Practicum I**

This course exposes students to practicals involving the handling of cases in the outpatient clinics. They are expected to be able to translate diet therapy theory into practice ensuring that they will easily understand diseases requiring nutritional intervention. They will also be taught on how to change patients' nutritional habit by using counselling techniques and history of prevalence. It is expected that this internship will effectively improve their skills required for nutritional counselling sessions.

List of text/reference books:


**GTD321/3-Therapeutic Diet Preparation**

This course gives practical training in the methods of therapeutic diet preparation for various disease conditions. Usage of foods for meal preparation and the minimisation of food wastage will be discussed during diet preparation. Purchase of raw materials, calculation of the nutrient contents in a prepared food item, preparation methods, food serving and sensory evaluation will be emphasised. Lectures on therapeutic diet preparation protocols will be given before the practical session. Assessment will be based on the students’ ability in selecting/purchasing raw materials, nutrient calculations, demonstration of food serving and sensory evaluation.

List of text/reference books:

GTF300/2-Biological Evidence

This course introduces the students to the multiple biological evidence types of both plant and animal origin that are found at the crime scenes, the methods of observing, describing and collecting them, their salient morphological features that enable identification and the procedures used in the laboratory to investigate these evidence. The evidence types focused will include, among others, pollen grains, diatoms, wood, hairs and natural fibers, damages in cloth and necrophagous insects. Emerging areas in forensic biology such as wildlife and marine forensics and bioterrorism are also included.

List of text/reference books:


GTF301/3-Physical Evidence

This course describes the characterization of some kinds of physical evidence commonly encountered in crime investigation: paint, glass, soil, fibres, and lamp filaments by using physical and instrumental techniques. Theory and techniques of macrophotography and photomicrography; the principles and experimental techniques on the restoration of erased numbers on different metal surfaces and investigations related to computer crime are also included. Uses of lasers and electron microscopy in the examinations of physical evidence materials form part of the curriculum.

List of text/reference books:

3. Lamp Examination for ON or OFF in Traffic Collisions, North Western University, IL 60 204 2003.
GTF305/4-Forensic Toxicology and Chemistry of Drugs

This course introduces the students to the fundamental concept of toxicology, forensic toxicology, poison, multiple poisoned material, chemistry and appearance of poisoned material, signs and symptoms of poisoning, multiple procedures, techniques and equipments employed to extract, identify and profile the poisoned material from biological and autopsy specimens. Classification and identification of drugs that commonly abused, modes of action in human body and techniques to identify and detect them will also be emphasised.

List of text/reference books:


GTF306/3-Fire Investigation

This course introduces students to the concepts and basics of fire investigation and methods to collect material evidences in structure fires and forest fires to find out the origin and cause of fire to solve cases.

List of text/reference books:


GTF309/3-Forensic DNA Analysis

This course introduces students to the fundamental knowledge associated to forensic DNA analysis, including the earlier developments to the most recent advances. Students will also be exposed to problems and cases associated in each technology involving DNA analysis and ways of troubleshooting to solve the problems. Students will be trained to use apparatus and latest software in DNA analysis and interpret the results. At the end of
the course, student will also be exposed to real forensic cases involving DNA analysis to improve their understanding of the importance of DNA technology in the field of Forensic Sciences.

List of text/reference books:


GTF311/3-Forensic Anthropology

This course introduces the students to the fundamentals of forensic anthropology, the types of biological and peripheral evidence useful in anthropological analysis, crime scene and excavation techniques, handling the skeletal remains, types of anthropometric and anthroposcopic identification using skeletal remains like assessment of race, sex, age and individualization and the limitations there in. The techniques focused, among others, include skull based personal identification using video superimposition method (hands-on) and applying specific radiological skeletal traits. Photo to photo comparison and anthropological reconstruction of population biology are also included.

List of text/reference books:

GTF312/3-Organic Chemistry III

This course provides knowledge about the structure, nomenclature, synthesis, and reactions of amines, phenols and alcohols. This course also covers the study of carbohydrates and nucleic acids. The course will emphasise on the understanding of amino acids, peptides, proteins, lipids and synthetic polymers and their importance.

Main references supporting this course:


GTF313/3-Food Chemistry

This course exposes students to the chemistry of food. Students are taught about classification and structure of carbohydrates, proteins, oils and fats. Food flavour and food additives are also introduced using various examples. Students are also exposed to food forensics and the importance of quality control in food.

List of text/reference books:

1. Belitz, H.-D., Grosch, W. and Schieberle, P. *Food Chemistry*,

GTF314/2-Forensic Serology

This course introduces the concept of antigens and antibodies and various polymorphic blood-proteins and enzymes present in the blood and body fluid. It also provides practical knowledge to group the body fluids from crime scenes, to identify and individualise the samples. This course also explains briefly HLA system and its application to identify individuals.
List of text/reference books:


GTJ309/2-Critical Care Nursing

This course provides students with theoretical knowledge on medical-surgical pertaining to risk factors, etiology, patho-physiology, clinical manifestations, diagnostic investigations, and diagnostic investigation as well as medical/surgical treatment of patients who are critically ill. The knowledge will be used to plan for nursing management including health promotion strategies to patients at all ages with disturbance to multi system. This course will also integrate all learned nursing skills particularly those specific to the nursing management of patients with altered cardio-respiratory function and other body systems. Learning of nursing skills will be provided via practical sessions in the critical areas.

List of text/reference books:


GTJ310/2-Medical-Surgical Nursing III (Endocrine and Musculoskeletal)

This course exposes the students to the theoretical and professional aspects of medical-surgical nursing practice related to endocrine and musculoskeletal system. It focuses on the etiology, clinical manifestation, diagnostic investigations, medical and surgical management and complications. Students will acquire experience in providing nursing care and health promotion for patients with endocrine and musculoskeletal disorders in hospital and community. The nursing practice approach used is from the wellness-illness continuum and holistic context.

List of text/reference books:


**GTJ311/2- Mental Health and Psychiatric Nursing**

This course is designed to introduce a basic concept of Psychiatric-Mental Health nursing in the specific care of individuals and family experiencing a mental health problem and psychiatric disorder. It will provide students a theory of mental health and mental illness; and expose students to the biopsychosocial model of treatment in psychiatric setting. The course is based on a holistic and humanistic framework, emphasizing on patient’s care and family intervention in the hospital and community

*List of text/reference books:*


**GTJ312/6-Research Project**

This course aims to provide the student experience in performing a research project in related field in nursing and other health sciences topics under the guidance of supervisor(s) in Semester I and II (one academic year). The student is to report their research project findings and submit their thesis/dissertation at the end of the final semester II.

*List of text/reference books:*

GTJ313/2-Medical-Surgical Nursing IV (Neurology, Otorhinolaryngology and Ophthalmology)

This course provides students with theoretical knowledge on medical-surgical pertaining to risk factors, etiology, pathophysiology, clinical manifestations, diagnostic investigations, and diagnostic investigation as well as medical-surgical treatment of patients with Neurology, Otorhinolaryngology and Ophthalmology problems in hospital and community. The knowledge will be used to plan for nursing management including health promotion strategies to patients at all ages with disturbance to the system either in hospital or community. This course will also integrate all learned nursing skills particularly those specific to the nursing management of patients with such health problems. Learning of nursing skills will be provided via practical sessions in the nursing skills laboratory and clinical areas that have patients with Neurology, Otorhinolaryngology and Ophthalmology problems.

List of text/reference books:


GTJ314/2-Nursing Education

This course is structured to provide students with the knowledge and understanding of the theories, principles and methods of teaching and learning process. Particular attention is given to the preparation of students to plan and conduct teaching and learning to patients, relatives and staff in the clinical areas. Evaluation of the course will be based on continuous assessments from different types of approaches such as quiz, developing lesson plan and conducting clinical health teaching for patients, relatives and staff in clinical area and peer evaluation.

List of text/reference books:

GTJ315/2-Medical-Surgical Nursing V (Dermatology, Immunology, Haematology and Oncology)

This course provides students with theoretical knowledge on medical-surgical pertaining to risk factors, etiology, pathophysiology, clinical manifestations, diagnostic investigations as well as medical/surgical treatment of patients with dermatology, immunology, hematology and oncology problems in hospital and community. The knowledge will be used to plan for nursing management including health promotion strategies to patients at all ages with disturbance to the system either in hospital or community. This course will also integrate all learned nursing skills particularly those specific to the nursing management of patients with such health problems. Learning of nursing skills will be provided via practical sessions in the nursing lab and clinical areas that have patients with dermatology, immunology, hematology and oncology problems.

List of text/reference books:


GTJ316/2-Gerontological Nursing

This course exposes the students to the care of geriatric patients. The contents of this course include the aspect of medical, surgical, diagnostic investigations, complications and holistic nursing management. Congruent with the knowledge and skills, students are expected to acquire the ability to deliver holistic nursing care to geriatric patients in an institution or community setting.

List of text/reference books:

GTJ317/2-Principles of Health Management

This course is structured to expose students with the basic knowledge of the principles and theories of health management. Issues such as management concepts and evolutions, organizations process, basic functions of a manager, financial management, leadership, change, motivation, groupwork, team building, decision making, conflict resolution, job satisfaction and organization development will be discussed in this course.

List of text/reference books:


GTJ318/2-Neonatal and Pediatric Nursing

This course exposes the students to the care of neonatal and pediatric patients. The contents of this course compile the aspect of medical, surgical, diagnostic test, complications and holistic nursing management. Congruent with this knowledge and skills, students are expected to acquire the ability to deliver holistic nursing care to neonates and children in a tertiary or community hospital.

List of text/reference books:


GTK301/4-Environmental And Occupational Toxicology

This course introduces the students to the principle of polluted substances released to environment and their toxicology effect to the living things. Students will be introduced to toxicology definition, types of toxicology test and interpretation of toxicology data. This course also discusses basic immunology concept, types of tissue and lymphoid cell; types, and molecule functions; antigen concept, immunogenic, antigenicity and immunogenecity and immunisation and immunopathology concept. Application of antigen-antibody reaction in diagnosis will be introduced.
List of text/reference books:


GTK302/3-Environmental And Occupational Health From Engineering Perspective

This course introduces the students to the theory and application of knowledge engineering, especially civil and mechanical engineering in implementing engineering controls to reduce pollutant levels in the workplace environment. Pollution prevention measures in buildings through selection of construction materials will be introduced. Aspects of civil engineering to reduce sick building problems and accidents will also be discussed.

List of text/reference books:


GTK303/3-Domestic, Laboratory And Industrial Waste Management

This course exposes the students to the knowledge on waste classification and characteristics of distinction. It also introduces legal requirements in relation to the disposal of solid waste and radioactive waste scheduled. Analytical techniques and methods of waste handling are also discussed. The method of labeling, packaging, storage, transport and waste disposal as well as the safety aspects of waste handling waste are also emphasized.

List of text/reference books:


**GTK304/3- Measurement and Monitoring of Contaminants**

This course focuses on the importance and measurement of levels of contaminants in the environment. Students are taught in greater depth of sampling methods, storage and use of samples as AAS analytical instrument, GCMS and HPLC to measure various types of contaminants in the field of health and hygiene. Students are also taught the knowledge to formulate the plan of monitoring concentrations of contaminants in the environment and the workplace. The use of new technologies for environmental monitoring, such as Geographical Information System (GIS) and Radio Frequency Environmental Tracking System will also be described.

*List of text/reference books:*


**GTK305/3-Environmental And Occupational Health Related Diseases**

This course discusses various types of diseases caused by environmental pollution and workplace. Students will learn the concept of disease, symptoms and medical measures needed to identify the disease. Health monitoring, medical surveillance and preventive measures to be taken will be discussed.

*List of text/reference books:*


**GTK306/3-Environmental And Occupational Emergency**

This course discusses the major accidents and disasters in Malaysia and Southeast Asia that have impact on the environment and the life of workers. Students are also introduced to the concept of disaster prevention and the establishment of an Emergency Response Plan (ERP) and Emergency Response Team (ERT). In addition, handling of emergency aid equipment, knowledge of first aid and fire fighting techniques will be discussed.

*List of text/reference books:*


**GTK307/3-Occupational Rehabilitation**

This course introduces students to the theory and application in the rehabilitation process that assists injured workers to return to duty. Emphasis is given to the role of occupational safety and health officers to monitor the rehabilitation of workers on site working.

*List of text/reference books:*

GTN301/3-Community Nutrition and Dietetics Services Practicum

This course exposes students to communities such as the squatter population, handicap homes, old age homes, pregnant mothers, health care clinics and centers for a period of four weeks to promote health activity and to educate the community on incorrect nutritional habits. This course also enables the students to face real life situation as dietitians in the community. The students will be involved in educational activity either in the form of talks or demonstrations in order to increase the awareness of selected populations towards acquiring optimal nutrition. Students will also gather knowledge about the role of a selected health care agency in a community setup.

List of text/reference books:


GTN309/3-Nutrition and Diseases

This course covers selected clinical situations requiring individual nutrition regimes. Discussions of diseases related to the gastrointestinal, cardiovascular, urinary, endocrine and nervous systems will be undertaken. In addition, aspects of diversity of treatment, effect of drugs, radiation and operation-related condition such as trauma, burn, cancer, pregnancy, insufficient protein nutrient, retardation of growth, pre and post surgical and diarrhea will be covered. Metabolic changes related to diseases, drug and food interactions, patient health condition and preventive aspects will also be discussed.

List of text/reference books:

GTN310/2 - Food and Nutrition Toxicology

Food toxicology covers food safety during handling, preparation, processing, storage and food services and lectures on diseases normally causes by water and food contaminants. The main causes of food poisoning including microorganisms, toxic wastes, insects and heavy metals are discussed. Preventive procedures and the issue of misleading consumption of food fortification agents and food additives will be discussed. The role of government agencies or specific bodies such as HACCP and GMP requirements of factories and other food industries in ensuring safety of food will also be covered.

List of text/reference books:


GTN311/3 - Food Service Management

This course discusses the important aspects of catering, planning and food service management, menu planning, selection of laboratory equipments and food service system. Students are exposed to methods, principles and preparation techniques of nutritious and tasty food in huge quantities. Food safety and sanitation will also be discussed. Dynamic flows of food from the purchasing stage up to the serving of clients within time constraints are discussed.

List of text/reference books:


GTN312/3 - Food Microbiology

This course will introduce students to the role of microorganism in food. Chronicle research in food microbiology, characteristics and behavior of microorganisms, water bone disease, microbial related food poisoning and toxicity will be discussed. Students will be exposed to several aspects of food production by using the means of microorganism and food biotechnology. Statistics related to food quality control will also be introduced.
List of text/reference books:


**GTN314/2-Nutrition Anthropology**

This course focuses on the food heritage and definition of food diversity in different cultures including classification of food, belief, taboo, food symbolism, origin and food pattern evaluation including food availability pattern and food preparation. It also covers the factors that influence food choice and trends in food intake. Students will be taught on dietary habits of various ethics or community and its implication towards nutritional and health status.

List of text/reference books:


**GTP301/2-Psycholinguistics**

This is an advanced course in linguistics that discusses the psychological and neurobiological processes in the acquisition, understanding and the use of language. The topics covered include language processing and production, first and second language acquisition and bilingualism. This course also emphasizes on the application of psycholinguistics knowledge to the field of speech pathology.
List of text/reference books:


**GTP302/2-Language Disorders**

This is a theoretical course on language disorders among children which focuses on the developmental language disorders such as receptive language disorders and expressive language disorders. It covers definitions, etiologies and characteristics of each type of language disorders. In addition, this course also discusses the methods of assessment and principles of interventions in managing individuals with language disorders.

List of text/reference books:


**GTP303/2- Neuropsychology**

This is a theoretical course which exposes students to the fundamental aspects of neuropsychology in the fields of speech pathology. The topics covered included major brain structures, systems and their associated functions. It focuses, in general, on the brain-behaviours and brain-cognition relationships and their disorders. This course also emphasises on the application of this knowledge to the management of speech pathology cases.

List of text/reference books:

GTP304/3-Speech Pathology Clinic III

This course required the students to conduct interviewing sessions under supervision and perform related formal/informal assessment of patients. They are also expected to practice building rapport with patient, especially in paediatric cases. Depending on the supervisor’s judgment, the students may be asked to assist the therapist and/or to perform the therapy. The students are also required to plan therapy goals, weekly therapy plan and formulate the prognosis prior to discussion with supervisors.

List of text/reference books:


GTP305/2-Counseling for Special Population

This is a theoretical course that exposes fundamental aspects of counselling in the fields of audiology and speech pathology. It focuses on the application of counselling methodologies in the management of individuals with communication disorders. The topics covered include theories, procedures, related issues in counselling and their applications in the fields of audiology and speech pathology.

List of text/reference books:


GTP306/3-Voice and Resonance Disorders

This is a theoretical course on disorders of voice and resonance. The study of voice disorders focuses on several types of voice disorders such as organic and neurological voice disorders, and alaryngeal speech. The study of resonance disorders emphasises on hypernasality and hyponasality are introduced. The topics covered include definitions, etiologies and characteristics of each type of voice disorders and resonance disorders. This course also discusses the methods of assessment and principles of interventions in managing individuals with voice disorders and resonance disorders.
List of text/reference books:


**GTP307/3- Acquired Communication Disorders**

This is a theoretical course on acquired communication disorders that focuses on acquired language disorders such as aphasia, dementia, right hemisphere syndrome and traumatic brain injury and motor speech disorders such as apraxia and dysarthria. The topics covered include definitions, etiologies and characteristics of each type of acquired communication disorders. This course also discusses the methods of assessment and principles of interventions in managing individuals with acquired communication disorders.

List of text/reference books:


**GTP308/4-Speech Pathology Clinic IV**

In this course, the student are required to manage patients with speech disorders and hearing impairment under supervision. Students will have to perform interviewing session related assessment and interpretation of data collected. They also have to plan for the long and short term goals, weekly therapy plan and conduct therapy session on their own. Each decision made by students will be analysed critically during discussion with the supervisor. The student will be trained to make the diagnosis and prognosis for each case that they handle. Therefore, students must show adequate knowledge and critical thought during the discussion session in order to make proper diagnosis and prognosis.

List of text/reference books:


**GTP309/3-Hearing Impairment**

This is a theoretical course on hearing impairment and aural rehabilitation. The study of aural rehabilitation focuses mainly on paediatrics aural habilitation with an additional exposure on adults’ aural rehabilitation. The topics covered include hearing impairment and its effects on communication, audiological management and educational issues. This course emphasises on the methods of assessment and principles of interventions in managing individuals with hearing impairment.

*List of text/reference books:*


**GTP310/2-Speech Pathology Clinical Placement**

In this course, the students are required to help in handling various cases of paediatric and adult cases of speech and language disorders, hearing impairment, acquired neurogenic disorders, and voice and resonance disorders under selected supervisor from outside of the university. Depending on the supervisor’s judgment, the student may be asked to assist the clinician during the session. The students will be required to conduct the interviewing session and perform related formal/informal assessment of the patient and also to plan for the goals and therapies. Ethics and related professional issues will also be highlighted.

*List of text/reference books:*

GTS301/3-Sports Nutrition

This course exposes students to the methods of identifying the nutritional requirements of the sports person in various sporting disciplines. Nutritional requirements of various sports events and additional ergogenic aids to enhance sports performance will also be discussed.

List of text/reference books:


GTS302/2-Motor Learning

This course introduces the students to learning theories and perception, and how these impact on motor learning, including the acquisition of motor skills, retention and forgetting of information.

List of text/reference books:


GTS303/3-Sports Injuries and Rehabilitation

This course introduces the students to the concepts of trauma and injuries in sports, epidemiology of sport injuries and mechanism of injuries due to sport activities. Different types of sport injuries on specific body region will be discussed. Students will learn about the principles of rehabilitation process including the use of equipments for the treatment and therapies of particular sport injuries. Students will also be exposed on the post injury management related to rehabilitation program and learn how to implement the basic techniques for injury prevention in sports.
List of text/reference books:


GTS304/3-Sports Biomechanics and Kinesiology

This course introduces the students to the anatomy of the skeletal-muscle and neuromuscular structure, helps to understand the functions and limitations of the systems, comprehend the types and causes of movement in sports and to analyse body motion. The course will focus on the development techniques of human motion analysis from the aspect of structure and function as well as the applied mechanical principles involved in human movement. Examples from joint movements and application of sports skills will be used for the analyses.

List of text/reference books:


GTS305/2-Applied Sports Physiology

The course emphasises on physiological changes to the body based on influence from environment, training method, time and age level. The environmental aspects related to sport performance including problems during exercise in hot and damp environment will be discussed. Issues related to altitude training, circadian rhythm and jet lag phenomena will also be discussed.

List of text/reference books:

GTS306/3-Coaching Science and Performance Analysis

This course introduces the students to the information of sport sciences (anatomy, physiology, psychology, biomechanics, and skill acquisition) which are important for coaches. It also emphasises on the management, planning and interpersonal skills required by the modern coach. The course also covers advanced coaching means and methods, theoretical and practical aspects of planning, periodisation, forecasting and target setting in order to analyse sport performance.

List of text/reference books:


GTS307/3- Physical Activity, Growth and Development

This course introduces the students to issues related to physical growth and development with regards to physical activity. Discussion on the maturation process, morphological and functional changes in relation to exercise and training will be conducted.

List of text/reference books:


GTU302/3-Biostatistics

This course introduces the students to the basics of biostatistics in relation to qualitative data analysis and quantitative analysis in medicine and health such as normal distribution, one-sample and two-sample case study, correlations, linear regression, one-way ANOVA, analysis of categorical data and analysis of numerical data.
List of text/reference books:


**GTU303/2-Research Methodology**

This course introduces students to various important concepts and aspects in research methodology. It encompasses the characteristics, types and approaches in research usually employed by researchers. Students will also be exposed to the integration of Health Science research mechanism with the Social Science counterpart as a comprehensive research. The process of scientific calculation of sample size, preparation and critical evaluation of research proposal, data analysis and research report writing will be given greater emphasis.

List of text/reference books:


**GTU303/2-Research Methodology**

This course introduces students to various important concepts and aspects in research methodology. It encompasses the characteristics, types and approaches in research usually employed by researchers. Students will also be exposed to the integration of Health Science research mechanism with the Social Science counterpart as a comprehensive research. The process of scientific calculation of sample size, preparation and critical evaluation of research proposal, data analysis and research report writing will be given greater emphasis.

List of text/reference books:

GTX302/2-Radiation Protection and Safety I

This course aims to expose the students theoretically regarding biological effects of ionizing radiation as well as basic principles on radiation protection. Students also will be taught through lectures and demonstration regarding radiation detection and measurement using available radiation detectors. This course also discuss the regulatory acts regarding the use of radiation and radiation safety in Malaysia especially the Atomic Energy Licensing Act (1984). This course also gives input to the students regarding Radiation Protection Programme as recommended by Atomic Energy Licensing Board (AELB). Students will be taught theoretically and through demonstrations regarding safety procedure and emergency involving radiation.

List of text/reference books:


GTX307/3-Radiation Protection and Safety II

This course is the continuity of Radiation Protection and Safety I course. This course concerns on giving input through lectures and practical regarding the application of basic principles in radiation protection towards medical fields. Students will be exposed on radiation protection and safety aspects including administration, work procedures and construction of three main departments in hospital: Diagnostic radiology, radiotherapy and nuclear medicine. Students will be exposed practically on workplace and personnel monitoring according to Atomic Energy Licensing Board (AELB) and Ministry of Health (MOH). Students also will be taught theoretically and practically regarding working procedures and safety aspects in research using radiation as well as radiation waste management.

List of text/reference books:

GTX314/2-Introduction to Radiation Dosimetry

This course focuses on radiation dosimetry. The theoretical aspects of radiation dosimetry for both photon and electron will be discussed. Topics on dosimetry of ionization chamber, thermoluminescent detector, film, gel and solid state detector also will be introduced.

List of text/reference books:


GTX316/3-Diagnostic Radiology Imaging

This course focuses on the methods of imaging other than conventional ways including mammography, fluoroscopy, digital radiology, digital subtraction angiography (DSA), CT scan and MRI. It also includes quality assurance programmes, regulations on the use of radiation equipment and practical radiation protection.

List of text/reference books:


GTX317/3-Nuclear Medicine Imaging

This course focuses on in-vivo radiation detection and the major components of imaging equipment including gamma camera and PET scanner. Image formation in nuclear medicine imaging with the performance parameters for both gamma camera and PET scanner and quality assurance will be discussed. Students will be taught the imaging techniques using gamma camera and PET scanner.

List of text/reference books:


**GTX320/3-Principles of Radiotherapy**

This course introduces students the basic principles of photon beam and electron beam therapies including basic physics and dosimetry of radiotherapy. Students will be taught the monitor unit calculation techniques for clinical applications. Students will also be exposed to the proper technique on calibration of photon beam and electron beam that generated by linear accelerator.

*List of text/reference books:*


**GTX321/4-Imaging Techniques I**

This course gives the opportunity to students to carry out clinical training in the hospital related to diagnostic radiology. Students will learn various imaging procedures using x-ray machines. Students need to perform patient preparation and management during imaging procedures, include practising good communication skills. Students will be trained to practise the ethical and responsibilities of work in the imaging and diagnostic department.

*List of text/reference books:*

5.4. Core Courses
Level 400
GTA401/6-Research Project

This course requires the students to conduct and complete a research project in audiology over two semesters. The aim of this research project is to expose the students to research methodology and research problem solving methods. The results of the research are presented in the last semester of the program.

List of text/reference books:

References suitable for the research title.

GTA402/3-Noise and Hearing

This course discusses noise and its effects on health and hearing, types of noise, noise levels measurement, other measurement devices, and Malaysia’s Noise Control Act. Hearing conservation programme, hearing protection devices, noise-induced hearing loss and record keeping for noise exposed population will be discussed.

List of text/reference books:


GTA403/5-Audiology Clinic III

In this course, students will be supervised for their clinical sessions either in or off campus during Year 3 long semester break and the first semester of Year 4. They are expected to improve their clinical skills such as client history, taking a conduct audiological assessment (subjective and objective tests), prescribe, evaluate and assess hearing aids, take ear-impression, write refer and reply letters to other professionals whenever necessary. Students will be trained to plan appropriate hearing tests or management prior to every clinical session, to explain results and counsel clients at the end of each clinical session. Student will actively involve and act competently in all aspects while under supervision and lesser assistant from supervisor.
List of text/reference books:


**GTA404/2- Ethics and Law for Health Professionals**

The aim of this course is to expose students to current issues in audiology field. Students are required to present or to conduct forum on selected audiological topics. This course will also expose the students to the professional code of ethics in Audiology and Speech based on the American Speech and Hearing Association (ASHA). Local issues are also discussed.

List of text/reference books:


**GTA405/5- Audiology Clinic IV**

In this course, students will be supervised for their clinical sessions. The students are expected to improve their clinical skills such as client’s history taking, to conduct audiological assessment (subjective and objective tests), to prescribe, evaluate and validate hearing aids, to take ear-impression, to write referral letters, and audiological reports to other professionals whenever necessary and competently while under supervision. Students will be trained to plan appropriate hearing tests or management prior to every clinical session and to explain results and counsel clients at the end of each clinical session. Student clinicians are expected to be involved competently in every aspect under supervision and with least assistance from the supervisor.

List of text/reference books:


**GTB404/3-Toxicology**

This course covers the introduction of toxicology, quantitative aspects and kinetics including the effects of dose, effect and tissue responses to toxic agents, the excretion of toxic substances, toxic reaction compounds, toxic substances such as solvent, food additives, herbicides and pesticides, detergents. Toxicity testing, *in vitro* and *in vivo* test, toxicokinetic, toxicity to target organs, particularly the human, carcinogen, mutagen teratogen, the mechanism of toxicity, laboratory tests, an antidote, and treatment are also being discussed. Students are exposed to knowledge regarding common toxins, genotoxicity and current issues with regards to harmful chemicals. In addition, students will be trained in the principles and practical techniques used in laboratory tests, such as acute and chronic toxicity, carcinogenicity, the detection of trace elements, the isolation and testing of compounds and the use of tools to study such as spectroscopy and chromatography.

*List of text/reference books:*


**GTB407/4-Industrial Training**

This is a core course in which student is given the choice to choose between gaining experiences in a research laboratory or in a healthcare-based laboratory. In research laboratory, student will be exposed to relevant practical skills in research. Student will be guided and supervised by the laboratory researcher in project to be determined by the supervisor. Student who chooses to perform his/her industrial training in clinical/industrial laboratory will get to experience the running, analysis and evaluation of various clinical or industrial tests. Student will also be exposed to various administrative or management skills in the laboratory.

*List of text/reference books:*

Relevant text books and peer-reviewed journals related to the field of interest.
GTB408/9-Biomedical Practicum

This course covers the clinical laboratory services training catering for patients in HUSM. The students will have opportunity to acquire practical knowledge and skills through exposure in a real diagnostic laboratory working environment such as handling, performing, analyzing and interpreting the tests or test results according to individual patient’s condition or suspected disease. They will be able to apply previous laboratory or clinical theoretical knowledge in the form of practical skills. The scope of the training will also focus on the aspect of identifying the sources of problems in laboratory services and handling them, acquiring skills in performing analysis of clinical specimens, involving in implementation of quality control program, troubleshooting of equipments and laboratory management. This course is to build and increase the skills and knowledge of the students with regards to effective and qualitative laboratory management.

List of text/reference books:

Any text books relevant to the field of clinical/industrial attachment chosen by the students including those journals in their respective fields of speciality.

GTB409/4-Research Project

The students are required to carry out a research project in related fields in order to broaden their knowledge and skills in critical analysis and to acquire skills in scientific aspects for the testing of hypotheses in health science topics.

List of text/reference books:

4. *Any test books/journals relevant to the fields or topics of research chosen by the students.*

GTB410/2-Laboratory Management

Quality assurance has become an essential part of hospital services. It is described as systematic actions necessary to provide adequate confidence that a product or service will satisfy given needs. The course introduces students to the concept of total quality management (TQM) in clinical diagnostic laboratory. TQM in clinical diagnostic laboratory emphasized the deployment of quality assurance principles and practice through the development and implementation of quality assurance plans and phases.
Students will also learn the quality systems, ISO 9001, MS ISO 15189 and MS ISO/IEC 17025, in relation to the management of clinical diagnostic laboratory. Teaching and learning methods will be in form of lectures, seminars and practical attachment in various clinical diagnostic laboratories. Coursework assessment includes the evaluation of written assignment, written test and seminar presentations.

List of text/reference books:


GTD406/3-Outpatient Dietetic Practicum II

This course is a continuation of Outpatient Dietetic Internship I which aims to develop students' self confidence in planning the diet and to handle diet counselling session under supervision. Students will be attached to specialist clinics including the pediatric, renal and surgical clinics.

List of text/reference books:

GTD407/3-Dietetics Practicum in the Ward II

This course is a continuation of Dietetic Practicum in the Ward I which aims to enhance students’ dietetic skills in giving medical nutrition therapy to patients in hospital wards. Students will be attached to selected wards such as pediatric, general, surgical and medical wards under the supervision of respective dietitians. Students are required to give case presentations and case reports based on their case studies as a prerequisite of completion of this course.

List of text/reference books:


GTD408/3-Dietetics Practicum in Special Unit II

This course is a continuation of Dietetic Internship Special Unit I which aims to expand students’ knowledge in giving appropriate medical nutrition therapy in specific fields such as pediatric, surgery, trauma, medical, renal, oncology, nutritional support and critical care. Intensive training will be provided by the respective dietitians. Students are required to give case presentations and case reports based on their case studies as a prerequisite to the completion of this course.

List of text/reference books:


GTF400/2-Forensic Medicine

This course introduces the students to various kinds of death and its signs, fundamental knowledge on the various chemical transformations taking place after death, which form the basis for the estimation of time of death, on postmortem study, pattern and types of injuries. It include theoretical and practical aspects of the victims dying of unknown causes, killing, suicide, blunt/sharp force injuries, firearm & explosive injuries, asphyxia, drowning, burns and electricals shocks. Students will witness autopsy demonstrations and are taught the management of a mortuary, embalming and how to prepare a report of procedure and the causes of death for certain cases.
List of text/reference books:


GTF402/4-Ballistics and Chemistry of Explosives

This course is a combination of ballistic and explosives. This course introduces concepts of ballistics and knowledge for ballistic and explosive investigations. It also covers the concepts of explosives and various types of firearms dan explosives commonly used by terrorist and criminals. This course is conducted at Chemistry Department by the experts in ballistics and explosives.

List of text/reference books:


GTF406/6- Research Projects

The course offers opportunities for students of forensic science hands-on, career-related experience complementing their academic education. The students will engage in supervised research under the guidance of a faculty member. They are encouraged to select research topics in criminalistics, biological and chemical sciences, criminal profiling and forensic psychology. The course requires substantial independent work by students. The completion of the course will present the students the ability to better understand research methodologies. The course will also provide a strong science foundation and emphasize the scientific method and problem solving skills that will keep them in good stead, when they are employed in forensic laboratories.
List of text/reference books:

2. Journals and other references based on areas of research.

GTF407/8-Forensic Practicum

This course provides hands on training on crime scene management and forensic examination by way of mock crime scenes and moot court. The students will attend practical training in fingerprints, ballistics, and clandestine laboratory besides various chemical and instrumental methods of analysis. The students will be taken to real crime scenes and will be taught the various procedures in the search and collection of evidence materials. This course provides fundamental knowledge on the Malaysian Legal System and the police administration in processing of evidence materials. This course is conducted at Royal Malaysia Police College in Cheras and Forensic Laboratory. This course also provides detailed knowledge on the preparation of reports and presentation of evidence before courts of law.

List of text/reference books:


GTF408/2-Forensic Documents Examination

This course introduces the students to various techniques to examine sample of questioned documents. The content of the course includes the principle techniques for the examination of questioned documents, as well as the formal report writing. Students will be trained to use the latest instruments related to the examination of questioned documents to equip them with appropriate knowledge and skills to be used in the understanding of related concepts and techniques. Practical training will include;
typewriting, handwriting, signature, examination of indentation marks, ink and paper analysis, identification of printing process, and identification of formal document authenticity. This course is conducted at Chemistry Department by experts in Questioned Documents.

List of text/reference books:


GTJ405/5-Medical Nursing Practicum

This course provides opportunities to students to deliver nursing management to patient needed medical interventions. Students need to integrate knowledge and skill to provide holistic nursing care based on nursing process. Students will practice related nursing skill and to perform ward/unit management and give nursing education to patient and family. Emphasis will be given to the students in order to practice professionalism during clinical posting in the hospital and community setting.

List of text/reference books:


GTJ406/4-Surgical Nursing Practicum

This course provides opportunities to students to delivering nursing management to patient needed surgical interventions. Students need to integrate knowledge and skill to provide holistic nursing care based on nursing process. Students will practice related nursing skill and to perform ward/unit management and give nursing education to patients and family. Emphasis will be given to the students in order to practice professionalism during clinical posting in the hospital and community setting.
List of text/reference books:


GTJ407/4-Critical Care and Community Nursing Practicum

This course provides opportunities to student to deliver nursing management to patients that needed critical care and management of patients at community setting. Students need to integrate knowledge and skill to provide holistic nursing care based on nursing process. Students will practice related nursing skill and to perform ward/unit management and give nursing education to patients and family. Emphasis will be given to the student in order to practice professionalism during clinical posting in the hospital and community setting.

List of text/reference books:


GTJ408/4-Maternal, Child and Women Health Nursing Practicum

The structured nursing practicum is designed to give the student exposure and clinical experience in the field of maternal, child and women health. This is an application course of maternal, child and gynecological nursing and primary care. Students will integrate this knowledge in providing holistic nursing care using the nursing process and practice the related nursing skills safely and efficiently. Opportunity will be given to students in performing client and family health teaching. Emphasis will be given on professional practice and attitudes during clinical practicum in the hospital and community.

List of text/reference books:

GTK401/8-Environmental And Occupational Health Practicum

Through USM-industry collaboration, the students will be placed at selected government or private organisations for a semester. Students will be exposed to the actual situation of environmental and occupational safety and health problems, which exists in the world of work. Students have the opportunity to practice the knowledge that they have learned and improve their skills as well as to prepare themselves to face the real situation in the workplace.

List of text/reference books:


GTK402/8-Research Project

Students will conduct a research project in the field of Environmental and Occupational Health. This aims to increase knowledge and research skills and to share the research results through scientific writing and presentation.

List of text/reference books:

GTK403/4-Environmental And Occupational Law

This course focuses on existing law and enforcement activities in Malaysia in relation to environmental protection, occupational safety and health. Problems encountered in law enforcement will also be discussed. Students will be exposed to the detail of legal requirements and documentation with their implications. The course content is aligned to the content of Module II of Occupational Health and Safety Officer’s Course, required by the Department of Occupational Safety and Health, Ministry of Human Resources, Malaysia.

List of text/reference books:


GTK404/3-Environmental Management

This course introduces students to the ISO 14001 environmental management system. Students are exposed to the detail of the need for such standards and are trained to provide documentation and to conduct internal audits. Environmental Impact Assessment, Social Impact Assessment, an integrated modeling and management of the environment will also be described.

List of text/reference books:

GTK405/8- Management of Occupational Safety and Health

This course introduces the students to the system of occupational safety and health management practices in Malaysia such as OSHAS 18001, ILO-OSH 2001 and MS 1722. It is expected to cultivate a caring attitude and self-regulate to employees and employers in creating a work environment that is safe and healthy. This course will also include documentation, training, performance assessment and audit methodologies. The course content is aligned to Module I, Occupational Safety and Health Officer required by the Department of Occupational Safety and Health, Ministry of Human Resources, Malaysia.

List of text/reference books:


GTN401/3-Food Service and Industry Practicum

This course emphasizes on food service handling (in hospitals, institutions, industry and restaurants) and the relationship between quantitative food manufacturing with different menus, equipments, service staff, time of serving, kitchen sanitation, food preparation and quality assurance. The main focus is on the practical sessions at hospitals, institutions, industries and major restaurants. Lectures and briefing sessions will be given on the first week or before the commencement of internship. The students will undergo internship service for a period of 4 weeks in recognised premises. During internship attachments, the students are required to observe the utilisation of equipments, services and food management under supervision.

List of text/reference books:

GTN403/6-Research Project in Nutrition

This course requires the students to execute a research in related field to increase knowledge and experience in critical analysis. The students are guided to obtain skills in scientific aspects to test certain hypothesis especially those related to health sciences field. Students are expected to produce a dissertations at the end of the course.

List of text/reference books:


GTN405/3-Current Issues in Nutrition

This course provides an opportunity to students to discuss contemporary issues related to Malaysian nutrition intake. Controversial issues such as ‘new form of conquering’ by the introduction of fast food, introduction of processed foods from other countries/continents and its impact on Malaysian food intake quality will be discussed. Other topics include therapeutic and nutraceutical food consumption, fad diet, association of food with cancer disease and obesity will also be discussed.

List of text/reference books:

GTN407/3-Nutrition and Dietetics Seminar

This course requires students to perform a library search and to read additional materials in the field of dietetics and nutrition. They are also required to do a literature review to explore the nutrition discipline. Students are guided with research process in terms of statement of the problem, literature review, experimental design, hypothesis, analysis, interpretation and presentation of data, writing, discussing, concluding and giving of proper recommendation in the writing of dissertations and scientific articles.

List of text/reference books:


GTP401/2-Augmentative and Alternative Communication

This course provides knowledge on the augmentative and alternative communication (ACC) as a communication method for those who cannot communicate verbally. The topics are types, methods and features of ACC. In addition, assessment and intervention principles of ACC will also be discussed.

List of text/reference book:


GTP402/6- Research Project

This is a one-term course that requires students to complete a research project under supervision. Research topics may be in the field of speech pathology or other related fields such as linguistics, psychology, special education or audiology. At the end of the term, students are required to present their final outcomes and produce a complete thesis to be assessed.
GTP403/6–Speech Pathology Clinic V

This course requires the students to manage referred patients and conduct cases on their own under supervision. They have to perform all the assessment necessary to evaluate the patient’s condition and ability, analyse and interpret the data collected and then plan for goals and weekly therapy. Student are also required to give counselling to the patient, where needed. At this stage, students will be exposed to the speech diagnostic tools and will be allowed to use it on their own. The students must show an adequate knowledge and critical thought during discussion session in order to make proper diagnosis and prognosis.

List of text/reference books:


GTP404/2–Swallowing Problems

This is a theoretical course which focuses on swallowing disorders and feeding difficulties. The topics include definitions, etiologies and characteristics of swallowing problems. This course also discusses the methods of assessment and principles of intervention in managing individuals with swallowing problems.

List of text/reference books:

GTP406/6- Speech Pathology Clinic VI

This course requires the student to manage referred patient and conduct the case on their own, especially for acquired neurogenic and dysphagia cases while under supervision. Students will have to perform the interviewing session, related assessment and interpretation of data collected. They also have to plan for the long and short term goals, weekly therapy, plan and conduct the therapy session on their own. The students are also required to give counselling to the patient, where needed. The student must be able to make proper diagnosis and prognosis.

List of text/reference books:


GTP407/2-Learning Disabilities

This course focuses on the learning disabilities and education for children with communication disorders. The topics include theories and processes of learning, etiologies and characteristics of learning disabilities. This course also emphasises on the educational issues that are related to children with communication disorders and learning disabilities.

List of text/reference books:


GTS401/3-Fitness Testing and Exercise Prescription

This course introduces the students to the basic principles of physical fitness as well as to the adoption of a regular program of prescribed physical exercise, the health-related components of fitness and exercise prescription for endurance, strength, and flexibility. Students will be able to determine fitness and stress status and to implement suitable exercise programmes.
List of text/reference books:


**GTS402/6-Research Project**

This course exposes students to the research process that requires skill in planning, handling and analysis of data. The students are required to submit their dissertation in the given format.

List of text/reference books:

Journals and other references based on areas of research.

**GTS403/4-Industrial Training**

The course enables the students to gain experience in actual working environment in the exercise and sports industry. During attachment, the students will be involved in day-to-day activities of exercise, sports and therapeutic methods in a relevant organisation.

List of text/reference books:

Journal and other references based on areas of research being choosen.

**GTS404/2-Contemporary Issues in Sports Science Practices**

This course discusses the selected contemporary issues in sports science from local and worldwide perspectives. Students are expected to draw on the knowledge and practical skills to debate on important issues within sports science.

List of text/reference books:

2. M. Collins (Ed.) (2009), *Genetics and Sport*, Karger, Basel, Switzerland.
GTS405/3-Sports Management

This course explores the basics of sports organisation, hierarchy of sports organisation and their role in the development of sports. Basic management of physical education and sports plus the detailed explanation of management and running of various physical education and sports programs will be covered.

List of text/reference books:


GTS406/3-Adapted Physical Activity

The course aims to provide knowledge and understanding to the students on the recent concepts, trends and information regarding adapted physical activity and sports. The students will also learn the different types of disability that affect physical and motor performance as well as the physical adaptation adopted by the special groups. This course is developed to raise awareness and understanding for adapted physical activity and sports that will further benefit the special community.

List of text/reference books:


GTS407/3-Therapeutic Exercises

The course covers the study of the causes, prevalence and incidence of diseases in the human population and the effects of physical activity on them. Students will be exposed to how exercise is used in the prevention and treatment of chronic diseases.
List of text/reference books:


**GTX402/2-Brachytherapy**

This course discusses physics and dosimetry aspects of brachytherapy. It covers sources commonly used in brachytherapy and types of brachytherapy.

List of text/reference books:


**GTX405/2-Quality Assurance in Medical Radiation I**

This course provides students with theoretical and practical knowledge in the QA of equipments for diagnostic imaging like general radiography, fluoroscopy radiography and mammography imaging. Students will carry out QA tests based on recent standards and protocols to ensure that proper functioning of diagnostic equipment for patient service. Students are trained to practise the ethical and responsibilities of work in the imaging and diagnostic department.

List of text/reference books:

GTX406/6–Research Project

This course gives the students the opportunities to perform research projects by selecting a particular topic either radiology, nuclear medicine, radiotherapy or radiation protection as the initial exposure to lifelong learning in research. At the same time, students can write their research findings scientifically as dissertation that to be submitted at the end of the second semester in Year 4. This course trains the students to complete projects and dissertation submission.

List of text/reference books:

- Journals and other references based on areas of research being chosen.

GTX407/3–Quality Assurance in Medical Radiation II

This course consists of two parts, quality assurance in radiotherapy and nuclear medicine. For radiotherapy, students will be trained to perform calibration of linear accelerator according to IAEA TRS 398:2000 protocols for photon and electron beam as well as other quality assurance tests such as gantry and isocenter test, and beam alignment test. Students also will be trained to perform calibration of Ir-192 source for brachytherapy. For nuclear medicine, students will be trained to perform routine quality assurance test for gamma camera such as uniformity test, spatial resolution test and center of rotation test for SPECT imaging. Students are also trained to perform calibration of radiopharmaceuticals such as chi-square test for radionuclide.

List of text/reference books:


GTX408/3–Dose Calculations and Treatment Planning in Radiotherapy

This course introduces the students to the methods for dose calculation manually for radiotherapy and procedures, and techniques for treatment planning including simulation. Students will be taught to use computer for generating treatment plans for patient cases.

List of text/reference books:

GTX410/4–Imaging Techniques II

In this course, students will be attached to the department of radiology and nuclear medicine under supervision of clinical instructors. Students will be trained on medical imaging especially special techniques in medical imaging including CT scan, DSA and MRI. Students also will be trained in nuclear medicine imaging including preparation of radiopharmaceuticals, imaging techniques and quality assurance in nuclear medicine. Students need to perform patient management and preparation for imaging techniques, include practicing good communication skills. Students will be trained to practise the ethical and responsibilities of work in the imaging and diagnostic department.

List of text/reference books:


GTX411/4–Radiotherapy Techniques

In this course, students will be attached to radiotherapy unit under minimum supervision. Students are trained to handle processes in radiotherapy such as treatment planning, dose calculations, simulation, patient positioning, and handling of therapy modalities. Students will also be trained special techniques in radiotherapy such as SRT radiotherapy and brachytherapy. Students will be trained to work in a team at radiotherapy unit and display good leadership, responsibilities and ethical values throughout their training.

List of text/reference books:

GTX412/3-Nuclear Medicine Imaging Techniques

In this course, students will be attached to nuclear medicine unit. Students are trained to handle nuclear medicine imaging procedures such as 2-dimensional imaging and SPECT (single photon emission computed tomography). Students will be trained to work in a team at nuclear medicine unit and display good leadership, responsibilities and ethical values throughout their training.

List of text/reference books:


GTX413/3–Professional Training

This course provides opportunities to students to learn the applications of radiation in a working environment clearly included diagnostic and therapeutic procedures, research and application of radiation protection. Students will be able to observe the installation and commissioning of radiation equipments in hospitals or medical centers by suppliers. Students will be trained to present case study verbally and to manage case taking and report writing systematically.

List of text/reference books:

6.0 Elective Courses
GEG103/3-Fitness and Health

This course provides knowledge on theory, principle and method in fitness activities for health and fitness. Students will learn various methods in evaluating individual’s fitness level related to their health. Other components such as nutrition, body composition and mental health are also emphasised.

List of text/reference books:


GEG109/2-History of Health Sciences

This course exposes the history and development of science and medicine. It covers historical aspects of Greek philosophy, modern medicine and history of medicine from the earlier years to the present. Aspects of social sciences, religion, philosophy of physical sciences, behavioral sciences, biological sciences and medicine outside of Europe including the impact of Islam in the field of medicine and health will also be explored.

List of text/reference books:


GEG114/2-Oral Health

This course provides an introduction to anatomy and physiology of teeth and related structures. Further discussion will cover the etiology, pathogenesis and pathology of the teeth and gum disease and prevention methods at the individual and community levels.
List of text/reference books:


**GTK103/3-Biodiversity**

The course introduces the students to major phyla of organisms in earth. Emphasis is given to differentiate the organisms based on their distinct characteristics. The importance of interspecific interactions and its surroundings will be briefed. At end of this course, students will be able to identify various organisms living in their neighbourhood and be more conscious on activities that destroys earth biodiversity.

List of text/reference books:


**GEG201/2-Women’s Health**

This course introduces the students to the new definition and paradigm of women’s health. Students wil be exposed to a more holistic approach to women’s health not limited to maternal and child are. Several factors that influence the status of women’s health such as economic, politics, religion and social cultural practices will be examined.

List of text/reference books:

GEG203/2-Health Economics

The course covers both the microeconomic and utilization of healthcare services as well as its association with issues within the health organization and its deliverable to the community. Economic evaluation as a basis of healthcare policy making will be discussed focusing on both; individual and community and supply and demand in health care services.

List of text/reference books:


GEG204/3-Gender Perspectives In Health

This course introduces students to a framework of analysis to understand the reason for gender to be an important determinant factor in health. Students will examine the interaction between gender and other factors in determining health standard, risks and illness among men and women. The course will also discuss the importance of gender perspective in forming health policy as well as in the development of health education.

List of text/reference books:

GTS207/2 – Principles and Training in Individual and Team Sports

This course introduces the students to basic skills and game play for some sports including badminton, soccer, volleyball and archery, by relating with the principles in kinesiology, physiology, biomechanic and socio-psychology. This course will also emphasize on skills acquisition, performance, competition and analysis of the games.

List of text/reference books:


GEG208/2-Human Resource Management in Healthcare Organizations

The course covers both the theory and practice as regard to estimate and controlling of human resource within health organization. It covers the basic principles of managing, planning, problem solving, staffing and achievement evaluation within the said organization.

List of text/reference books:


GEG213/3-Stress Management

This course exposes students to a holistic approach for stress management. It treats both cognitive (coping) skills and relaxation techniques with the intention of preventing and/or alleviating the physical symptoms of stress.
List of text/reference books:


**GEG214/2-Personality and Health**

This course enables the students to describe how the study of psychological principles applies to personality, the Assessment, Measurement, and Research Design used in personality psychology, the six domains of knowledge, the core theorists involved in the exploration of personality and the development of personality and its interaction to one’s health in order to understand themselves and others.

List of text/reference books:


**GEG302/3-Violence and Society**

This course introduces the students to the concept and theory of violence in a society. An interactive discussion on the interpersonal violence such as violence in family, towards children and elderly will be included. Students will also be exposed to theory and intervention to overcome violence.

List of text/reference books:


GEG303/2-Tissue Banking

This course introduces the students to the principles of tissue banking. Specific topics to be discussed include the history, terminology, basic anatomy and immunological identification of organ and tissue transplants, legal and ethical organ and tissue act, Quality Assurance, the principles of sterilization, radiation sterilization and validation, bioburden determination, the importance of organ and tissue donation in health care, infectious disease through transplantation and clinical application of tissue.

List of text/reference books:

GEG304/2-Communication and Self Development

This course introduces the students to various topics on basic knowledge of communication skills in order to develop their self image and generate self development. The course will also emphasise on public speaking, handling of interview, presentation of working paper as well as developing self confidence and assertiveness.

List of text/reference books:
GEG305/2 Forensic Science

The course introduces the students to the fundamental concept of Forensic Sciences. It provides information on crime scene, collection and preservation of evidence and various types of impression evidence such as finger prints, foot prints, tool marks, and tyre prints used in identification of individuals and objects. A brief account on trace evidence materials like dust, glass, soil, fibres and hairs too is included. Introductory topics on DNA evidence, firearm identification, explosives, and questioned documents also form part of the syllabus. The students are also taught photographic techniques and digital cameras in criminal investigation.

List of text/reference books:


GEG308/2-Tropical Natural Resource Management

The course focuses on basic component of environmental sources with emphasis on environmental problems such as pollution and extinction of the natural resources. It covers the concepts necessary to formulate and achieve specific management goals and objectives; comprehensive natural resource planning processes; and social and institutional dimensions of management. This course will highlight the integration of development, health and environmental issues.

List of text/reference books:

GEG309/2-Principles of Forensic Dentistry

This course details the application of dental science knowledge for forensic work such as human identification and bitemark investigation. It covers the theory and some practices in forensic dental work such as bitemark analyses and identification process using dental records. Students will also be introduced to disaster victim identification and record management.

List of text/reference books:


GEG311/2 Botany And Health

This course introduces the students to the associations between plants and health. The topics will discuss history of plant usage in health, plant morphology and taxonomy, basic plant biochemistry, plant secondary metabolites, plant biotechnology, conservation and preservation of plant resources, ethnobotany and how a health botanical product is derived. Skills of information gathering will be absorbed through essay writing and seminar presented by inviting lecturer from related agencies/bodies. Management of botany and health project will trigger communication skills and team work among the students.

List of text/reference books:

LAA100/2–Arabic Language I

This course introduces Arabic letters to the students, pronounce and write it correctly. The students practice to communicate about themselves, family and friends by using the language properly and using the vocabulary accurately with the application in basic grammar in communication. The students also learn to make simple sentences by using the elementary in vocabulary in a good manner and in a positive way which is included in the course.

List of text/reference books:

6. Dr. Fa Abd. Rahim, Durus Al-Lughah Al-Arabiyyah Li Ghsiri Nathiqin Biha (1410H), Madinah Islamic University, Saudi Arabia.

LAJ100/2–Japanese Language I

This course enambles students to apply the basic grammar in writing and speaking, recognize the hiragana’s letter, pronounce it nicely and write it correctly, interact in daily conversation based on certain situation and discuss about 3 elements on culture, lifestyle and matter which are related with Japan.

List of text/reference books:


LAA200/2–Arabic Language II

This course is a continuation of Arabic Language I. The brief description about the basic script of Arabic are given as a revision. In this course, students were taught the appropriate skill of communication. The students will learn the nouns, verbs, and conjunctions in Arabic as well additional vocabulary.
List of text/reference books:

6. Dr. Fa Abd. Rahim, *Durus Al-Lughah Al-Arabiyyah Li Ghsiri Nathiqin Biha* (1410H), Madinah Islamic University, Saudi Arabia

LAJ200/2–Japanese Language II

This is a continuation of Japanese Language I. In this course, the students will apply the verbs broadly especially in using the conjunction, use more in basic sentence for speaking exercise, read and write in katakana’s letter and apply the basic sentences in daily conversation.

List of text/reference books:

FACILITIES

The buildings of School of Health Sciences have facilities such as lecture theatres, tutorial and seminar rooms together with the latest audio-visual and multimedia equipments.

IT facilities are provided for the use of students at the Multi-Media Laboratories of the School. It is open for students during office hours and after office hours until 11.30 pm.

All laboratory requirements are provided, complete with instruments and equipments within a new modern building.

Library, hostels and the sports complex with their respective ancillary facilities are provided for students at the USM Health Campus.
8.1 CAREER GUIDANCE

8.1.1 Biomedicine

Career prospects for the Biomedicine programme include:

1. Science or research officers at research institutes, institutions of higher learning, hospitals, public and private medical laboratories.

2. Production and administrative officers in related industries including Quality Control officers, sales personnel and advisors in the pharmaceutical, food and beverage industries, suppliers of medical products and instrumentations and as environmental officers.

3. Tutors/Lecturers at institutions of higher learning at both private and public sectors. Graduates can also register as graduate students or join the academic staff training programmes at any of the institutions of higher learning.

The examples given above are not restrictive and graduates can also involve themselves in many areas of scientific or commercial ventures that is available now or in development particularly in the biotechnology field.

8.1.2 Dietetics

Career opportunities for graduates of the Dietetic programme are ample in Malaysia and as well as in other countries. These include:


2. Science or research officers at institutions of higher learning and research.

3. Tutors/Lecturers at public and private institutions of higher learning. Graduates can also register as graduate students and join the academic staff training programmes of institutions of higher learning.
4. Diet consultants and nutritionist in the public and private sectors.

8.1.3 Nursing

Career opportunities in nursing are wide in Malaysia and overseas; these include:

1. Clinical nurses and nurse administrators at the government and private hospitals including community health centres.

2. Clinical nurses, nurse administrators or counselors at special institutions or organizations such as Hospice, Nursing Homes, Rehabilitation Centres and various manufacturing industries.

3. Officers or administrators in research institutions, hospital, pharmaceutical, diagnostic laboratories and other health related industries of both public and private sectors.

4. Nurse educators at public and private institutions of higher learning. Graduates can also register as graduate students and join the academic staff training programmes of institutions of higher learning.

8.1.4 Forensic Science

Career prospects for the Forensic Science graduates include:

1. Officers at the forensic services of the Royal Malaysian Police, Department of Chemistry, Fire and Rescue Department, government hospitals and forensic private agencies.

2. Science or research officers at research institutes or institutions of higher learning, private and public hospitals and diagnostic laboratories.

3. Production, administrative or sales personnels of industries such as pharmaceuticals, food and beverages, reagent suppliers and biomedical instrument suppliers as well as environmental officers.

4. Tutors/Lecturers at public and private institutions of higher learning. Graduates can also register as graduate students and join the academic staff training programmes of institutions of higher learning.
It must be emphasised that the examples of jobs given are not limited to those mentioned. The curricula which are offered by the School are flexible enough to provide graduates with skills and abilities which will enable them to prospects jobs in a wider domain including Private Investigation, Insurance Investigation and other forensic related areas. Opportunities are wide for high achieving students to pursue post-graduate courses and become teaching staffs of the future at institutions of higher learning.

8.1.5 Medical Radiation

Career prospects for graduates of the Medical Radiation programme are wide in Malaysia and overseas. These include:

1. Radiation protection officers at government and private hospitals, research institutions and public and private health organisations.
2. Personnel involved in commercial activities within the production industries related to the field and also in the health care industries.
3. Science or research officers at institutions of higher education.
4. Tutors/Lecturers at public and private institutions of higher education. Graduates can also register as graduate students and join the academic staff training programmes of institutions of higher education.

8.1.6 Audiology

The graduates from the Audiology programme may provide services or work at various settings:

1. As audiologists at medical settings (e.g. government and public hospitals, rehabilitation centres); educational settings (e.g. special education schools, early intervention centers); or private practice offices.
2. As academicians (e.g. tutors, lecturers) at public and private institutes of higher learning.
3. As researchers at the institutes of higher learning, research laboratories or centres.
8.1.7 Speech Pathology

Qualified professionals in Speech Pathology are known as *Pegawai Pemulihan Perubatan (Pertututran)* in the government sector or Speech Pathologist in the private sector.

1. Job opportunities in this profession are immense, including in the:
   - Health sectors (government hospital, private hospital or private practice)
   - Education sectors (special school or normal school)
   - Non-government sectors (intervention center or rehabilitation center)
   - Community and welfare sectors (community based rehabilitation center)

2. Additionally, they also can
   - become academic staffs at the university as clinical supervisors or lecturers (after completing postgraduate degrees at masters/doctor of philosophy levels)
   - conduct research and development as researchers
   - manage related institutions as the managing officers.

8.1.8 Exercise and Sports Science

The graduates from the Exercise and Sports Science programme may provide services or work at various settings:

1. As science/research/sports officers in medical institutions (e.g. government and public hospitals, rehabilitation centers, Youth and Sports Departments); educational settings (e.g. special education schools, sport schools, early intervention centers, universities); sports institutions and associations (National Sports Institute, BAM, FAM) or private practising organisations.

2. As academicians (e.g. tutors, lecturers) at public and private institutes of higher learning.

3. As coaches, sports science consultants, sports administrators and managers, sports physiotherapists, health coordinators, health club managers in both government and private sectors.
8.1.9 Nutrition

Career opportunities for graduate of the Nutrition programme are wide in Malaysia and overseas. These include:

1. Nutritionists in the public and private sectors.
2. Science or research officers at institutions of higher learning and research.
3. Tutors/Lecturers at public and private institutions of higher learning. Graduates can also register as graduate students and possibly join as teaching staff in Higher Education institution.

8.1.10 Environmental and Occupational Health

Career opportunities for graduates of the Environmental and Occupational Health programme are wide (public and private sectors, industries and NGO’s) in Malaysia and overseas. These include:

1. Occupational Safety and Health Officer, environmental health officers and safety supervisors.
2. EMS engineers, EHS executives, health promotion officers and operation officers.
3. Training officers and marketing executives
4. Science or research officers at institutions of higher learning and research.
5. Tutors/Lecturers at public and private institutions of higher learning. Graduates can also register as graduate students and possibly join as teaching staff in Higher Education institution.

8.2 PRIZES, AWARDS AND DEAN'S LIST

The School is continually soliciting funds for the setting up of gold medal awards to be awarded to the best final year students in all programmes as well as funds for other prizes and awards.

Students obtaining a CGP of 3.67 and above in any semester will receive a Deans' List Certificate.
8.3 SOCIETY

Students of the School of Health Sciences automatically become the members of the Health Science Society of the University.

8.4 POSTGRADUATE PROGRAMMES

The School of Health Sciences offers Masters (M.Sc.) and Doctorate (Ph.D.) courses via research mode in many disciplines such as Biomedicine (e.g. Diagnostics, neurocognitive science, natural health products, vaccinology, cancer biology, immune regulations, gene regulations and protein-protein interaction), Forensic Science (e.g. DNA fingerprinting, Forensic Chemistry, Environmental Forensics and Forensic Toxicology), Dietetics and Nutrition (e.g. community nutrition, clinical nutrition and human nutrition) and many others. Candidates shall have graduated with a Bachelors degree from recognised universities and obtained a CGPA of at least 2.75 for the Masters programme and 3.67 or graduate with a Masters for the Ph.D. programme. However students with a CGPA of less than 2.75 may be considered if they possess appropriate and relevant working experience or experience in research. Interested candidates can contact the Deputy Dean (Research) Post Graduate Studies or the USM Post Graduate Institute for further information.

8.5 OVERSEAS TRAINING SCHEME

Universiti Sains Malaysia offers limited and highly competitive overseas training schemes to students of levels 100 and 200 who are interested to pursue courses of one semester duration at any foreign university. This scheme is devised with the purpose of exposing students to experience studying at the international level with the possibility of credit transfers. Further details of this scheme can be obtained from the office of International Relations, Division of Academic and International Affairs, USM.
9.0 DIPLOMA OF NURSING
# ACADEMIC STAFF OF DIPLOMA IN NURSING PROGRAMME

## LECTURERS/TUTORS

<table>
<thead>
<tr>
<th>NO.</th>
<th>NAME</th>
<th>POSITION</th>
<th>TELEPHONE</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ms. Noor Aini Hussain</td>
<td>Programme Chairman/ Lecturer</td>
<td>7531</td>
<td><a href="mailto:nooraini@kb.usm.my">nooraini@kb.usm.my</a></td>
</tr>
<tr>
<td>2.</td>
<td>Ms. Anisah Mat Desa</td>
<td>Tutor</td>
<td>7744</td>
<td><a href="mailto:anisahmd@kck.usm.my">anisahmd@kck.usm.my</a></td>
</tr>
<tr>
<td>3.</td>
<td>Ms. Azlida Abd Kadir</td>
<td>Tutor</td>
<td>7733</td>
<td><a href="mailto:azlida@kck.usm.my">azlida@kck.usm.my</a></td>
</tr>
<tr>
<td>4.</td>
<td>Ms. Fazdillah Husin</td>
<td>Tutor</td>
<td>7743</td>
<td><a href="mailto:fazdillah@kck.usm.my">fazdillah@kck.usm.my</a></td>
</tr>
<tr>
<td>5.</td>
<td>Ms. Hasni Embong</td>
<td>Tutor</td>
<td>7741</td>
<td><a href="mailto:ehasni@kck.usm.my">ehasni@kck.usm.my</a></td>
</tr>
<tr>
<td>6.</td>
<td>Ms. Low Kim Lian</td>
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<td>7747</td>
<td><a href="mailto:kimlian@kck.usm.my">kimlian@kck.usm.my</a></td>
</tr>
<tr>
<td>7.</td>
<td>Ms. Mas Nor Saloni Ibrahim</td>
<td>Tutor</td>
<td>7732</td>
<td><a href="mailto:mnsaloni@kck.usm.my">mnsaloni@kck.usm.my</a></td>
</tr>
<tr>
<td>8.</td>
<td>Ms. Noor Jasmani Hassan</td>
<td>Tutor</td>
<td>7746</td>
<td><a href="mailto:nrjasmani@kck.usm.my">nrjasmani@kck.usm.my</a></td>
</tr>
<tr>
<td>9.</td>
<td>Ms. Nor Rahan Mohamad</td>
<td>Tutor</td>
<td>7780</td>
<td><a href="mailto:norrahan@kk.usm.my">norrahan@kk.usm.my</a></td>
</tr>
<tr>
<td>10.</td>
<td>Ms. Norizam Muhammad Yusof</td>
<td>Tutor</td>
<td>7734</td>
<td><a href="mailto:nrizam@kck.usm.my">nrizam@kck.usm.my</a></td>
</tr>
<tr>
<td></td>
<td>(Study Leave)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Ms. Norliza Hussin</td>
<td>Tutor</td>
<td>7745</td>
<td><a href="mailto:norliza@kk.usm.my">norliza@kk.usm.my</a></td>
</tr>
<tr>
<td>12.</td>
<td>Ms. Nurhayati Mohamad Nor</td>
<td>Tutor</td>
<td>7742</td>
<td><a href="mailto:hayatimn@kck.usm.my">hayatimn@kck.usm.my</a></td>
</tr>
<tr>
<td>13.</td>
<td>Ms. Tuan Ruasmani Tuan Daud</td>
<td>Tutor</td>
<td>7750</td>
<td><a href="mailto:ruasmani@kk.usm.my">ruasmani@kk.usm.my</a></td>
</tr>
<tr>
<td>14.</td>
<td>Ms. Zaihan Abd. Rahman</td>
<td>Tutor</td>
<td>7749</td>
<td><a href="mailto:zaihan@kk.usm.my">zaihan@kk.usm.my</a></td>
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<tr>
<td>15.</td>
<td>Ms. Zuraida Yusoff</td>
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<td>7748</td>
<td><a href="mailto:zuraida@kk.usm.my">zuraida@kk.usm.my</a></td>
</tr>
<tr>
<td>16.</td>
<td>Ms. Chu Be Lai</td>
<td>Clinical Instructor</td>
<td>6672</td>
<td><a href="mailto:chubelai@kck.usm.my">chubelai@kck.usm.my</a></td>
</tr>
<tr>
<td>17.</td>
<td>Ms. Halizan Yusoff (Study Leave)</td>
<td>Clinical Instructor</td>
<td>6672</td>
<td><a href="mailto:halizan@kk.usm.my">halizan@kk.usm.my</a></td>
</tr>
<tr>
<td>18.</td>
<td>Ms. Masturah Hamzah</td>
<td>Clinical Instructor</td>
<td>6672</td>
<td><a href="mailto:masturah@kk.usm.my">masturah@kk.usm.my</a></td>
</tr>
<tr>
<td>19.</td>
<td>Ms. Norizan Che Mohd Yusoff</td>
<td>Clinical Instructor</td>
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<td><a href="mailto:eijann@kck.usm.my">eijann@kck.usm.my</a></td>
</tr>
<tr>
<td></td>
<td>(Study Leave)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Ms. Zaharah Muhamad</td>
<td>Clinical Instructor</td>
<td>6672</td>
<td><a href="mailto:zaaharah@kck.usm.my">zaaharah@kck.usm.my</a></td>
</tr>
</tbody>
</table>
INTRODUCTION

The Diploma in Nursing Programme is one of the programmes offered by the School of Health Sciences since the 2007/2008 session in response to the rapid development in medical technology and increasing number of government and private hospitals, where the demand for nurses has escalated to a critical level. The shortage of nurses has affected the quality of health services.

The structuring of the Diploma in Nursing Programme is based on the criteria set by the Malaysian Nursing Board that a nursing programme must have sufficient nursing skill training components to enable the students to register with the Malaysian Nursing Board. It also fits the aim of the university to produce nursing graduates who possess excellent academic knowledge as well as competent clinical skills in order to achieve the nation’s aspiration in producing a healthy society.

This programme covers six (6) semesters of three (3) years. The programme encompasses the following aspects:

(a) Biological Science
(b) Behavioural Science
(c) Nursing Science
(d) Technical Skills
(e) Co-Curriculum

These aspects are incorporated in the nursing curriculum to strengthen the basic knowledge in nursing practice as well as scientific knowledge with the hope to produce nurses who are competent, of calibre, innovative, proactive, critical in thinking and independent. This will assist in enhancing professionalism and the image of nursing for the benefit of clients, society and the country.

AIM OF THE PROGRAMME

To produce trained nurses who are caring, practice safe nursing, competent and able to analyse critically in problem solving at any health institution.

OBJECTIVES OF THE PROGRAMME

- To fulfill demand of nurses needed by hospitals and clinics in the future.
- To produce trained nurses who are able to deliver efficient services to individual and community.
- To provide basic nursing education which enable students to proceed to degree level.
LEARNING OUTCOME

At the completion of the programme, graduates will be able to:

PO1:  Apply nursing theory and practice comprehensively in nursing care.

PO2:  Demonstrate technical skills in analysis and problem solving related to nursing diagnosis.

PO3:  Apply critical thinking skills in assessment of patient for effective nursing care and interventions.

PO4:  Apply communication skills in the assessment and problem solving in nursing care and practices.

PO5:  Organize and execute nursing tasks as a team of healthcare professionals in caring for patients.

PO6:  Display ethics and professional values in nursing practice.

PO7:  Apply nursing knowledge and manipulate resources for effective nursing care and interventions.

PO8:  Explore and identify opportunities of entrepreneurship to enhance social functions and responsibilities.

PO9:  Exhibit values of leadership as a group in nursing practice.
COURSE DURATION

Three (3) years for full time course include both theory and practical.

ENTRY QUALIFICATION

<table>
<thead>
<tr>
<th>SPM QUALIFIED</th>
<th>UNIVERSITY GENERAL REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pass SPM / equivalent examination</td>
</tr>
<tr>
<td></td>
<td>Pass with credit in Bahasa Melayu / Bahasa Malaysia for SPM / equivalent examination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPECIAL PROGRAMME REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pass SPM / equivalent with at least grade C6 / 6C / C in these five (5) subjects:</td>
</tr>
<tr>
<td>1. Bahasa Melayu / Bahasa Malaysia</td>
</tr>
<tr>
<td>2. Rampaian Sains / Biology</td>
</tr>
<tr>
<td>3. Mathematic</td>
</tr>
<tr>
<td>4. Bahasa Inggeris</td>
</tr>
<tr>
<td>5. One (1) other subject</td>
</tr>
<tr>
<td>And pass in interview</td>
</tr>
</tbody>
</table>

ENTRY APPLICATION

Online application at https://pohon.usm.my/jururawat. Processing fee of **RM60.00** is to be paid cash at CIMB counter or through E-Payment / credit card / cash transfer (FPX). Complete application form is to be printed and sent with copies of academic certificate to the address below:

**SEKSYEN PENGAMBILAN PELAJAR**
**BAHAGIAN PENGURUSAN AKADEMIK**
**PEJABAT PENDAFTAR, ARAS 2, CANSELORI**
**UNIVERSITI SAINS MALAYSIA**
**11800 USM, PULAU PINANG**
ACADEMIC SYSTEM

DEFINITION

Unit

All courses will be assigned a value called UNIT. The unit is given value based on the scope of the curriculum, and the demand made of student in the courses; in general the unit is defined as follows:

<table>
<thead>
<tr>
<th>Type of Course</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory Courses</td>
<td>One unit is equivalent to one hour of contact time per week for the semester of between 13 - 14 weeks.</td>
</tr>
<tr>
<td>Practical or Laboratory Courses</td>
<td>One unit is equivalent to one and a half hours of contact time per semester of between 13 – 14 weeks.</td>
</tr>
<tr>
<td>Language Skill Courses</td>
<td>One unit is equivalent to one and a half hours of contact time per semester of between 13 – 14 weeks.</td>
</tr>
<tr>
<td>Industrial or Teacher Training Courses</td>
<td>One unit is equivalent to two weeks of training.</td>
</tr>
</tbody>
</table>

Type of Contact

Students or group of students will usually come in contact with lecturers via lectures, tutorials, seminars and laboratory or field study sessions.

Cumulative Credit Unit

A unit that has been registered and passed called a Credit Unit.

REGISTRATION OF COURSES

(a) Online Course Registration Activities

The online registration system requires that students register for courses every semester. Registration will be carried out on Friday or Saturday prior to the commencement of each semester. This is to ensure that teaching sessions can start on the first day of the semester.

Time of registration is finalised by each School. Students must check on dates of registration activities on the respective School's notice board.

Prior to registration, students are requested to obtain the following items from their respective Schools:

(i) Course Registration Form
(ii) Statement of Cumulative Grade (CANGRED)
(iii) Time Table of Academic Sessions
(iv) **List of Courses**

Students are reminded that registration of courses is official and final. Due care should therefore be exercised in filling in details to avoid unnecessary complications. Extra care should be given to the following:

- Course Code
- Value of Course Unit
- Type of Course Code
- Time Table for Academic Sessions
- Prerequisite Requirements of Courses
- Requirements of the School
- The minimum or maximum units which students are allowed to register.

(b) **Academic Advisor**

(i) Students must plan their entire course schedule to ensure that their choice of courses for any semester can be undertaken without undue problems.

(ii) Prior to registration of courses, students are advised to meet with their academic advisors regarding choice of course for each semester.

(iii) Students must obtain the signatures of their Academic Advisors for all courses to be registered.

(c) **Time Table and Course Lists**

Time table for the academic sessions and list of courses on offer for each semester can be obtained via the Schools web page at [http://www.ppsk.usm.my](http://www.ppsk.usm.my). The time table is subject to change by lecturers concerned.

Student must refer to this list when choosing and obtaining information about a particular course. Students are not allowed to register for courses if there are clashes in the time table.

(d) **Registration of Language and Co-curricular Courses**

(i) All affairs related to the registration, dropping and addition of language courses will be handled by The School of Language, Literacies & Translation. Co-curricular courses will be handled by the Student Affairs & Development Division of the University.

(ii) Early registration of the Malay and English language courses will be at the School of Language, Literacies & Translation while Co-curricular (sports & cultural) courses will be done at the Student Affairs & Development Division.
(iii) Online registration activities will only start after the process of choosing the courses and the course codes have been entered into the computer systems.

(iv) Dropping of courses, if deemed necessary, must be done within the first week of the academic session. A fee of RM50.00 will be imposed if this is done after the first week.

Registration of Courses for Students designated as active

Students must register the total number of units offered in every semester.

Registration of Courses for Students on "Provisional" Status

Registrable units for students on probationary status are limited to the following:

<table>
<thead>
<tr>
<th>Academic Status</th>
<th>Maximum Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>21</td>
</tr>
<tr>
<td>Provisional I (P1)</td>
<td>12 unit</td>
</tr>
<tr>
<td>Provisional II (P2)</td>
<td>10 unit</td>
</tr>
</tbody>
</table>

(e) Status of Students and Level of Study

Students are designated as equivalent to first, second or third year according to the total credit points accumulated as follows:-

<table>
<thead>
<tr>
<th>Course of Study</th>
<th>Year Equivalent Based on Cumulative Credit Acquired</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Total Credit Unit</td>
<td>First</td>
</tr>
<tr>
<td>Required for Graduation)</td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>0 – 37</td>
</tr>
</tbody>
</table>
(f) Course Confirmation Slip

The confirmation slip given after registration of a course must be checked thoroughly to ensure that there are no errors. Any errors regarding courses must be corrected immediately at the respective school during the registration period.

(g) Updating of Academic Records

The latest academic records and information will be printed in the document designated as 'CANGRED' and in the course registration forms. Students are advised to check the information and details therein and make corrections, if necessary. Corrections can be made using appropriate forms obtainable from the respective schools/centre or the Records and Data Processing Unit, Aras 5, Chancellory Building.

Students are responsible for updating their addresses in the event that they have changed their terms address, emergency address and/or permanent address.

(h) Courses During the Long Semester Break (KSCP)

These courses are only offered during the long break. They are offered only to students who obtained grade ‘C-’, ‘D+’, ‘D’, ‘D-’, ‘F’ and ‘DK’ in a course or courses that they have taken. Students given grade ‘X’ and ‘F*’ are not allowed to take the KSCP course examination.

The objectives of the KSCP:

To allow students who face time constraints in order to graduate.

i) To help students who require only a few more units to graduate.
ii) To help students on provisional status to redeem themselves.
iii) The assist students who are required to repeat prerequisite courses which will not be offered in the following semester.

Formal lectures are not usually carried out. Teachings of courses are often done through tutorials. Long break courses are usually carried out over 4-3 weeks of tutorials and 1 week of examination during the long vacation break. The dates of these courses can be obtained from the Academic Calendar.
Every course possesses a unique course code that consists of three (3) letters and three (3) numbers. The definition of the code is as follows:

- **DGN** nnm
  - Serial Number
  - **Serial Number**
  - **Level:**
    - 1 = Level 100 course
    - 2 = Level 200 course
    - 3 = Level 300 course
  - **Field of specialisation:**
    - N = Nursing
  - **G** = School of Health Sciences
  - **D** = Diploma
EXAMINATION

Examination is conducted at the end of each semester. Student must sit for the examination of all courses that they have registered during the course registration period. All students must first settle all fees due and have fulfilled teaching requirements such as attending lecture/tutorial/practicals and have fulfilled other conditions deemed necessary for that particular course before they are allowed to take the examination. The complete assessment of each course is based on the grades obtained for the continuous assessment (course work) and the final examination. The weightage given for these two components may differ from course to course. The course work can include various aspects such as students’ participation in tutorials, tests, essay writing, project work and other assignments.

(a) Type of Examination

(i) Cognitive Component

- Objective Test (multiple choice)
- Essay
- Short Essay
- Seminar Paper
- Case Study

(ii) Psychomotor Component

- OSCE and Practicum
- Clinical Skill Log Book

(iii) Affective Component

Will be assessed with (i) and (ii) through progress report from Clinical Instructor. The aim is to evaluate students’ initiative and interpersonal relationship in practicum. This assessment is critical in molding the professional attitude of a student.
(b) **Duration of Examination**

<table>
<thead>
<tr>
<th>Evaluated Course</th>
<th>Examination Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 units</td>
<td>1 hour for coursework of more 40%</td>
</tr>
<tr>
<td>2 units</td>
<td>2 hours for coursework of 40% and below</td>
</tr>
<tr>
<td>3 units or more</td>
<td>2 hours for coursework of more than 40%</td>
</tr>
<tr>
<td>3 units or more</td>
<td>3 hours for coursework of 40% and below</td>
</tr>
</tbody>
</table>

(c) **Barring of Students from Sitting for Examination**

Students who do not satisfy the requirements of a course may be barred from sitting for the Final Examination of that particular course. These requirements may include attendance of lectures or tutorials and completion of all course work assignments. They can also be barred from sitting for the examination if the fees due are not paid up.

Courses whereby students have been barred from are conferred grade ‘X’.

(d) **Average Grade Point System**

The following scale is used to grade student's performance:-

<table>
<thead>
<tr>
<th>Alphabetic Grade</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D+</th>
<th>D</th>
<th>D-</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Points</td>
<td>4.00</td>
<td>3.67</td>
<td>3.33</td>
<td>3.00</td>
<td>2.67</td>
<td>2.33</td>
<td>2.00</td>
<td>1.67</td>
<td>1.33</td>
<td>1.00</td>
<td>0.67</td>
<td>0</td>
</tr>
</tbody>
</table>

Students awarded with grade 'C-' and below for a particular course would be given a chance to improve their grades by repeating the course during the KSCP or normal semester. Students awarded with grade 'C' and above for a particular course will not be allowed to repeat the course whether during KSCP or normal semester.

The achievements of students in any semester are based on Grade Point Average (GPA) achieved from all the registered courses in a particular semester. GPA is the indicator to determine the academic performance of students in any semester.

CGPA is the Cumulative Grade Point Average accumulated by a student from one semester to another during the years of study.
The formula to compute GPA and CGPA is as follows:

\[
\text{Grade Point Average} = \frac{\sum U_i M_i}{\sum U_i}
\]

where

\(U_i\) = Course units for course i
\(M_i\) = Grade point for course i

Example of calculation for GPA and CGPA:

<table>
<thead>
<tr>
<th>Course</th>
<th>Unit</th>
<th>Grade Point (GP)</th>
<th>Grade (G )</th>
<th>Total GP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester I:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>ABC XX1</td>
<td>4</td>
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<td>C+</td>
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</tr>
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<td>1.67</td>
<td>C-</td>
<td>5.01</td>
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<td>C</td>
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<td>EFGXX5</td>
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<td>D+</td>
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<td>EFGXX6</td>
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<td>2.67</td>
<td>B-</td>
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<tr>
<td></td>
<td>20</td>
<td></td>
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<td>43.66</td>
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</table>

GPA = \frac{43.66}{20} = 2.18

<table>
<thead>
<tr>
<th>Course</th>
<th>Unit</th>
<th>Grade Point (GP)</th>
<th>Grade (G )</th>
<th>Total GP</th>
</tr>
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<td>D</td>
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<td>C+</td>
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<td>C</td>
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<td>BCB X10</td>
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<td>B-</td>
<td>10.68</td>
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<td>B+</td>
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<tr>
<td></td>
<td>18</td>
<td></td>
<td></td>
<td>40.99</td>
</tr>
</tbody>
</table>

GPA = \frac{40.99}{18} = 2.28

CGPA = \frac{\text{Total Accumulated GP}}{\text{Total Accumulated Unit}} = \frac{43.66 + 40.99}{20 + 18} = \frac{84.65}{38} = 2.23
As shown in the above example the CGPA is calculated as the total grade point accumulated for all courses taken, divided by the total units that has been registered.

**ACADEMIC STATUS**

**Active Status** - Students obtaining GPA 2.00 and above in the examination of a semester will be categorised as ACTIVE and will be allowed to continue their studies in the next semester.

**Provisional Status** - A Provisional status is given to students obtaining GPA of 1.99 or less. A student designated as provisional for 3 semesters consecutively (P1, P2, FO) will not be allowed to continue in the academic programme of this University. However, if the CGPA is 2.00 and above, the student maybe given a P2 status and will be allowed to continue with his/her studies.

Without prejudice to these requirements and other standing rules of examination, it should be noted that the University Examination Council has the absolute power to terminate any students from continuing their studies if their performance and grade is deemed unsatisfactory based on the minimum total credit units that must be accumulated by the student. Example:-

<table>
<thead>
<tr>
<th>Number of Semesters</th>
<th>Total Accumulated Minimum Credit Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pure</td>
</tr>
<tr>
<td>End of 2\textsuperscript{nd} semester</td>
<td>15</td>
</tr>
<tr>
<td>End of 4\textsuperscript{th} semester</td>
<td>35</td>
</tr>
<tr>
<td>End of 6\textsuperscript{th} semester</td>
<td>55</td>
</tr>
<tr>
<td>End of 8\textsuperscript{th} semester</td>
<td>75</td>
</tr>
</tbody>
</table>

The Examination Council of the University can also terminate students based on other specific reasons (Did not register courses, Did not obtain Examination Cards, Did not attend Examination without valid reasons), including medical reasons which can result in these students being no longer suitable to continue with their studies at this University.
Examination Results

a) Provisional (pass/fail) results via the Teleakademik system (9600-83-7899) are usually announced after the Schools' board of examination meeting which is usually one month after the examination.

b) Full results (grade) via the Teleakademik system (9600-83-7899) will be announced after the University Examination board meeting and is usually 2 weeks after the provisional results have been announced.

c) Official results (Semgrade) will be given to students during the 2nd week of the following semester.

NURSING SKILL PRACTICE

a) Every student is compulsory to undergo practice and practicum in the nursing skills laboratory and clinical area stated for each semester. Students have to wear uniform during their practicum. Students have to refer to Clinical Skill Log Book for regulation in the Nursing Skill Laboratory and clinical area.

b) Students are to practice in Nursing Skill Laboratory with tutor or on their own as scheduled.

c) Nursing skills practice will be observed using Clinical Skill Log Book.

PRIZES, AWARDS AND DEAN'S LIST

Students obtaining a GPA of 3.67 and above in any semester may receive the Dean’s List Certificate.

GRADUATION REQUIREMENTS

Students must fulfill all requirements in order to graduate (provided the minimum residence has been fulfilled):

(a) Satisfy all credit requirements for the Academic Programme i.e total credits and the required number of credits for each component in the programme [Core, Elective, University and Optional (if appropriate) courses].

(b) Obtain a grade point of 2.00 and above for total Core courses.

(c) Obtain a final CGPA of 2.00 and above for the whole programme.

(d) Obtain a minimum grade C or grade point of 2.00 for the language courses (Bahasa Malaysia and English), Core Entrepreneurship, Ethnics Relation, Thinking Technique and TITAS courses.
PROGRAMME STRUCTURE

The Programme was designed by taking the following into account:

(i) The Malaysian Nursing Board has maintained that any nursing educational programme must have sufficient nursing skills training component for the purpose of registration with the Board.

To meet these requirements the Diploma in Nursing Programme is structured as follows:

Student must complete 98 credit units in 3 years (semester 1-6) which include core courses (83 units) and university courses (15 units) plus other requirements of the School.

Programme Structure Synopsis for Diploma in Nursing Programme

<table>
<thead>
<tr>
<th>PROGRAMME</th>
<th>Unit Requirements for Graduation</th>
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<tbody>
<tr>
<td></td>
<td>CORE</td>
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<td>Diploma in Nursing</td>
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# LIST OF CORE COURSES

<table>
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<th>Course Title</th>
<th>Unit</th>
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<td></td>
<td><strong>Level 100</strong></td>
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<tr>
<td>1</td>
<td>DGN 101</td>
<td>Professional Nursing I</td>
<td>2</td>
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<tr>
<td>2</td>
<td>DGN 102</td>
<td>Nursing Skills (Activities of Daily Living)</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>DGN 103</td>
<td>Professional Nursing II</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>DGN 104</td>
<td>Health Communication</td>
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</tr>
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<td>DGN 105</td>
<td>Sociology in Nursing</td>
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<tr>
<td>6</td>
<td>DGN 106</td>
<td>Biology for Nursing</td>
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<tr>
<td>7</td>
<td>DGN 107</td>
<td>Nursing Practicum I</td>
<td>3</td>
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<td>8</td>
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<td>Human Biology I</td>
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<td>Human Biology II</td>
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<td>Medical - Surgical Nursing II</td>
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<td>DGN 203</td>
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<td>Medical - Surgical Nursing III</td>
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<td>DGN 205</td>
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<td>DGN 206</td>
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<td>Gynecology Nursing</td>
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<td>7</td>
<td>DGN 307</td>
<td>Neonate and Pediatric Nursing</td>
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<td>DGN 308</td>
<td>Community Nursing</td>
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<td><strong>Total Unit of Core Courses for Level 300 = 32</strong></td>
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# LIST OF UNIVERSITY COURSES

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<td>Wxx xxx</td>
<td>Co-Curriculum</td>
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<td>LDN 101</td>
<td>English Language for Nursing 1</td>
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<td>WUS 101</td>
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<td>Thinking Techniques</td>
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# Registration Guidelines for Diploma in Nursing Programme

## Level 100

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<tr>
<th>Code</th>
<th>Core Course</th>
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<th>Code</th>
<th>University Course</th>
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<td>Semester 1</td>
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<td>Wxx xxx</td>
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<td>Health Communication</td>
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## Level 200

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<th>Unit</th>
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<td>HTV 201</td>
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## Level 300

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<th>Unit</th>
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<th>University Course</th>
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<td>Medical - Surgical Nursing IV</td>
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**Total Unit of Core Courses**  
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**Core Courses**  
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### SEMESTER STRUCTURE

#### DIPLOMA IN NURSING PROGRAMME

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COURSES SYNOPSIS
Core Courses
Level 100
DGN101/2-Professional Nursing I

This course introduces the students to the history and the development of nursing profession in Malaysia and at the international level, health care system in Malaysia and alternative insurance delivery systems. Basic nursing concept and focus including the role of nurse and nursing practice will also be discussed.

List of text/reference books:


DGN102/3-Nursing Skills (Activities of Daily Living)

This course introduces the students to basic nursing skills related to human basic need based on the Virginia Henderson theory. Students will practice the skills taught in the nursing skill laboratory and implement the skills in clinical area.

List of text/reference books:


DGN103/2-Professional Nursing II

This course aims to provide an understanding for ethics and laws in nursing practice. The main focus is knowledge on principles of ethics and legal issues related to nursing practice.

List of text/reference books:

DGN104/2-Health Communication

This course introduces the students to basic communication from effective communication perspective. The main focus is on communication technique in nursing practice.

List of text/reference books:


DGN105/3-Sociology in Nursing

This course introduces the students to roles of sociology in health care and its effect on behaviour and response to health alteration and diseases.

List of text/reference books:


DGN106/2-Biology for Nursing

This course introduces the students to the importance of basic biochemistry, microbiology, parasitology and their effect on human health.

List of text/reference books:


DGN107/3-Nursing Practicum I

This practicum is the application of basic nursing sciences’ theory related to nursing process, activities of daily living, biology for nursing, sociology, communication technique and ethic and law in nursing practice.
List of text/reference books:


**DGN108/3-Health Assessment**

This course introduces the students to basic knowledge and skills of health assessment such as health history taking and health examination technique in nursing practice.

List of text/reference books:


**DGN109/3-Therapeutic Intervention**

This course introduces the students to the basic knowledge and skills of therapeutic intervention such as aseptic concept and technique, wound management, pharmacokinetic, pharmacodynamic, and importance of therapeutic diet, pain management, counseling technique and introduction to alternative technique in nursing practice.

List of text/reference books:

DGN110/2-Medical-Surgical Nursing I

This course introduces the students to the basic concepts of knowledge and skills of nursing management related to component, method and importance of medical-surgical nursing.

List of text/reference books:


DGN111/2-Human Biology I

This course explains the importance of structure and physiology of respiratory, cardiovascular, hematology, lymphatic and immunity systems in nursing practice.

List of text/reference books:


DGN112/3-Nursing Practicum II

This practicum includes the concepts of skills, medical and surgical nursing theory focusing on health assessment and therapeutic intervention.

List of text/reference books:

Core Courses
Level 200
DGN201/4-Human Biology II

This course introduces the students to the structure and physiology of gastrointestinal, urinary, endocrine, nervous, special senses, integumentary and musculoskeletal system in nursing practice.

List of text/reference books:


DGN202/3-Medical-Surgical Nursing II

This course introduces the students to basic knowledge and skills of nursing care for patient with impaired hematology, respiratory, and cardiovascular system such as pathophysiology, clinical manifestation, complications, diagnostic investigation and medical treatment.

List of text/reference books:


DGN203/3-Nursing Practicum III

This practicum courses includes the concepts of skills, medical and surgical nursing theory focusing on problems of cardiovascular, respiratory and hematology system.

List of text/reference books:

DGN204/3-Medical-Surgical Nursing III

This course introduces the students to basic knowledge and skill of nursing care for patient with impaired gastrointestinal, urinary, endocrine, immunology and oncology system such as pathophysiology, clinical manifestation, complications, diagnostic investigation and medical treatment.

List of text/reference books:


DGN205/3-Psychology for Nursing

This course introduces the students to the roles of psychology in health care and its effect on behaviour and response to health alteration and diseases.

List of text/reference books:


DGN206/2-Mental Health for Nursing

This course introduces the students to basic knowledge and skills of nursing care for patient with mental health problems and diseases.

List of text/reference books:

DGN207/3-Nursing Practicum IV

This course is the application of medical and surgical nursing skills according to gastrointestinal, endocrine, urology, immunology, oncology, mental health and psychiatric problems.

List of text/reference books:

Core Courses
Level 300
DGN301/4-Professional Nursing

This course introduces the students to the knowledge and skills to students on management and leadership, method of teaching and learning, the importance of research and health informatic in nursing practices.

List of text/reference books:


DGN302/3-Obstetric Nursing

This course introduces the students to various topics on basic knowledge of obstetric nursing.

List of text/reference books:


DGN303/2-Gynecology Nursing

This course introduces the students to the basic knowledge and skills of nursing care for patient with gynecological problems such as pathophysiology, clinical manifestation, complications, diagnostic investigations and medical treatments.

List of text/reference books:


**DGN304/3-Medical-Surgical Nursing IV**

This course introduces the students to the basic knowledge and skills of nursing care for patient with impaired neurology, integumentary, special senses and musculoskeletal system such as pathophysiology, clinical manifestation, complications, diagnostic investigations and medical treatments.

*List of text/reference books:*


**DGN305/2-Practicum Nursing V**

This course is the application of nursing theory and skill related to nursing management in family health, medical, surgical, obstetric, gynaecology, orthopaedic, ophtalmology, psychiatry, oncology, ear, nose and throat including community services in nursing practices.

*List of text/reference books:*


**DGN306/5-Practicum Nursing VI**

This practicum course is the application of nursing theory and skill related to medical-surgical nursing, obstetric, gynaecology, orthopaedic, neurology, ophtalmology, ear, nose and throat problems in nursing practices.

*List of text/reference books:*


DGN307/3-Neonate and Pediatric Nursing

This course introduces the students to the basic knowledge and skills of nursing care for neonate and pediatric patient with medical and surgical problems.

List of text/reference books:

DGN308/3-Community Nursing

This course introduces the students to the concept of community and public health nursing. The nursing knowledge and skills from nursing and public health sciences will be used by the students to apply during community practicum.

List of text/reference books:
DGN309/7-Nursing Practicum VII

This practicum is the application of nursing theory and skills related to medical-surgical nursing, operation theatre, community, neonatal, pediatric, oncology, haematology and critical in nursing practices.

List of text/reference books:

FACILITIES AVAILABLE AT THE SCHOOL

Hospital Universiti Sains Malaysia (HUSM)

HUSM has 747 beds from 33 wards of various disciplines including medical, surgical, orthopedic, critical, obstetric and gynecology, psychiatric, cardiology, cardiothorasic, oncology and pediatric.

Services available include:

- Medical Specialist Clinic
- Surgery Clinic
- Obstetric And Gynecology Clinic
- Orthopedic Clinic
- Psychiatric Clinic
- Ophthalmology Clinic
- Otorhinolaryngology Clinic
- Oncology Clinic
- Outpatient Clinic (Klinik Rawatan Keluarga)
- Staff Clinic
- Klinik Sejahtera (for USM students)
- Dental Clinic
- Radiology Services
- Diagnostic Laboratory Services
- Clinical Laboratory Services
- Blood Bank Services
- Pharmacy Services

Library

Facilities include:

- Open rack books, reference books, magazine including permanent subscription, serial monography, special collection, fiction collection and gift books
- Media materials

The School of Health Sciences' building

The buildings of the School of Health Sciences have facilities such as lecture theatres, tutorial and seminar rooms together with the latest audio-visual and multimedia equipments.
IT facilities and MultiMedia

IT facilities are provided for the use of students at the MultiMedia Laboratories of the School. It is open for students during office hours and after office hours until 11:30 pm.

SOCIETY

School of Health Sciences students automatically become the members of the Health Science Society of the University.
## 10.0 INDEXS

### AUDIOLOGY

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<td>GTA306/3</td>
<td>Auditory Rehabilitation (138-139)</td>
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BIOMEDICINE

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11.0 STUDENTS’ FEEDBACK

The aim of this feedback form is to obtain students’ response regarding the content of this guidebook. The information obtained will be useful in improving it.

Please respond to items 1 - 5 below based on the following 4-point scale.

| 1 - Strongly Disagree | 2 - Disagree | 3 - Agree | 4 - Strongly Agree |

Please circle the number.

1. This guidebook is very useful.

1 2 3 4

2. The information provided in this guidebook is accurate.

1 2 3 4

If you chose 1 or 2 for question no. 2, please provide the number of the pages(s) that contain the inaccurate information.

3. The information provided in this guidebook is clear and easy to understand.

1 2 3 4

4. Overall, I would rate the quality of this guidebook as good.

1 2 3 4

5. I prefer to use the CD that is provided compared to this guidebook.

1 2 3 4

6. If there is any other information that you think should be included in the guidebook, please suggest in the space below.

Please send this feedback form to School’s General Office in the 4th week of Semester I, Academic Session 2012/2013