



**Faculty of Pharmacy**  
**October University for Modern Sciences & Arts**  
**Bachelor of Pharmacy (PharmD)**  
**Student Handbook**



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## **Purpose of Student Handbook**

This handbook is provided as a service to the Faculty of Pharmacy, MSA University student body and contains information regarding student life and services at the Faculty and the University. This handbook is a guideline only and not a contract. Specific policies and procedures are subject to change at any time without prior notice.

The Student Handbook contains information regarding student rights and responsibilities, including but not limited to academic integrity, a definition of plagiarism, and a clear description of the nature, extent, and availability of all student services and activities.

The Student Handbook also includes information related to relevant policies. This covers admission, academic progress, grading, assessment, supervision, examinations, academic advising, careers, student discipline, academic offences, grievances, appeals, student activities, students' rights and responsibilities, student records, privacy and confidentiality.

**For further rules and regulations and detailed procedures; kindly access the following document:**

[MSA Rules Regulation https://msa.edu.eg/msauniversity/uk-partners/quality-assurance/rules-and-regulations?highlight=YToyOntpOjA7czo1OiJydWxlcyI7aToxO3M6MTE6InJlZ3VsYXRpb25zljt9s .pdf](https://msa.edu.eg/msauniversity/uk-partners/quality-assurance/rules-and-regulations?highlight=YToyOntpOjA7czo1OiJydWxlcyI7aToxO3M6MTE6InJlZ3VsYXRpb25zljt9s.pdf)

## **Faculty of Pharmacy Dean's Welcome**

Welcome to Faculty of Pharmacy at MSA University, where we are committed to graduate well-educated pharmacists who are able to fulfill their professional duties competently in response to the needs of the industry and the local job market. Since the establishment of Faculty of Pharmacy in 2004, we can boast of its reputation of excellence and significant role in the development of our Egyptian society. Our students are granted the opportunity to explore new areas of study and go beyond the restrictions of current knowledge to make new innovations. We achieve this mission through our expertise faculty members who provide our students with their efforts and time to personalize their experiences, in addition to our facilities ranging from fully equipped laboratories and lecture halls to our e-libraries and e-learning system.

Actually, I am honored to be a member of this learning environment that is expanding our scopes and changing our lives.

With warm regards,

***Prof. Dr. Hanan El Leithy***

**Professor of Pharmaceutics and Industrial Pharmacy,**

**Dean of Faculty of Pharmacy,**

**MSA University**

## **MSA Overview**

MSA University has been established as the natural outcome of nearly half a century of experience in the field of education on both local and international levels. While MSA University values its tradition, which goes back to nearly half a century, it has an eye on every new trend, with an attitude not only to react to change but also to lead it.

Over an area of 50 Feddan in the 6<sup>th</sup> October City; MSA campus has been built on only 17% of its total area. Highest technological standards in every aspect of the educational process have been utilized, aiming to maximize comfort and flexibility for a student body from over 30 nationalities.

The neo-classical look of the campus with its state-of-the-art facilities strongly contribute to its unique standing as an institution of educational excellence. The very careful consideration of spacious and highly advanced labs equipped according to worldwide specifications and standards, e-libraries, the highly equipped classrooms and lecture halls, the buildings of students' facilities, the Roman amphitheater, and the spacious green areas, enhance the atmosphere of comfort and discipline and inspire an overall feeling of integrity and loyalty to this great accomplishment.

Building [H], also called 'the Research Centre', helps to enhance the learning process and enrich the knowledge of both students and staff members. The building includes 12 students' labs (4 Pharmaceutics labs, 2 Pharmacology labs, 2 Pharmacognosy labs, 2 Physiology labs, 2 Biochemistry labs), in addition to 2 research labs and central lab.

Building [G] includes the lecture halls, the staff rooms, 6 computer labs, an opera house, and a cafeteria. This building is where faculty and teaching assistants' offices are located.

Building [E], includes 9 students' labs (3 Analytical Chemistry labs, 3 Organic chemistry and Pharmaceutical Chemistry labs and 3 Microbiology labs), a research lab, in addition to 8 computer labs. It also includes an animal house that hosts small experimental animals.

MSA University is best known for its academic excellence both in the Middle East and internationally, with stronger than ever modules of high quality and teaching staff.

MSA was a pioneer in Egypt to validate its programmes with British Universities in 2002. It is the first university granting its graduates a dual-origin degree; namely a British degree from Bedfordshire or Greenwich University, and another Egyptian degree, which is accredited by the Egyptian Supreme Council of Universities. MSA University graduates enjoy the privilege of attaining scholarships and have the chance to pursue M.Sc. and Ph.D. studies in the United Kingdom.

## **Faculty of Pharmacy at MSA**

The Faculty of Pharmacy seeks to offer a Bachelor of Pharmacy (PharmD) programme that is recognized and respected in Egypt, the Middle East, and internationally since its approval from the Egyptian Supreme Council of Universities in 2019. The Faculty of Pharmacy's vision aspires to attain national accreditation, as well as regional, and international recognition. The Faculty of Pharmacy, through its dedicated professional administration, faculty and staff members, gears its graduates with up-to-date knowledge and hands on the latest trends and skills in the various fields of pharmacy. A multitude of hardware and software technologies are available for pharmacy students; to enhance their learning environment.

Pharmacy education has witnessed phenomenal evolution during the past 50 years. The pharmacy profession, which once had been termed "the art of compounding", has undergone major changes due to the expansion of knowledge and mass production. Nowadays, pharmacists do not work solely but have to share actively with health care team towards offering optimum services to the patient.

Therefore, the pharmacy program in the Faculty of Pharmacy, MSA University, has been revamped in such a way to offer its students a number of modules in the curriculum that emphasize written and oral communication skills, ethical and social responsibilities, cultural competence, health literacy, pharmacy practice and other competencies. All what a pharmacy graduate needs to work as an efficient member in an inter-professional team is woven throughout the curriculum in didactic and realistic coursework.

Holders of a pharm-D may opt for enrolling in graduate studies in a variety of programs such as industrial pharmacy, clinical pharmacy, pharmacology, pharmaceutical chemistry, and pharmacognosy which complement the professional and scientific objectives of this program.

### **Vision**

The Faculty of Pharmacy of October University for Modern Sciences and Arts is a pioneer in tutelage, scientific research, and community service at the local and regional levels, and holds an advanced position among its counterparts in international Pharmacy subject ranking.

### **Mission**

The Faculty of Pharmacy of October University for Modern Sciences and Arts is nationally accredited, has British partnership, and is committed to producing graduates who are able to compete in national and international job markets and entrepreneurship, and to be an effective member of the medical team providing best medical care, while heeding professional ethics, through an outstanding academic programme and proficient academic staff. The faculty is devoted also to provide effective community services, and exceptional applied scientific research.

## **Strategic Goals**

### **1- To support faculty competitiveness**

(Partnership with foreign universities, Maintaining national accreditation, International ranking)

### **2- Academic excellence**

(A distinguished educational program)

### **3- Distinguished applied academic research**

(Supporting and stimulating applied research, Development of scientific research resources, Contributing to the service of the pharmaceutical and industrial sector)

### **4- Distinguished community service**

(Meeting societal needs, Increasing awareness of the stakeholders about the activities of social participation and their role)

### **5- Sustainable development**

(Diversification and development of self-resources, Supportive facilities accompanying the educational process)

### **6- Ensuring institutional effectiveness**

(A suitable working environment, Efficiency of human resources, Achieving standard reference ratios for faculty members and assistants)

### **7- An influential university life**

(A supportive environment that encourages continuous motivation and belonging to the Faculty, Increase the employability of the students)

## **Values:**

- Entrepreneurial spirit
- Student accessibility
- Credibility
- Justice and non-discrimination
- Accountability
- Commitment to quality
- Institutional loyalty
- Teamwork
- Community orientation

## **Partnership with University of Greenwich**

The School of Science at the University of Greenwich has had a partnership with the Faculty of Pharmacy, October University for Modern Sciences and Arts since 2004. Over the years, significant developments regarding the quality provision and the enhancement of the curriculum through engagement with the University of Greenwich and MSA staff (Masters and Ph.D. scholarships in Greenwich University, annual conferences, staff development sessions) have resulted in the Faculty of Pharmacy at MSA offering its students a British-validated pharmacy program that comprises up-to-date modules covering a wide spectrum of pharmaceutical and biotechnological sciences. Modules and credit hours lay within the framework of the rules and regulations of the Egyptian Supreme Council of Universities as well as of our British partner, University of Greenwich. MSA/UoG collaboration is continuously monitored by an external examiner governed under the Umbrella of the British quality assurance and audit organization.

The partnership first started, when all MSA University programmes were based in the first and original campus in the Dokki area of Cairo. MSA constructed a new campus at 6<sup>th</sup> October City that was opened officially in June 2005. All of the Dokki-located students were transferred to the new campus on a year-by-year basis until all undergraduate students were finally based at the new campus.

## **Programme Management**

The Bachelor of Pharmacy (PharmD) degree is a named programme, within the University framework. The quality and content of the curriculum is the responsibility of the programme leader. The programme leader reports to the Faculty Dean. Individual modules within the programme have a designated module coordinator responsible for the day-to-day delivery.

## **Faculty Dean**

The Dean is responsible for the educational and administrative affairs of the Faculty and representing it on the University Board. The Dean is also responsible for the implementation of University Board decisions at a Faculty level, the supervision of curriculum development, and the development of the Faculty. The Dean collects and evaluates instructors and students' feedback and addresses issues arising from set feedback through the Faculty Board. In addition, the Dean is responsible for ensuring that students receive appropriate support and guidance to assure that they are able to meet the learning outcomes of their programme.

**Vice Dean for Educational and Student Affairs:**

- Supervise the preparation of schedules.
- Study the needs for hiring full-time and part-time academic staff members.
- Study the needs for educational and scientific instruments and equipment.
- Management of student activities.
- Overseeing the implementation of the committees he/she is responsible for.

**Vice Dean for Research and Graduate Studies:**

- Overseeing the implementation of the faculty scientific research plan.
- Work to attract scientific research projects having community applications.
- Propose and organize conferences.
- Preparation of the regulatory rules for graduate studies.
- Follow-up Central Library, regarding the faculty and its various departments.
- Overseeing the implementation of the committees he/she is responsible for.

**Vice Dean for Community Service and Environmental Development:**

- Prepare and develop community service plan.
- Overseeing the implementation of community services.
- Overseeing the implementation of the committees he/she is responsible for.

**Head of Department**

- Supervise the teaching and research activities of the department.
- Oversee the scientific and administrative affairs in the department under the policy formulated by the Faculty Board in accordance with the provisions of the laws, regulations, and decisions applicable.
- Propose the distribution of lectures, tutorials, and other university responsibilities in-between the department staff members; presented and discussed at regular meetings of the department.
- Prepare proposals mandate for hiring full-time and/or part-time teaching staff for the department to be submitted to the department meetings followed by the Faculty Board.
- Follow up the implementation of the decisions and policies of the department and the faculty.
- Supervise the technicians and assistants in the department labs.
- Represent the department in the periodical meetings of the 'Board of Study' and results accreditation council 'Assessment Program Board'.

- Represent the department in the meetings of the Faculty Council.
- Participate in the Faculty specialized committees altogether.
- Give lectures for his/her subject(s).
- Follow-up of department teaching staff, monitor and evaluate department teaching and lecturer assistants.
- Supervise the theoretical, practical, and oral examinations of the department subjects.
- Supervise the distribution of master's and doctoral dissertations on the staff members of the department.
- Follow-up the implementation of the research and community plans in the department.
- Do other similar work tasks as assigned to him/her.

### **Programme Leader**

The programme leader plays a key role in maintaining the quality and standard of the educational process. The current programme leader has been nominated on the Fall semester of 2018, and has the following responsibilities:

- Ensure that the programme is delivered in accordance to the approved learning and teaching strategies.
- Prepare a programme handbook.
- Prepare the annual monitoring reports.
- Ensure that the assessment takes place in accordance with the approved assessment strategy and that the external examiners receive assessment information.
- Lead the process of re-validation whenever required and monitor the requirements of any external reference points.
- Lead the process of programme review, update and to report to the dean on the operation of the programme.
- Attend University and Faculty assessment boards and the board of study.

### **Link Tutor**

Link Tutor is responsible for ensuring the maintenance of the standards and delivery of the collaborative Programme, and for effective liaison with key administrators in each Institution. Both Greenwich University Link Tutor and MSA Link Tutor are allocated to the programme of study. They are responsible to Greenwich University for ensuring the maintenance of standards; delivery of the programme and

effective liaison between the Greenwich University and MSA. The responsibilities are as included in 'Guidance in the Quality Assurance Handbook of Greenwich University'.

### **Module Coordinator**

The module coordinator is responsible to the programme leader for:

- The organization and management of the module.
- The quality of the student experience.
- Current module contents, in collaboration with the teaching team.
- External examiners liaison.
- Advise the programme leader on programme resource issues.
- Library resource issues.
- Discuss the organization and content of the module with the teaching team.
- Engage in the moderation and evaluation of the module.

### **Faculty Teaching Staff**

The actual delivery and assessment of modules are important factors in determining the quality of the student experience and the standards of the University's degrees. Teaching staff have a key role in this aspect of the assurance of quality and standards for modules delivered. The teaching staff has the following responsibilities:

- Deliver and teach the module according to the module outline included in the Handbook.
- Supervise students' graduation projects.
- Ensure that the lectures and tutorials assigned in the schedule are delivered in the specified time all over the semester.
- Provide extra help to students whenever needed.
- Closely follow-up the performance of all students and providing support and advice whenever needed.
- Coordinate the delivery of the module to include innovative learning methods.
- Review the adequacy of the learning resources to support the module including teaching accommodation, laboratories and workshops, books, journals, software and equipment, and to advise the Programme Leader as appropriate.
- Inform the Programme Leader immediately of any issue that could have an impact on the student's learning experience.
- Take responsibility, at module level, for the implementation of the University policy on Student

## Participation.

- Coordinate the preparation, monitoring, scheduling, and distribution of students to assignments with accompanying assessment criteria, submission dates and return.
- Ensure the prompt return of module marks to students.
- Coordinate the preparation of examination papers for submission to the 'Control Unit' by the published deadline date, and their checking prior to being sent to the External Examiner.
- Attend the first 15 minutes of any examination component and indicate clearly where they may be contacted for the duration of the examination.
- Attend the meeting of the Board of Study to confirm the accuracy and completeness of the student performance data presented to the Board.

## Teaching Assistants

Teaching assistants have a key role in the teaching and learning process through their close relationship with the students as dictated by their work. They have the following responsibilities:

- Deliver and teach the practical module according to its outline stated in the Programme Handbook.
- Ensure that the practical sessions supply the students with the intended knowledge and skills.
- Inform the Programme Leader of any issue that may impact the students' learning experience.
- Provide additional support to the students whenever needed.
- Closely follow up the performance of the students.
- Ensure that the practical sessions are delivered in their specified time all over the semester.
- Help in the future planning to update the practical modules.
- Offer advice and guidance during the registration of modules.
- Offer academic, social and personal advice to the students.

**National Accreditation and Audit Unit:**

The role of the National Accreditation and Audit Unit is to:

- Follow up the academic activities including setting the academic reference standards, programme specifications, module specifications, programme report and module reports, in addition to ensuring that the learning outcomes accomplishes the Faculty vision which in turn achieves the University vision and strategic goals.
- Follow up on the performance evaluation and quality assurance of the different Faculty academic and administrative departments.
- Supervise the implementations of teaching and learning strategies accredited by the Faculty.

## Faculty-Departmental Office Staff Contact Details

### Senior staff

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## Programme Details

1. Awarding Institution	2. Teaching Institution	3. Faculty/Department
University of Greenwich and October University for Modern Sciences and Arts	October University for Modern Sciences and Arts	Faculty of Pharmacy <b>Departments</b> Analytical Chemistry (PHC) Biochemistry (PHB) Clinical Pharmacy (PHL) Microbiology and Immunology (PHM) Organic Chemistry (PHC) Pharmaceutics and Industrial Pharmacy (PHT) Pharmacognosy (PHG) Pharmaceutical Chemistry (PHC) Pharmacology and Toxicology (PHO)
<b>4. Programme vision, mission and aim</b>		
<p><b>Programme Vision:</b></p> <p>The Bachelor of Pharmacy (PharmD) Programme aspires to provide an outstanding quality of education and scientific research in the field of pharmacy to raise the efficiency of pharmacy practice, clinical services and pharmaceutical industries locally, regionally and internationally.</p> <p><b>Programme Mission:</b></p> <p>The Bachelor of Pharmacy (PharmD) Programme seeks to excel in the fields of pharmacy education, scientific research and public health services. The program also seeks to prepare and graduate an outstanding pharmacist qualified to work in the fields of health, academia and pharmaceutical industries to meet the requirements of the labor market.</p> <p><b>Programme Aim:</b></p> <p>The programme aims to provide the community with specialized pharmacists with a high level of scientific competence and ethical values. It also graduates qualified pharmacists who are capable to work in the fields of drug manufacturing, drug marketing, drug control, food analysis as well as in pharmacies. The programme applies modern teaching and learning strategies and emphasizes self-learning. It encourages the participation in multilateral research projects and cooperation with research and clinical centers in the local, regional and international levels. In addition, the programme presents new and emerging developments in the field of genomics applications, regenerative medicine, diagnostic and personalized treatment and stem cells. It urges the contribution to community service and treatment of environmental pollutants.</p>		
<b>5. Final award/Accreditation/External reference points</b>		
<p>The University Council (at the request of the Faculty of Pharmacy assessment board) grants the Bachelor of Pharmacy (PharmD) degree according to the credit hours system.</p> <p><b>Mode of Study: Full time</b></p> <p><b>Accredited by: Egyptian Supreme Council of Universities</b></p> <p><b>External reference points:</b></p> <ul style="list-style-type: none"> <li>• Egyptian Supreme Council of Universities (ESCU) regulations</li> </ul>		

- Committee for Pharmacy Education set up by the ESCU criteria
- National Academic Reference Standards (NARS) approved by National Authority for Quality Assurance and Accreditation of Education (NAQAAE)
- QAA subject benchmark statements
- MSA University council
- MSA Faculty of Pharmacy Quality Assurance and Audit Unit.

The Bachelor of Pharmacy (PharmD) is the first degree in the field of pharmacy required to obtain a license to practice the profession in all available pharmacy fields, and qualify the graduate to register for a master's degree in any of the scientific departments in the Faculty.

## 6. Entry Requirements

- MSA follows the regulations and requirements of the Egyptian Supreme Council of Universities and the Egyptian Admission Office for Students Recruitment, which are subject to changes on a yearly basis.
- Prospective students have to pass the MSA English placement test before enrolment.
- For transfer students (from either a different faculty or different University), an Equivalence Committee, consisting of the heads of departments and the dean is responsible for reviewing and comparing transferable module descriptions, and deciding which modules are to be considered equivalent to cohort modules delivered by the Faculty, the committee's report is then raised to the University president and the admission office.

## 7. Educational Programme outline

The duration of Pharmacy Programme is five years (five levels on ten semesters) according to the credit hours system and a year of excellence (Internship Year) (5 + 1), in addition to 100 hours summer training in different sites.

Credit hour is the unit of study measurement and is equivalent to a one theoretical contact hour weekly or a two hours- practical per week.

### **The programme is designed so that:**

1- The total number of credit hours is 180 credit hours, 174 credit hours are distributed upon teaching different modules starting with basic sciences, pharmaceutical and medical sciences then progressing to professional pharmaceutical, clinical and biomedical sciences in addition to 6 credit hours university requirements (English modules).

2- Elective modules (four modules) to be selected from a list determined by the faculty for level four and five students are designed to achieve competencies and skills that help them in the professional field and specialization. It is required that one of the elective modules to be in one of the clinical pharmacy fields.

3- The programme includes summer training for 100 hours of training in different sites beginning from the end of the third level (during summer holidays) and before starting the year of excellence.

4- Regarding the mandatory year of excellence (Internship year), it includes practical training at different work sites in addition to a graduation project in a specific specialty.

- The students will be trained in a rotational manner for an academic year in the sense of 9 months (36 weeks) in several fields. The students can choose the training fields, however, there are two compulsory training fields; clinical pharmacy and inpatient/outpatient hospital pharmacies/community pharmacies.

- The students also perform a graduation project in a particular specialization that enhances the development of their professional skills during the year of excellence.

5- The Internship Year is one of the requirements for obtaining the Bachelor of Pharmacy (PharmD) degree. The student is not granted a bachelor's degree and is not considered eligible to practice the profession except after successfully passing the internship year.

6- The programme allows the graduates to practice pharmacy in any pharmaceutical field, while allowing them to focus on their chosen field of interest, in which they wish to work in after graduation through the elective modules in the final stages of the programme, as well as, through training and graduation project.

7- The faculty can make amendments by deletion or addition in the modules' specification by not more than 20% of the academic content of each module in order to update the modules with the recent and relevant advances in the field.

- The curriculum content was designed to provide the graduate with the ability to apply scientific and evidence based decisions on the optimum and safe design, development, manufacturing and dispensing of medication. Moreover, the curriculum content provides the graduate with clinical skills to enable him/her to optimize the use of medication and dispense advice on the use of medication and good health promotion. In addition, the graduate is provided with thorough understanding of the applications of ethics and legislation of the different areas of pharmacy practice. The curriculum was also designed to prompt the development of analytical, interpretive and evaluative interpersonal skills.

- The programme structure was designed to start with the modules that provide basic knowledge and skills for junior students and progress into modules which provide more comprehensive knowledge and enhance the successful capability of the students to analyze and evaluate information and finally lead to modules which are heavily dependent on self-learning, the ability to formulate new proposals and the use of knowledge from a variety of sources. The same strategy is also applied to the assignments and the assessment methods were the skills and resources needed to effectively fulfil the assignment and assessment gradually increase in complexity and ensure the ability of the student to understand and formulate relationships between information from several sources or areas of science.

- The programme offers a healthy balance between the knowledge introduced to the students, whether theoretical or practical, and the enhancement of the personal skills. This is reflected in the distribution of contact hours between the theoretical and practical components of each module, as well as the encouragement of the students to organize and participate in a variety of pharmacy related activities such as symposiums, seminars, workshops and conferences which enhance both their practical abilities and personal and transferable skills. In addition, the programme offers a variety of elective modules by the majority of the departments to provide a wide variety of in depth and specialized knowledge to suit the different needs and interests of students.

- MSA is keen to provide its students with competitive programmes that aim to prepare them to compete effectively in the job market. The academic advisers and tutors co-operate closely with the Career Placement Centre which provides feedback on the skills required by the job market in a specific programme. This continuous effort ensures that programmes are up-to-date and relevant to the needs of both national and international employers. Moreover, the Career Placement Centre organizes periodical employment fairs that aim to provide students with exceptional work opportunities. The office also contacts new employers to increase the number and to improve the standard of the portfolio of companies recruiting MSA graduates.

## **8. Registration**

- Academic advisers are available for students to offer guidance during and after registration of modules. Generally; students from first level are divided into small groups of at most 25 students. Each group is led by an academic advisor. S/he is always there for his/her students to offer academic, social and personal advice. Academic advisors work is monitored by academic leaders. The whole system is established and followed up electronically.

- The Registration Period for each semester is announced on MSA Academic Calendar almost two months prior to the academic year. Students must adhere to this period as late registration after the commencement of the semester will affect their academic progression and will also be counted as absence. Registration must be completed online, no manual schedules are allowed.

- English, computer and math modules are automatically registered in the schedule and the student is not allowed to skip any of these modules.
- To register any module; the student must have successfully passed the pre-requisite for this module.
- The Faculty Council may permit in cases of extreme necessity the registration of a module in parallel with its pre-requisite (that the student have not successfully passed) if the academic load available to the student is less than 12 credit hours, provided that a declaration is written in the knowledge of the student's guardian that his/her success in this module will only be approved after passing the pre-requisite.
- There is no registration requirement for the first semester modules except for the English language ENG 101, which requires passing the English Language Placement Test which is performed by the university.

### 8.1. Academic Load

During the Registration Period students are offered academic advising via their academic advisors. They are also provided with a detailed schedule prior to the start of each academic semester. Students are eligible to register the full load of the semester (17-19 credits) as long as he/she is not under probation.

CGPA	Permitted registration load
Less than 1.18	9 – 11 credit hours
1.19 – 1.60	12 – 13 credit hours
1.61 – 1.99	14 – 15 credit hours
2 and above	17-19 credit hours

During the summer semester, students are allowed to register for a maximum of seven credit hours with modules which belong to different semesters. No modules can be registered with summer English modules as the English modules' load is spread over four days a week. If this is the student's last semester, he/she is exceptionally allowed to register for nine credit hours.

The Faculty Council may allow the student in the last two semesters to increase the academic load from the maximum limit but not exceeding three credit hours (The student can take this benefit only once after the approval of the Supreme Council of Higher Education). The Faculty Council may also allow the under probation students to increase the academic load during the summer semester by not more than 2 credit hours.

Year progression is based on students' achieved credits which can be mapped into level progression as follows:

Achieved credit hours	MSA Academic level	UoG Academic level
≥ 36 hrs	1	3
37-74	2	4
75-110	3	5
111-147	4	6
148-180	5	6

## Graduation

Students shall automatically receive the award of MSA University and qualify for upon completion of the requisite number of credits with a CGPA equivalent to C or above at the end of the semester during which the total was achieved.

### 8.2. Add, drop and incomplete modules

- After completion of the registration process, students may **add** to their approved hours one or more modules in any semester, provided that this is within the specified period according to the academic calendar announced for each semester, taking into consideration the minimum and maximum load of the semester.
- Students may also **drop** one or more modules in any semester without being considered a student in this module if they apply for **withdrawal** within the specified periods according to the academic calendar announced for each semester.

#### **Students should note the following:**

- As a University Policy, it is not allowed to withdraw from English courses. Withdrawal requests for English courses are subject to MSA Presidents approval.
- It is not advised to withdraw from lower-level courses for academic concerns.
- It is not allowed to withdraw from “Incomplete” courses.
- It is not allowed for probation students to withdraw from courses where they already scored “F”, “F1”, “F2”, or “F3” grade.

The Module/Course grade appears as W instead of F. Students should take into account that, although the University permits the withdrawal after scrutinizing students extenuating circumstances, this involves a possibility of affecting and delaying their academic progression.

- If a student fails to attend the final exam due to any emergency or extenuating circumstance, and the Dean and University President approve the nonattendance, then an **incomplete (I)** grade will be agreed. Module work and midterm grades are transferred to students who are given an (I) grade. Subsequently, the students will be allowed to sit for the final exam of this module at the next opportunity. Students must take the following into consideration:

1-Incomplete courses’ registration are counted in students’ registration load.

2- Incomplete courses are registered in subsequent semester, otherwise, the grade “I” will be changed to “F”.

3- Incomplete courses cannot be withdrawn from the Final Exam.

Subsequently, the student will be allowed to sit for the final exam of this module at the next opportunity where the incomplete module will be offered and registered as a regular module thus calculated as part of the student's academic load and will appear on his/her registration form. Students should take into account, that although, the University grants the Incomplete option after scrutinizing the students extenuating circumstances, this involves a possibility of affecting & delaying their academic progression.

### **8.3. Exemption of Midterm Exam**

Students who are not able to attend the midterm exam can be allowed to complete the module but will lose the midterm exam grade; unless the Dean and ultimately approval of University President consider the extenuating circumstances and approve the case, consequently the final exam will be marked out of the total marks allocated for both midterm and final exam. The student is requested to fill out the "Exemption of Midterm Exam Form" by maximum within two days of the exam.

Students should take into account, that although, the University grants the Exemption of Midterm exam after scrutinizing the students extenuating circumstances, this involves a possibility of affecting their academic progression.

### **8.4. Semester Deferral:**

Students can apply for a whole semester withdrawal (Deferral) due to extenuating circumstances which should be approved and signed by the Faculty Dean and University President.

## **9. Programme regulations**

### **9.1. Requirements for achieving PharmD degree**

To successfully complete the programme; students should:

1-Study and pass the number of 180 credit hours distributed over ten semesters and include 174 credit hours faculty requirements (The distribution of modules includes 166 hours compulsory modules and 8 hours elective modules distributed over the last four semesters) in addition to the university requirements and represents the number of 6 credit hours, provided that the GPA is not less than two.

2- Pass the university's requirements for graduation, provided that it is not included in the student's semester or cumulative GPA.

3- Pass a summer training period with a total number of 100 actual training hours in private and governmental pharmacies and hospital pharmacies approved by the Faculty Council, under the supervision of a faculty member. The training is carried out during summer vacations after the end of the third year.

Also the students should complete the year of excellence (Internship year) which is a complete academic year (9 months) including a graduation project in one of the specializations offered.

### **9.2. Attendance and deprivation policy**

- Students must attend at least 75% of their lectures, labs and tutorials otherwise, the student will be deprived of attending the final exam and her/his grade will automatically be denoted as "F (1)". The students are allowed to apply for 2 swaps for lectures in addition to 2 swaps for labs, so they can attend the swapped

lectures and labs in the appropriate time for them without being counted as absent. Late registering students are considered absent in their missed classes, and hold full responsibility of their late registration and are eligible to all deprivation rules. No students are exempted from deprivation. Rules apply to all registered students. Graduating students with approved conflicts from the registration admin must attend at least 50% in the conflict group only.

- Official accepted excuses by the Faculty are limited to:

- Medical excuse from the University's clinic, or from an external clinic after approval from the University's clinic or from a national hospital in severe cases after approval from the University's clinic within a week after recovery.
- Death of a close relative, limited to a father, mother, brother or sister, given that a death certificate is provided. The excuse is limited to one week after the death.
- National, international, regional events, activities and competitions, and when the MSA University is represented. Only the day(s) of the event or activity will be considered.

- The total excuses in the semester for any student will be accepted only for a maximum of 3 lectures or labs per subject. They will not be considered as attendance but will be deducted from percentage calculation. Excuses will be only accepted within one week after the incident directly. A final deprivation list will be announced on the faculty board before entering the final exam. No excuses will be accepted by any means after the announcement of the deprivation list.

### **9.3. Late Arrival Policy**

Late arrivals disrupt the class and interrupt other student's concentration. Students are only allowed into the class during the first fifteen minutes. Otherwise, they miss the class and are recorded as absent.

### **9.4. Attendance and absence of examinations**

Students must complete the final written examinations on the scheduled dates according to the academic calendar announced for each semester. Any student who is absent from the final written examination of any module will be considered as failing this module unless the student presents a compulsive excuse accepted by the Faculty Council.

### **9.5. Late Submission Policy**

Students are notified of the due date for assignment submission for all pieces of their work at the start of the semester. Resubmission on the same submission link is allowed during the due date. The submission link will remain active for three days after the due date as postdate, however, deduction of 10% of the mark for each day during the postdate is applied. The submission link will be automatically closed after the postdate.

### **9.6. Probation Policy**

Probation students are students who fail to achieve CGPA 2.0 (equivalent to C or  $\geq 60\%$ ). Students are informed during their first levels on probation that they should exert utmost effort on raising their CGPA to at least 2.0 ( $\geq 60\%$ ) to avoid being dismissed from the University and to be able to graduate. A student on

probation for four consecutive semesters or a total of ten inconsecutive semesters the student will be dismissed from the faculty and will not be allowed to reregister in the same faculty again.

Students under probation must;

1. Fill in the faculty probation form, prior to semester registration, at the faculty (On Probation committee), or fill it and send to the faculty email.
2. Attend a consultation session (in campus/online) with the On Probation committee and relevant academic advisor. It is compulsory that the parent/guardian signs the form and attend this session.
3. All forms are kept with the On Probation committee records.
4. Students under probation receive utmost follow up, advising and support from the faculty to support them towards overcoming their academic probation.

### **9.7. Setting Exams and assessments and marking and moderation arrangements**

- To ensure fairness and clarity of examinations, maintain the quality of the education process and conformity to the Universities regulations, all examination papers are sent to member of the examination review committee for internal approval.

- Exam papers of level 4 and 5 modules of the programme and elective modules are sent to the Link Tutor at the University of Greenwich; where the feedback that is received from the External Examiners on the exams is discussed with and applied by the staff members.

- Staff members correct the answer sheets with coded numbers in the midterm and final examinations so that the identity of the student remains completely anonymous thus insuring that the assessment is truly objective reflecting the students' true academic standard. Each answer sheet is marked by two examiners.

- A second marker in the field of specialization revises all answer sheets that are less than 30% and more than 90% in addition to 10% of the answer sheets whose grades fall between 30% and 90% according to the supplied model answer form from the module coordinator. This is carried out to ensure fair assessment and to establish that the first marking procedure was accurate. First and second marking of exam papers is done independently.

## **10. Language of study**

The programme is offered in English. However, some modules may be taught in Arabic on the recommendation of the relevant scientific department and approved by the Faculty and University Councils.

## **11. Teaching, learning and assessment**

### **11.1. Teaching and Learning strategies:**

The overall teaching and learning strategies used to deliver this programme aim at supporting independence and self-learning. This is achieved by active discussions during lectures, practical and tutorials, in addition to guided independent study where for each contact hour of lecture the students will need 2 hours of independent study while for each contact hour of tutorial or practical the students will need 1 hour of independent study. The teaching strategies also promote creative thinking as well as ingenious use of resources, this is realized through the use of assignments, pharmacy related activities and graduation research project. In addition to the promotion of teamwork and the spirit of collaboration; this is supported through the use of group activities, such as group assignments and research projects.

**The programme is delivered through the use of:**

### **11.1.1- Conventional Strategies**

- **Lectures** (including visual aids, audio and audio-visual materials):

Lectures are mainly delivered as presentations and are aimed at providing knowledge and guidance in learning. External visiting lecturers are encouraged to demonstrate the practical applications of the theoretical studies to students.

- **Group tutorials**

Group tutorials are linked to lecture topics and depend directly on taught and independently acquired information from primary and secondary information sources.

- **Laboratory Classes**

Laboratory Classes are aimed at the developing of practical skills associated with the subject matter.

### **11.1.2- Non-Conventional Strategies**

- **Computer based learning**

This strategy supports the educational process as it relies on applications of computers and communication networks thus creating an interactive learning environment. This strategy comprises:

- **E-learning:** Since summer 2016, the MSA-University has taken important steps to become the first private green university in Egypt, consequently, the Faculty of Pharmacy has updated the e-learning site to comprise all the theoretical and practical modules materials including modules' books, handouts, previous exams and their model answers, any important announcement and most importantly many links to books and websites for extra reading. Thus, the students can easily access all the required materials at any time. Students can directly send emails through the e-learning to any staff member, consequently, there is usually a prompt reply on the students' questions, queries or concerns.

- **Interactive teaching:** that provide an interactive environment between the student and the lecturer, such as: Crossword puzzle, Poll everywhere, Mentimeter, Slido, Online quizzes, Socrative, Kahoot, Pecha Kucha. These applications help to attract the students' attention and increase their engagement. These applications are used as a sort of continuous formative assessment in theoretical and practical sessions to ensure the extent of knowledge and understanding gained by the students.

- **Virtual Labs:** helps the student to learn different laboratory methods and trains them to practice these methods using computers.

- **Self-Learning**

Self-learning starts from the first year and depends on the students' own abilities in acquiring knowledge and skills from various educational sources. Self-learning helps in developing the students' personalities and aptitude to become self-learners, which qualifies them to progress in their field of specialization latter on. Self-learning is supported by one-to-one meetings for advice and feedback on assignments, supervision of final year graduation projects and personal tutoring in case of special needs.

- **Team Based Learning**

Students work together in small groups to solve problems or study real-life cases. This strategy helps in the development of positive relations between students while respecting the difference of opinion within

the team in order to reach the best results. Cooperative learning helps in increasing achievement rates and improving the students' thinking abilities. This strategy is clearly demonstrated in group assignments as well as the graduation projects where each project is a team work of four students supervised by a staff member and a teaching assistant. The graduation project fulfils a variety of the programme competencies as it assists students to demonstrate the ability to conduct scientific research with all its pillars.

- **Community Based Learning**

This strategy aims to link and coordinate between certain taught subjects and community participation through field research projects carried out by students. Community based learning helps in acquisition of experiences, values and competencies that would increase the students' ability to integrate with the community and thereby earning skills that qualify and make them eligible for the job market. This strategy encompasses both field training in different areas of specialization and site visits to several pharmaceutical manufacturing facilities or hospitals.

- **Problem Based Learning**

This strategy helps in developing regular lectures/tutorials and creating constructive interaction between lecturers by presenting the problem and the students presenting their ideas and suggestions for solving the problem. This strategy can be applied through case studies and role-playing by linking theoretical with practical aspects thus helping the students to acquire critical thinking and decision-making abilities which are essential for their future career.

- **Distance learning strategy: It is carried out in several ways, including:**

- Synchronous learning: in which lectures are held remotely according to the announced schedules to the students via live broadcast.
- Asynchronous learning: in which all lectures and practical lessons are recorded and placed on the e-learning page of each module respectively so that they are available to the student at any time other than lecture times.
- Hybrid or Blended learning: which is carried out by alternating between direct teaching and remote teaching.

### **11.1.3- Teaching and learning strategy during crises**

Hybrid learning and distance learning will be utilized to deliver the lectures, practical laboratories and tutorials content to the students and to facilitate their understanding through the following:

- Live conduction of lectures, laboratories and tutorials on Zoom platform as scheduled.
- Inclusion of students' discussions and interactions during the online lectures and tutorials.
- Demonstration of the practical experiments and Virtual labs to the students via recorded videos prepared by the assistant lecturers and teaching assistants under the supervision of the module coordinators.
- Implementation of interactive teaching using Socrative, kahoot, Real Time Quiz, Mentimeter and Quizzez applications.
- Offering online office hours and extra sessions by all departments to improve the students' understanding and tackling individual student's difficulties.

- Utilization of free downloadable programmes as for example but not restricted to “Chemsketch” in order to demonstrate and practice drawing and naming of chemical structures.

### 11.2. Assessment strategy

- Variable methods of formative and summative assessments are applied regularly to measure the attainment of the programme key elements.

- The assessment measures the outcome of students' learning in terms of knowledge acquired, understanding developed, and skills gained. The assessment strategies encompass diagnostic assessment (to provide an indicator of the student's aptitude and preparedness for a programme of study and identifies possible learning problems), summative assessment (to provide a measure of achievement or failure made in respect of the student's performance in relation to the intended learning outcomes of the programme of study) and formative assessment (to provide students with feedback on progress and informs development. But it does not contribute to the overall assessment).

**11.2.1. Summative assessments:** are those applied for the modules according to the module level and are detailed in the module specifications. The summative assessments are approved by the Egyptian Supreme Council of Universities.

Modules are assessed in various ways, utilising typically a combination of:

Written exams (Quizzes, midterm and final exams)

Tutorial exams

Practical Exams

Oral Exams

Turnitin Assignments

Research Projects

**11.2.2. Formative assessments:** are those used regularly in lectures and labs to measure the learning outcomes conquered by the students by the end of each lecture. Different methods are applied including quizzes, online activities and direct Q&A technique. Evaluations from formative assessments are not considered in the formal summative methods.

The programme grading follows the following criteria:

Marks in %	MSA GPA	MSA Letter Grade	Pharmacy Degree: National Univ. Grade	UK Honors Level
≥ 90 %	≥ 3.67	A	Excellent	1st Class
85 - < 90 %		A-		
80 - < 85 %	3.0 - 3.66	B+	Very Good	2.1 (2 <sup>nd</sup> upper Class)
75 - < 80 %		B		

70 - < 75 %	2.33 - 2.99	B-	Good	2.2 (2 <sup>nd</sup> lower Class)
65 - < 70 %		C+		
60 - < 65 %	2.0-2.32	C	Satisfactory	3rd Class
< 60 %	0	F	Failure	
<60% Deprived from final exam	0	F(1)		
< 60% Absent in the final exam	0	F(2)		
<60% Achieved <30% in final exam	0	F(3)		
Withdraw		W	Withdraw	
Incomplete		I*	Incomplete	

I\*: The student gets this symbol if the attendance rate is fulfilled and s/he is unable to enter the final and oral written examination (if any) for one or more academic modules in the same semester for extenuating circumstances accepted by the faculty council, and s/he must perform the final and oral written examination (if any) only in a later semester while maintaining the module work grades.

### 11.2.3. Grade appeals

Staff members correct the answer sheets with coded numbers in the final examinations so that the identity of the student remains completely anonymous thus insuring that the assessment is truly objective reflecting the students' true academic standard. Each answer sheet is marked by two examiners. Despite the accurate grading procedure, students are allowed to appeal against their final grade. Students need to fill a Grade Appeal template which is available in the "Student Zone" on the faculty website. The Faculty Registrar sends all grade appeals to the Grade Appeal Committee. The Grade Appeal Committee investigates the cases thoroughly in coordination with the MSA Central Control Office. Any cases requiring the alteration of students' grade are reported by the Grade Appeal Committee to the Faculty Registrar who notifies the student through emails and announced on the "Student Zone" after the approval of the faculty dean and the university president.

### 11.2.4. Assessment Calendar

#### Formative assessments:

#### Along the semester

#### Summative assessments:

- |    |                       |                |
|----|-----------------------|----------------|
| 1. | Mid-term written exam | Week 7-8       |
| 2. | Final written exam    | After week 14  |
| 3. | Oral exam             | After week 14  |
| 4. | Quizzes               | Weeks 4 and 12 |
| 5. | Practical/Tutorial    | Weeks 6 and 14 |
| 6. | Assignments           | Due variable   |

The period of final assessment includes a deadline for submitting all work to be assessed as well as concluding all the examinations. At the end of each period of assessment, the MSA University Assessment Board meets to approve the results of all modules and award qualifications.

#### **11.2.5. Assessment strategy during crises:**

##### **Quizzes:**

Both summative and formative assessments will be performed as follows:

Regular holding of online formative and summative quizzes through the Moodle to motivate the students and ensure their understanding to the delivered content.

The use of interactive formative assessment tools as “Quizzes.com”, Socrative or Kahoot in order to keep the students engaged and encourage them to actively participate during the sessions.

The Follow up of on-probation students by all modules coordinators through arrangement of regular formative on-line quizzes to ensure their engagement and understanding to the delivered materials.

##### **Assignments:**

Assignments submission will be through the e-learning on Turnitin to be graded according to well-defined rubrics that is announced to the students.

Replacement of site awareness campaigns by on-line campaigns through channels as Facebook.

Replacement of poster sessions by e-posters with discussions to be conducted online via Zoom platform.

##### **Midterm and final exams:**

Online exams will be performed through Google Classroom platform. The exams design for all modules will follow a unified criteria where all exams should have equal number of questions with equal distribution of time per question. There will be several versions for each module exam with no repeated questions. Shuffling of questions is mandatory in all exams.

##### **Oral Exams/presentations:**

Oral exam can be replaced by oral sheet and presentations can be held online via Zoom platform.

##### **Practical exams:**

Practical exam should be held on campus as soon as this is available, if not, the exam can be held as online exam keeping in consideration that questions should assess practical skills.

#### **11.2.6. GPA calculation**

##### ***Semester GPA***

$$= \frac{\sum(\text{number of credit hours of each module in the current semester load} * \text{corresponding GPA})}{\text{Semester total credits in the current semester load}}$$

The number of credits used to calculate the Cumulative GPA is the number of credits registered by the student up to this date.

Cumulative GPA for MSA degree is based on the total credits of all modules

##### ***Cummulative GPA***

$$= \frac{\sum(\text{number of credit hours of each module registered up to this date} * \text{corresponding GPA})}{\text{Total credits registered up to this date}}$$

Students cannot graduate with a cumulative GPA less than C which is 2.

## 12. Failure of modules

Student is considered to have failed:

- If students fail to attend 75% of all lectures, labs and tutorials (F1).
- In the case of absence of the student without an excuse accepted by the Faculty Council for the performance of the final written examination (F2).
- If the student receives less than 30% of the final written examination (F3).
- If the student has failed to achieve at least 60% of the total score of the module (F).
- If the student fails in any compulsory module in any semester, s/he must study the same module when it is offered again, but if s/he fails in an elective module, s/he can re-study or study another optional module to complete the graduation requirements, after the approval of the academic advisor and the approval of the Faculty Council.

## 13. Academic support (Personal and tutorial support)

MSA University offers a variety of methods for student support and the learning resources to provide a unique, friendly, supportive atmosphere for its students, to encourage interaction between students and aid in the learning process and the development of personal and intellectual skills. This is realized through a variety of services and facilities.

Faculty of pharmacy, MSA University considers one of its main goals is to provide a unique, friendly and pleasant atmosphere for the students. Staff members and students interact together constantly as members of one large family.

### 13.1. The Faculty Registrar and Student Affairs

The Faculty Registrar and Student Affairs offers advice, help and support to the students, this includes:

- Advice on solving problems and the procedures to be followed.
- Registration procedure.
- Advice on career placement and training opportunities.
- Disability support and guidance.
- Attendance excuses.
- Receive appeals and complaints.
- Counselling.
- Enrolment/Graduation Certificates.
- Providing advice on any issue that concerns students' welfare other than the above.

### 13.2. Academic Advisor

The academic advisors (personal tutors) are available for students to offer guidance during and after registration of modules. Generally; students from first level are divided into small groups of at most 25. Each group is led by an academic advisor. S/he is always there for his/her students to offer academic, social and personal advice.

**Students under academic probation** (failure to earn a minimum grade-point average of 2.0)

These personal tutors play an important role with the students under academic probation where the tutors together with the on probation committee set an individualized academic success plan that articulates module work, resources and strategies, in addition to regular meetings with the students, so that the students can be pursued to improve their academic standing. A database is created; to ensure that the students follow through with their academic success plan and utilize the available resources (e.g., extra office hours, English writing center....). The attendance percentage and module work marks are recorded where

each student is advised directly through the academic advisor before the final exams according to his/her status in each module. Formative quizzes for the students are arranged regularly to encourage them to study throughout the semester. Moreover, once they registered their modules, they are enrolled automatically into the Student Success Center (SSC) e-learning page that allows more interaction with them. Their feedback through on line questionnaire is always highly considered to improve the implemented tools. Students under probation are required to hold weekly meetings with their academic advisors until they clear probation. The students who get out of the probation are awarded certificate of honor in a delightful event.

**Students who are at risk;** once the student's cumulative GPA falls between 2-2.3, he/she is placed in an "at risk" zone, where the academic advisor counsels the student and assists him/her to establish a plan of study before falling under academic probation.

**High achievers' students;** the faculty continues to boost the number of high achiever students by organizing an event per semester, where the high achievers are recognized.

### **13.3. International Student Support**

- The MSA University has a policy to attract the international students through contacting the different embassies and addressing the various cultural offices in Egypt to introduce the excellent services which the university provides to the students.

- The Faculty of Pharmacy has set a committee to take care of international students. This Committee holds periodic meetings with the expatriate students to listen to their demands and problems and work to solve them, in addition to their meeting with the Dean every semester to consider any petitions submitted by them. The expatriate students are also allowed to attend the Board of Study meetings.

- The Faculty of Pharmacy coordinates with the Faculty of Languages at the University to provide specific academic hours to support the expatriate pharmacy students, especially Arabic-speaking students who have completed their pre-university studies in Arabic, such as Syrian students, through the "English Support Center".

### **13.4. Individual/Group Study**

Teaching assistants are available to offer extra help to students. They work with students either individually or in small groups according to their individual needs.

### **13.5. Information for students with Special Needs**

- As an educational institution and employer, MSA recognizes the equal rights of all students. Thus, within this context, MSA supports any student with any form of physical disability who would require special tutorial help in academic reading and writing. Students with physical disabilities are taken into consideration not only in respect to examination arrangements but also in attendance and in the marking process, provided that the student has reported it at an early stage. Disability that may require consideration and when necessary, MSA offers one to one deemed tutorial help.

- MSA is committed to a continuous programme of upgrading its buildings in order to improve accessibility for the disabled by incorporating provisions for wheelchair users. The campus includes ramps, lifts, and toilets for special needs persons.

### **13.6. English Language and Learning Support**

- MSA is an English Language medium instruction university. Students are required to sit for an English Language Placement Exam during admission. According to the exam result the student is placed in Intensive English modules that range from the upper intermediate (ENG 90), or Upper intermediate/Advanced (English 101).

- Students who need additional help and who have finished all the University language requirements are urged to contact the English Support Center in the Faculty of Languages to arrange for extra help or to attend the extra group sessions.

### **13.7. Orientation day**

For first year students, an orientation day is arranged to provide them with necessary information. Activities during that day include tour through the faculty campus, to inform the students about the different locations of the lecture halls, laboratories and staff rooms. In addition, the students are also introduced to the facilities provided by the University, such as cultural, sports, extra curricula, community services activities, University physician ... etc. Furthermore, the students are also introduced to the protocols and facilities provided by both the MSA University and faculty of pharmacy for academic advice and appeal processes.

### **13.8. Staff availability**

MSA University operates an open door policy, where students and staff can interact in numerous situations. Staff member contacts and locations are announced, to enhance the convenience of communication between students and staff. Moreover, staff members announce regular office hours to students each semester, where they are available in their office for questions and inquiries regarding the module material.

### **Project supervision and management**

Each group of students is assigned a staff member as a supervisor who undertakes following roles;

- Promotes discussion among the members of the group, orients the students to any required reading regarding the subject and offers advice on matters such as reading scientific papers, reports writing and presentations.
- Routine assessment of progress, suggestions for improvement or alternative approaches to problems encountered, commenting on the draft report in good time to incorporate changes and helping the student to meet dead line.
- Arranges regular weekly meetings with the group.

## **14. Discontinue of study**

- Students are considered to be discontinued of study if they do not enroll in a semester or withdraw from the class, either with or without excuse.

- Students may discontinue two consecutive semesters or four non-consecutive semesters on the condition that they obtain the approval of the Faculty Council. In the event of a discontinuation for a longer period of time without an excuse accepted and approved by the Faculty Council then the regulations set by the Universities' Organization Laws will be executed.

<b>15. Discipline system</b>
Students enrolled in the programme are subject to the disciplinary system set forth in the Law on the Organization of Egyptian Universities and its Executive Regulations.
<b>16. Departments Codes</b>
Appendix (1)
<b>17. Programme Curriculum and Modules Description</b>
Appendix (2) and (3)
<b>18. Modules Updates</b>
A percentage of up to 20% of the module content may be updated on the proposal of the Council of the relevant scientific department and approved by the Faculty Council after giving the necessary justification.

### Appendix (1)

#### Departments Codes

Departments	Codes	Supervise modules of
Analytical Chemistry	PHC	-----
Biochemistry	PHB	Research Methodology
Clinical Pharmacy	PHL	Entrepreneurship
Microbiology and Immunology	PHM	-----
Organic Chemistry	PHC	Mathematics
Pharmaceutics and Industrial Pharmacy	PHT	-----
Pharmacognosy	PHG	Information Technology
Pharmaceutical Chemistry	PHC	-----
Pharmacology and Toxicology	PHO	Psychology / Professional Ethics and safety

## Appendix (2): Programme Curriculum

### Compulsory modules

#### Level one: 1<sup>st</sup> Semester

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Marks
CSP101n	Information Technology	None	2(1+1)	15	25	-	20	40	100
ENG 101n	English for Academic Purposes and Medical Terminology	ELAT exam	2(1+1)	15	25	-	20	40	100
PHC 121	Pharmaceutical Analytical Chemistry (1)	None	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHC 111	Pharmaceutical Organic Chemistry (1)	None	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHG 111	Medicinal Plants	None	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHT 111	Pharmacy Orientation	None	1	10 (Quiz)	-	-	15	25	50
MTH 102	Mathematics	None	1	10 (Quiz)	-	-	15	25	50
PHO 111	Anatomy and Histology	None	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
<b>Total</b>			<b>18</b>						

**Level one: 2<sup>nd</sup> Semester**

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Mark
ENG 102n	English Language for Study Skills	ENG 101 n	2(1+1)	15	25	-	20	40	100
PHT 121	Physical Pharmacy	None	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHC 112	Pharmaceutical Organic Chemistry (2)	Pharmaceutical Organic Chemistry (1)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHG 112	Pharmacognosy	Medicinal Plants	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHC 122	Pharmaceutical Analytical Chemistry (2)	Pharmaceutical Analytical Chemistry (1)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
BS 102	Psychology	None	1	10 (Quiz)	-	-	15	25	50
PHB 111	Fundamentals of Cell Biology	None	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
<b>Total</b>			<b>17</b>						

**Level two: 3<sup>rd</sup> Semester**

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Mark
ENG 201n	English for Scientific Writing	English 102 n	2(1+1)	15	25	-	20	40	100
PHC 223	Pharmaceutical Analytical Chemistry (3)	Pharmaceutical Analytical Chemistry (2)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHM 211	General Microbiology and Microbial Genetics	None	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHC 213	Pharmaceutical Organic Chemistry (3)	Pharmaceutical Organic Chemistry (2)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	15	25	50	150
PHT 231	Pharmaceutical Dosage Forms (1)	Physical Pharmacy	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHO 221	Physiology and Pathophysiology	Anatomy and Histology	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHB 221	Fundamentals of Molecular Genetics	Fundamentals of Cell Biology	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
<b>Total</b>			<b>19</b>						

**Level two: 4<sup>th</sup> Semester**

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Mark
PHG 221	Chemistry of Natural Products (1)	Pharmacognosy	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHT 232	Pharmaceutical Dosage Forms (2)	Pharmaceutical Dosage Forms (1)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHO 231	Pathology and Introduction to Pharmacology	Anatomy and Histology Physiology and Pathophysiology	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHM 221	Immunology and Vaccinology	General Microbiology and Microbial Genetics	2(2+0)	25 (10 Quiz, 15 Assignment)	-	-	25	50	100
PHB 231	Biochemistry (1)	Pharmaceutical Organic Chemistry (3) Physiology and Pathophysiology	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHT 241	Pharmaceutical Legislations and Regulatory Affairs	None	1	10 (Quiz)	-	-	15	25	50
RS 201	Professional Ethics and Safety	None	1	10 (Quiz)	-	-	15	25	50
<b>Total</b>			<b>16</b>						

**Level three: 5<sup>th</sup> Semester**

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Mark
PHG 322	Chemistry of Natural Products (2)	Chemistry of Natural Products (1)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHB 332	Biochemistry (2)	Biochemistry (1)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHC 321	Instrumental Analysis	Pharmaceutical Analytical Chemistry (3)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	15	25	50	150
PHM 331	Medical Microbiology (1) Bacteriology and Mycology	Immunology and Vaccinology	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHO 332	Pharmacology (1)	Pathology and Introduction to Pharmacology	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHO 341	Biostatistics	Mathematics	1	10 (Quiz)	-	-	15	25	50
PHT 333	Pharmaceutical Dosage Forms (3)	Pharmaceutical Dosage Forms (2)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	15	25	50	150
<b>Total</b>			<b>19</b>						

**Level three: 6<sup>th</sup> Semester**

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Mark
PHG 331	Phytotherapy and Aromatherapy	Chemistry of Natural Products (2)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHT 334	Pharmaceutical Dosage Forms (4)	Pharmaceutical Dosage Forms (3)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHM 332	Medical Microbiology (2) Virology and Parasitology	Immunology and Vaccinology	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHC 331	Medicinal Chemistry (1)	Pharmaceutical Organic Chemistry (3)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHO 333	Pharmacology (2)	Pharmacology (1)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHB 322	Cell and Pharmacogene Therapy	Fundamentals of Molecular Genetics	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
<b>Total</b>			<b>17</b>						

**Level four: 7<sup>th</sup> Semester**

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Mark
PHB 433	Clinical Biochemistry	Biochemistry (2)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	15	25	50	150
PHM 441	Pharmaceutical Microbiology	General Microbiology and Microbial Genetics	3(2+1)	20 (5 Quiz, 15 Assignment)	40	15	25	50	150
PHO 434	Pharmacology (3)	Pharmacology (2)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHC 432	Medicinal Chemistry (2)	Medicinal Chemistry (1)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHT 451	Biopharmaceutics and Pharmacokinetics	Pharmaceutical Dosage Forms (4)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHM 451	Bioinformatics	Fundamentals of Molecular Genetics	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
	Elective (1)	Module Prerequisite	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
<b>Total</b>			<b>19</b>						

**Level four: 8<sup>th</sup> Semester**

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/tutorial	Oral exam	Midterm exam	Final exam	Total Mark
PHO 441	First Aid and Toxicology	Pharmacology (3)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	15	25	50	150
PHL 411	Clinical Pharmacy	Biopharmaceutics and Pharmacokinetics/ Pharmacology (3)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHT 461	Pharmaceutical Technology (1)	Pharmaceutical Dosage Forms (4)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHM 452	Pharmaceutical Biotechnology	Bioinformatics	2(2+0)	25 (10 Quiz, 15 Assignment)	-	-	25	50	100
	Elective (2)	Module Prerequisite	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHL 421	Community Pharmacy Practice	Pharmacology (3)/ Pharmaceutical Dosage Forms (4)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	15	25	50	150
MS 403	Entrepreneurship	None	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
RS 403	Research Methodology	Professional Ethics and Safety	1	10	-	-	15	25	50
<b>Total</b>			<b>19</b>						

**Level five: 9<sup>th</sup> Semester**

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Mark
PHL 531	Therapeutics (1) and Drug information	Clinical Pharmacy	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHL 541	Marketing and Pharmacoeconomics	Community Pharmacy Practice	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHC 531	Drug Design	Medicinal Chemistry (2)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	15	25	50	150
	Elective (3)	Module Prerequisite	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHT 562	Pharmaceutical Technology (2)	Pharmaceutical Technology (1)	2(2+0)	25 (10 Quiz, 15 Assignment)	-	-	25	50	100
PHL 551	Clinical Pharmacokinetics	Biopharmaceutics and Pharmacokinetics	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHM 561	Public Health	Medical Microbiology (1) and (2)	2(2+0)	25 (10 Quiz, 15 Assignment)	-	-	25	50	100
<b>Total</b>			<b>18</b>						

**Level five: 10<sup>th</sup> Semester**

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Mark
PHT 571	Advanced Drug Delivery Systems	Pharmaceutical Dosage Forms (4)	2(1+1)	15 (5Quiz, 10 Assignment)	25	10	15	35	100
PHL 532	Therapeutics (2)	Therapeutics (1) and Drug Information	2(1+1)	15 (5Quiz, 10 Assignment)	25	-	20	40	100
PHO 535	Applied Pharmacology and Drug Interaction	Pharmacology (3)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHL 561	Pharmacovigilance and Pharmacoepidemiology	Pharmacology (3)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
PHC 521	Quality Control of Pharmaceuticals	Instrumental Analysis/ Pharmaceutical Microbiology/ Chemistry of Natural Products (2)	3(2+1)	20 (5 Quiz, 15 Assignment)	40	-	30	60	150
	Elective (4)	Module Prerequisite	2 (1+1)	15 (5Quiz, 10 Assignment)	25	-	20	40	100
PHT 563	Good Manufacturing Practice	Pharmaceutical Technology (2)	1	10 (Quiz)	-	-	15	25	50
PHL 522	Hospital Pharmacy	Pharmacology (3)/ Pharmaceutical Dosage Forms (4)	2(1+1)	15 (5Quiz, 10 Assignment)	25	-	20	40	100
<b>Total</b>			<b>18</b>						

## Optional Modules

Module Code	Module Title	Prerequisite	Credit	Assessment					
				Periodicals	Practical/ tutorial	Oral exam	Midterm exam	Final exam	Total Mark
PHB 401	Clinical Nutrition	Clinical Biochemistry	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHB 402	Proteomics	Clinical Biochemistry	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHB 403	Bioanalysis	Biochemistry (2)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHB 501	Transcriptomics	Clinical Biochemistry	2 (1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHC 401	Environmental Analysis and Remediation	Pharmaceutical Analytical Chemistry (3)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHC 402	Food and Cosmetics Analysis	Instrumental Analysis	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHC 501	Forensic Chemistry	Instrumental Analysis/ First Aid and Toxicology / Chemistry of Natural Products (2)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100

PHC 403	Radiopharmaceutical Chemistry	Medicinal Chemistry (2)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHC 404	Advanced Organic Chemistry	Pharmaceutical Organic Chemistry (3)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHM 401	Diagnostic Microbiology	Pharmaceutical Microbiology	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHO 401	Drugs and Sports	Pharmacology(3)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHO 402	Drug Abuse	Pharmacology(3)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHO 403	Stem Cells and Regenerative Medicine	Cell and Pharmacogene Therapy	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHL 401	Pharmacogenomics	Fundamentals Of Molecular Genetics	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHG 401	Computational Phytochemistry	Chemistry of Natural Products (2)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHG 402	Marine Natural Products	Chemistry of Natural Products (2)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHT 401	Cosmetics	Pharmaceutical Dosage Forms (4)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHT 402	Registration of Generic Products	Pharmaceutical Dosage Forms (4)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100

PHT 403	Computer-Aided Process Design	Pharmaceutical Dosage Forms (4)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100
PHT 404	Veterinary Pharmacy	Pharmaceutical Dosage Forms (4)	2(1+1)	15 (5 Quiz, 10 Assignment)	25	-	20	40	100

Elective modules are offered to Junior and Senior students who have finished the corresponding prerequisite of each elective. The Faculty Assessment Board determines the elective modules offered each semester and the academic advisers offer help to students concerning choosing the elective. New modules might be added and others might be modified to cope with the vast rapid development in the different Pharmaceutical fields.

## Appendix (3): Modules Outline

### Level one:

#### Information Technology

**Code:** CSP 101n

**Pre-requisites:** None

**Supervision Department:** Pharmacognosy

**Credit hours:** 2

**Contact hours:** 3

This course tends to provide students of all university's faculties with a brief introduction to the world of computers and the concept of information technology including: number systems and data representation, computer system components: hardware and software, storage and input/output systems, Operating systems and Utility Systems, software applications. Also it gives an overview about computer networks and internet: data communication, transmission modes, transmission media, computer networks, internet protocol, and internet services. It practices some computer applications in the laboratory such as Internet Access, word processing and power point. It gives students a practical experience on developing projects related to the specialty of each faculty.

#### English for Academic Purposes and Medical Terminology

**Code:** ENG 101n

**Pre-requisites:** ELAT exam

**Credit hours:** 2

**Contact hours:** 3

The main aim of this module is to develop the skills required for academic writing. This includes writing short academic essays and academic summaries of articles. Students will be able to transfer these skills to all other subjects they are studying to produce effective academic essays. It also includes a part of basics of medical terminology

#### Pharmaceutical Analytical Chemistry (1)

**Code:** PHC 121

**Pre-requisites:** None

**Department:** Analytical Chemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims at enabling the students to understand the chemical equilibrium, balancing chemical equations and types of chemical bonding. Also, the course will allow the students to understand the molecularity and the different states of matter and elucidate the importance of pka, common ion effect and complex formation. Also, the course acquaints the students with the appropriate setting regarding the analysis of anions and cations and separation of their mixtures.

#### Pharmaceutical Organic Chemistry (1)

**Code:** PHC 111

**Pre-requisites:** None

**Department:** Organic Chemistry

**Credit hours:** 3

**Contact hours:** 4

The objective of this module is to provide students with the integrated knowledge in pharmaceutical organic chemistry, which will serve as fundamental for other modules offered during subsequent semesters. This module involves: Electronic structure of atom, alkanes, cycloalkanes, alkenes, alkynes

and basics of stereochemistry (Optical isomers, racemic modification, configurational isomers and conformational isomers).

The practical sessions of this module help students gain skills required to identify physical and chemical properties of organic compounds such as aliphatic and aromatic aldehydes, ketones, alcohols and hydrocarbons.

### **Medicinal Plants**

**Code:** PHG 111

**Pre-requisites:** None

**Department:** Pharmacognosy

**Credit hours:** 3

**Contact hours:** 4

The aim of the module is to provide students with knowledge necessary to identify and prepare a crude drug from the farm to the firm. In addition to, the basics of plant cytology and physiology. Student will learn about the major constituents, folk uses, clinically proven uses, benefits, side effects and precautions of those medicinal plants, possible herbal-drug interactions of selected examples of these drugs and to have an overview over their phytopharmaceuticals available on the market specially the Egyptian market.

### **Pharmacy Orientation**

**Code:** PHT 111

**Pre-requisites:** None

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 1

**Contact hours:** 1

This is a module to acquaint the beginning pharmacy student with the multiple aspects of the profession of pharmacy, including the mission of pharmacy, role of pharmacist in society and pharmacy careers, classification of medications, interpretation of prescriptions and medication orders, general dispensing procedure and factors affecting drug dosage, sources of drugs, different dosage forms and various routes of administration. In addition to the history of pharmacy practice in various civilizations.

### **Mathematics**

**Code:** MTH 102

**Pre-requisites:** None

**Supervision Department:** Organic Chemistry

**Credit hours:** 1

**Contact hours:** 1

The aim of this module is to enable pharmacy students to recognize the basic knowledge of Mathematics which helps them in solving pharmaceutical problems.

### **Anatomy and Histology**

**Code:** PHO111

**Pre-requisites:** None

**Department:** Pharmacology and Toxicology

**Credit hours:** 3

**Contact hours:** 4

This module aims to provide comprehensive knowledge about the basic structure of the human body and its clinical significance. It deals with human morphology in a systematic approach that starts with the cellular level of organization followed by tissue, organ and system levels. It also aims to teach the students the basic histological structures of different cells and tissues of human body; preparing them

for studying organs and systems, the correlation between function and structure of various tissues.

### **English Language for Study Skills**

**Code:** ENG 102 n

**Pre-requisites:** ENG 101 n

**Credit hours:** 2

**Contact hours:** 3

The main aim of this Module is to develop the skills necessary to support academic reading and writing to enable students to engage in their chosen degree programme. This Module builds on skills that learners acquire in the English Module “English for Academic Purposes and Medical Terminology” ENG101n.

### **Physical Pharmacy**

**Code:** PHT 121

**Pre-requisites:** None

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 3

**Contact hours:** 4

This module aims to provide students with knowledge of physicochemical principles essential for the design and formulation of pharmaceutical products. Students are introduced to the fundamental concepts of states of matter, Phase equilibrium, and colligative properties. The students adopt principles of pharmaceutical calculations related to surface phenomena, solution and their rheological properties, buffers and isotonic solutions in different dosage form.

### **Pharmaceutical Organic Chemistry (2)**

**Code:** PHC 112

**Pre-requisites:** Pharmaceutical Organic Chemistry (1)

**Department:** Organic Chemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims to acquire integrated knowledge and skills to understand the concept of aromaticity of aromatic compounds and electrophilic aromatic substitution. Moreover, the student will be able to apply and synthesize different aliphatic and benzenoid organic compounds. This module will serve as fundamental for other modules offered during subsequent semesters. The practical sessions of this module help students gain skills required to identify and synthesize aliphatic and aromatic organic compounds.

### **Pharmacognosy**

**Code:** PHG 112

**Pre-requisites:** Medicinal Plants

**Department:** Pharmacognosy

**Credit hours:** 3

**Contact hours:** 4

This module aims at enabling the students to understand the importance of crude drugs as drug leads. Within this module the students will be familiar with some examples from seeds, fruits, herbs, subterranean organs, unorganized drugs in addition to drugs of animal origin that are used in pharmaceutical preparation for their medicinal importance

## **Pharmaceutical Analytical Chemistry (2)**

**Code:** PHC 122

**Pre-requisites:** Pharmaceutical Analytical Chemistry (1)

**Department:** Analytical Chemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims at introducing the students to the fundamental principles underlying the quantitative analytical chemistry and stoichiometric determinations. Students will be able to comprehend the basic titrimetric methods of chemical analysis covering the major types of reactions; acid-base, metal/ligand complexation, and finally precipitation. In addition, students will recognize the different titration processes and their quantitative applications in pharmaceutical laboratories. This Module will also prepare the students to the advanced analytical techniques.

## **Psychology**

**Code:** BS 102

**Pre-requisites:** None

**Supervision Department:** Pharmacology and Toxicology

**Credit hours:** 1

**Contact hours:** 1

This module ensures that students gained the basic knowledge and skills relevant to basic psychological science involving attention, learning and memory functions and it allows the student to demonstrate and explain general psychological and cognitive abilities and coping styles with stress with different defense mechanisms.

## **Fundamentals of Cell Biology**

**Code:** PHB 111

**Pre-requisites:** None

**Department:** Biochemistry

**Credit hours:** 2

**Contact hours:** 3

This module targets enhancement of students' understanding for the molecular structure of eukaryotic cells starting from the cell membrane composition, the cytoskeletal structure and function, as well as the structure and function of the different cellular organelles. It also introduces the students to the important cellular processes such as; transport through biological membranes, cell communication, cell cycle regulation, the action potential, signal transduction, and apoptosis. Finally, it allows students to strengthen their knowledge in the molecular signaling events that happen inside the cell enabling to proceed further in Biotechnology, Molecular Biology, and Molecular Medicine.

## **Level two:**

### **English for Scientific Writing**

**Code:** ENG 201n

**Pre-requisites:** ENG 102n

**Credit hours:** 2

**Contact hours:** 3

This module builds on ENG102 and develops student knowledge of planning and writing with different purposes to an academic readership. The unit also considers ways to compare and contrast texts and to address different perspectives of a given topic as well as the process of research writing.

### **Pharmaceutical Analytical Chemistry (3)**

**Code:** PHC 223

**Pre-requisites:** Pharmaceutical Analytical Chemistry (2)

**Department:** Analytical Chemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims at enabling the students to understand the underlying principles of redox titration as well as its applications. The module will also cover different electrochemical methods for drug analysis, including potentiometry, conductometry and polarography. Within this module the students will be acquainted with applied pharmaceutical analysis of water sample to ensure its quality.

### **General Microbiology and Microbial Genetics**

**Code:** PHM 211

**Pre-requisites:** None

**Department:** Microbiology and Immunology

**Credit hours:** 2

**Contact hours:** 3

The module provides students with a combination of laboratory and theoretical experience exploring the general aspects of microbiology. It includes knowledge of microorganisms, their morphology, diversity, cell structure and function, cultural characteristics, growth, and metabolism. The module also covers the principles of microbial genetics and mutations.

### **Pharmaceutical Organic Chemistry (3)**

**Code:** PHC 213

**Pre-requisites:** Pharmaceutical Organic Chemistry (2)

**Department:** Organic Chemistry

**Credit hours:** 3

**Contact hours:** 4

The aim of the module is to give the students integrated comprehended knowledge and clear understanding about synthesis and mechanism (2D and 3D) of aliphatic and aromatic carbonyl derivatives, sulphonic acids as well as heterocyclic compounds. Moreover, to elucidate the structure of different organic compounds, spectroscopy is delivered during this module. One of the objectives of this module is acquiring students a clear understanding of amino acids & peptides to help them with the incoming biochemistry modules.

### **Pharmaceutical Dosage Forms (1)**

**Code:** PHT 231

**Pre-requisites:** Physical Pharmacy

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 3

**Contact hours:** 4

This module aims at enabling the students to understand the underlying principles of different pharmaceutical liquid dosage forms including solution, colloidal dispersion, suspension and emulsion. The module also introduces the students to the system of weights, measures, mathematical expertise and pharmaceutical calculations requisite to the compounding, dispensing, and utilization of drugs in pharmacy practice. Within this module the students will be acquainted with formulations aspects, packaging, storage and stability of the liquid dosage forms and pharmaceutical rationale fundamental to their design and development. The incompatibilities occurring during dispensing are also considered.

### **Physiology and Pathophysiology**

**Code:** PHO 221

**Pre-requisites:** Anatomy and Histology

**Department:** Pharmacology and Toxicology

**Credit hours:** 3

**Contact hours:** 4

This module aims at explaining the basic functions of the different organs of the human body and their correlations to each other's. It also demonstrates the pathophysiological changes that occurs as a result of cellular injury and recognize the relation between the cellular and the system changes which occur in some disease processes with their clinical manifestation

### **Fundamentals of Molecular Genetics**

**Code:** PHB 221

**Pre-requisites:** Fundamentals of Cell Biology

**Department:** Biochemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims at offering the basic and fundamental concepts of molecular biology, genetics and the laboratory methods used within these fields. It serves as a broad introduction to the structure and function of nucleic acids, basic processes that regulate expression of genetic information, biological processes that direct inheritance of genetic information, and the outcome of those processes. It also deals with studying nucleic acids replication, damage, repair, and control of gene expression. By the end of this module, students will be able acquainted with the different molecular tools in the discovery, early detection, treatment, and understanding the molecular basis of human diseases.

### **Chemistry of Natural Products (1)**

**Code:** PHG 221

**Pre-requisites:** Pharmacognosy

**Department:** Pharmacognosy

**Credit hours:** 3

**Contact hours:** 4

This module aims at the study of the chemistry of different classes of bioactive raw material and phytochemical classes based on complementary medicine and Egyptian medicinal plants. This module enable the students to understand, describe and deals with the chemistry of carbohydrates, different types of glycosides, miscellaneous terpenoids, bitters, tannins and antioxidants of plant origin, and their structures, methods of isolation, identification, and determination, in addition to the study of the pharmacological actions and therapeutic uses of these natural constituents and how to serve the pharmaceuticals, cosmetics and food industries in Egypt together with their biosynthetic pathway. Also, the students should become aware of the different chromatographic methods used for isolation and analysis of different plant constituents and their pharmacological actions and medicinal uses.

### **Pharmaceutical Dosage Forms (2)**

**Code:** PHT 232

**Pre-requisites:** Pharmaceutical Dosage Forms (1)

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 3

**Contact hours:** 4

This Module enables students to understand the principles of semi-solid dosage (SSD) (topical and transdermal). The module covers the structure and function of skin, targets for skin applications, basic principles of diffusion through membranes and factors affecting percutaneous absorption. The module

acquires student's good experience in design, formulation, manufacture and evaluation of topical (creams, ointments, gels and pastes or transdermal dosage forms including techniques (physical and chemical) for enhancing skin penetration. The module also covers the importance of kinetics of drug decomposition including rate and order of reaction, determination of the half-life, expiry date and shelf-life and stability testing.

### **Pathology and Introduction to Pharmacology**

**Code:** PHO 231

**Pre-requisites:** Physiology and Pathophysiology

**Department:** Pharmacology and Toxicology

**Credit hours:** 3

**Contact hours:** 4

#### **Course Aim:**

This Module aims to introduce the concept of the pathological changes which occur with common human disease. It will illustrate the gross and the microscopic changes that occur and how they affect the function of the body. In addition, this Module aims to study the action of drugs on the biological systems and the effect of the latter on the action of drugs. The Module focuses on the interactions that occur between a macro and micro structures of the body and chemicals that affect normal or abnormal biochemical functions.

### **Immunology and Vaccinology**

**Code:** PHM 221

**Pre-requisites:** General Microbiology and Microbial Genetics

**Department:** Microbiology and Immunology

**Credit hours:** 2

**Contact hours:** 2

This module aims at providing the students with basic knowledge of the human immune system and the underlying molecular and cellular mechanisms of immune functions in health and disease conditions such as infectious diseases and tumors, in addition to their consequences for immunization and immunological memory. The module discusses the basis of vaccinology, the science field aiming for the prevention and/or treatment of pathologies of infectious or noninfectious (allergy, cancer, others) origin.

### **Biochemistry (1)**

**Code:** PHB 231

**Pre-requisites:** Pharmaceutical Organic Chemistry (3) / Physiology and Pathophysiology

**Department:** Biochemistry

**Credit hours:** 3

**Contact hours:** 4

The aim of this module is to build the basic knowledge about the different food classes inside the body, its different forms and how it can be transported within the body and across the cell membrane. The module also targets the understanding of enzymes, hemoglobin and biological oxidations and its associated clinical correlations.

### **Professional Ethics and Safety**

**Code:** RS 201

**Pre-requisites:** None

**Supervision Department:** Pharmacology and Toxicology

**Credit hours:** 1

**Contact hours:** 1

This course aims to increase the awareness of the students to the importance of both research ethical and biosafety aspects as a rapidly growing field. It helps them to understand, identify and solve research problems in critical, creative and ethical manner. It prepares students to embark on related present and future studies of interest which would provide better opportunities and advancement in the relevant areas.

### **Pharmaceutical Legislations and Regulatory Affairs**

**Code:** PHT 241

**Pre-requisites:** None

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 1

**Contact hours:** 1

This module aims at describing the relationship between pharmacists and patients, health professionals and society. It discusses the syndicate of pharmacy mission, vision and aims. It also discusses the syndicate of pharmacy and The Egyptian Drug Authority (EDA) with its departments, procedures for Registration, pricing and licensing with documents needed for these issues.

### **Level three:**

#### **Chemistry of Natural Products (2)**

**Code:** PHG 322

**Pre-requisites:** Chemistry of Natural Products (1)

**Department:** Pharmacognosy

**Credit hours:** 3

**Contact hours:** 4

In continuation with chemistry of natural products (1), this module aims to enable students to demonstrate the knowledge and experience that enables her/ him to understand, describe and deal with the chemistry of alkaloids and volatile oils from plant, and animal origin as well as techniques for their isolation, identification and determination in their respective sources. With the target of understanding the structure activity relationships (SAR) of these natural products derived compounds and their pharmacophoric features.

#### **Biochemistry (2)**

**Code:** PHB 332

**Pre-requisites:** Biochemistry (1)

**Department:** Biochemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims to enable students to understand the metabolic processes of the biomolecules (carbohydrates, lipids and proteins) occurring in the human body, to introduce the students to the processes of energy production in the body, bio signaling and hormonal regulation of different metabolic pathways and integration of metabolism. It also aims to let the students learn about the inborn errors of metabolism, free radicals and antioxidants and food biochemistry. The module also aims to provide the basic knowledge about the chemical constituents of biological fluids in health and disease and to increase awareness of the biochemical methodology as diagnostic tools and to be able to interpret the

results for appropriate diagnosis.

### **Instrumental Analysis**

**Code:** PHC 321  
Chemistry (3)

**Pre-requisites:** Pharmaceutical Analytical

**Department:** Analytical Chemistry

**Credit hours:** 3

**Contact hours:** 4

The module will allow the students to elucidate the importance of the advanced instrumental methods for chemical analysis in order that he/she understands that these tools are crucial for the investigation of any pharmaceutical product from the qualitative and quantitative aspects. Also, the module acquaints the students with the appropriate setting regarding basic components of instrumentation and applications of each method.

### **Medical Microbiology (1)**

**Code:** PHM 331

**Pre-requisites:** Immunology and Vaccinology

**Department:** Microbiology and Immunology

**Credit hours:** 3

**Contact hours:** 4

This module aims at illustrating the microbiological aspects of infectious diseases, their etiology and clinical manifestation, routes of transmission, treatment and techniques in detection and identification of pathogenic microorganisms.

### **Pharmacology (1)**

**Code:** PHO 332

**Pre-requisites:** Pathology and Introduction to Pharmacology

**Department:** Pharmacology and Toxicology

**Credit hours:** 3

**Contact hours:** 4

This Module aims to study the action of drugs on biological systems and the effect of the latter on the action of drugs. The Module focuses on the interactions that occur between a living organism and chemicals that affect normal or abnormal biochemical functions. The students will encompass basic drug composition and properties, synthesis and drug design, molecular and cellular mechanisms, organ-systems mechanisms, signal transduction-cellular communication, as well as toxicology, therapy, and medical applications.

### **Biostatistics**

**Code:** PHO 341

**Pre-requisites:** Mathematics

**Department:** Pharmacology and Toxicology

**Credit hours:** 1

**Contact hours:** 1

This module aims at providing the biostatistics knowledge regarding commonly used figures and/or numbers used in biological studies in medical field in general. It enables the students to understand the different methods of determining sample size, mean, standard deviation, standard errors, analysis of variance and software frequently used.

### **Pharmaceutical Dosage Forms (3)**

**Code:** PHT 333

**Pre-requisites:** Pharmaceutical Dosage Forms (2)

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 3

**Contact hours:** 4

This module aims to develop deep understanding of the design, formulation and evaluation of different solid dosage forms (Powder, granules, tablets, capsules and suppository). Additionally; module provides the student with knowledge on various techniques used to employ different modified solid dosage forms.

### **Phytotherapy and Aromatherapy**

**Code:** PHG 331

**Pre-requisites:** Chemistry of Natural Products

(2)

**Department:** Pharmacognosy

**Credit hours:** 2

**Contact hours:** 3

Upon successful completion of this module, the students should be able to know guidelines for prescribing herbal medicinal drugs on the basis of the pharmacological properties of these drugs including therapeutic uses, mechanism of action, dosage, adverse reactions, contraindications & drug interactions. The module also allows students understand pharmaco-therapeutic principles applied to the treatment of different diseases, pharmacovigilance and rational use of drugs. Also the student should understand the basis of complementary and alternative medicine with emphasis on herbal remedies, nutritional supplements, homeopathies, aromatherapy & their effect on maintaining optimum health and prevention of chronic diseases. It includes studying of medicinal plants portfolios in relation to phytopharmaceuticals in Egyptian Market.

### **Pharmaceutical Dosage Forms (4)**

**Code:** PHT 334

**Pre-requisites:** Pharmaceutical Dosage Forms (3)

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 3

**Contact hours:** 4

The module is designed to provide the student with the fundamental principles used in formulation, manifestation, evaluation and packaging of sterile dosages (parenteral, ophthalmic, vaccines and blood products, aerosols and other inhalation products), in addition to different excipients for products stability, sterilization methods as well as the quality control of the finished products and principles for calculation and manipulation of parenteral. Also, the student will be acquainted to fundamentals of radiopharmaceuticals and radioisotopes, applications and methods for protection from radiation.

### **Medical Microbiology (2)**

**Code:** PHM 332

**Pre-requisites:** Immunology and Vaccinology

**Department:** Microbiology and Immunology

**Credit hours:** 3

**Contact hours:** 4

This module aims at providing students with basic knowledge about various types of parasites and their mode of transmission, as well as the diseases they cause, laboratory diagnosis and treatment of each parasitic disease to raise the awareness of important parasites especially those endemics in

Egypt. Recognizing structural components of the viruses and how they influence pathogenesis of the diseases and how they are transmitted among individuals and populations.

### **Medicinal Chemistry (1)**

**Code:** PHC 331

**Pre-requisites:** Pharmaceutical Organic Chemistry (3)

**Department:** Pharmaceutical Chemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims at introducing the students to the different classes of chemotherapeutic pharmaceutical compounds as well as antihistaminics and oral hypoglycemics. Students will learn to be able to outline the structure activity relationship of different classes of pharmaceutical compounds. In a practical setting, students will also learn how to detect the purity of and analyze different dosage forms of drugs belonging to the studied classes of pharmaceuticals.

### **Pharmacology (2)**

**Code:** PHO 333

**Pre-requisites:** Pharmacology (1)

**Department:** Pharmacology and Toxicology

**Credit hours:** 3

**Contact hours:** 4

This Module aims to study the action of drugs on biological systems and the effect of the latter on the action of drugs. The Module focuses on the interactions that occur between a living organism and chemicals that affect normal or abnormal biochemical functions. The students will encompass basic drug composition and properties, synthesis and drug design, molecular and cellular mechanisms, organ-systems mechanisms, signal transduction-cellular communication, as well as toxicology, therapy, and medical applications.

### **Cell and Pharmacogene Therapy**

**Code:** PHB 322

**Pre-requisites:** Fundamentals of Molecular

Genetics

**Department:** Biochemistry

**Credit hours:** 3

**Contact hours:** 4

This module generally aims at increasing the understanding in the theoretical potential of cell and gene therapy as well as the limitations that still need to be dealt with before cell and gene therapy can be applied more broadly. It covers the various strategies for molecular and cellular therapies for human diseases, including their advantages and challenges to their widespread applications. It also provides an overview of advances on novel therapeutics and gives examples of disease conditions where these strategies have been translated to the clinic. As such, it highlights the state of the art into current research aspects of molecular and cell therapies

### **Level four:**

#### **Clinical Biochemistry**

**Code:** PHB 433

**Pre-requisites:** Biochemistry (2)

**Department:** Biochemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims at enabling the students to review and monitor the biochemical and pathological

changes in disorders of (endocrine glands – renal function – hepatic function – gastric function – bone and mineral metabolism). Also the module will allow the students to recognize the importance of clinical enzymology and myocardial infarction, tumor markers, acid-base balance and some recent biomarkers used in diagnosis. The module aims also to introduce the students to biochemistry of aging and biochemistry of cancer. Moreover, the module acquaints the students with the appropriate setting regarding application of clinical biochemistry in diagnosis.

### **Pharmaceutical Microbiology**

**Code:** PHM 441

**Pre-requisites:** General Microbiology and Microbial Genetics

**Department:** Microbiology and Immunology

**Credit hours:** 3

**Contact hours:** 4

This module aims at providing students with basic knowledge about the nature of micro-organisms, contamination sources and control in pharmaceutical industry and hospitals. Explaining the principles, properties and mode of action as well as conditions under which different agents of sterilization function, in addition to evaluating the efficiency of each sterilization process by different testing methods. Explaining the mode of action of antimicrobial agents, their spectrum of activity & possible side effects, evaluating the potency of antibiotics, preservatives and disinfectants.

### **Pharmacology (3)**

**Code:** PHO 434

**Pre-requisites:** Pharmacology (2)

**Department:** Pharmacology and Toxicology

**Credit hours:** 3

**Contact hours:** 4

This module aims to provide the basic knowledge about commonly used antimicrobial drugs in pharmacy practice. It offers deeper knowledge about commonly used drugs and their implications in treatment of diseases and health promotion. It also aims to understand the safe use of these drugs regarding their adverse effects, contraindications and drug interactions, together with the applied aspects of the pharmacological actions of the major drug groups used in medicine in order to enable students to understand how to utilize therapeutic agents in a rational and responsible manner in the treatment of patients.

### **Medicinal Chemistry (2)**

**Code:** PHC 432

**Pre-requisites:** Medicinal Chemistry (1)

**Department:** Pharmaceutical Chemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims to acquaint the students with the drugs acting on and thus modulating the biological activity of the CNS, ANS and CVS. Students will be also introduced to hormonal drugs, analgesics and local anesthetics. Students will learn how to identify a drug's category based on its structure especially the pharmacophoric part and point out how minor changes in the drug's structure affect the drugs activity. Students also will have hands-on the various methods for identifying a drug and investigating its purity applying quality control techniques.

### **Biopharmaceutics and Pharmacokinetics**

**Code:** PHT 451

**Pre-requisites:** Pharmaceutical Dosage Forms (4)

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 3

**Contact hours:** 4

The module aims at enabling the students to understand the pharmacokinetics concept to guide the formulation, dosage-regimen design and optimizing drug usage. It highlights the concept of ADME phenomena (absorption, distribution, metabolism and elimination) through different models of drug disposition. The module also explores the basic principles of biopharmaceutics and strategies for enhancing drug delivery and bioavailability. It covers the effect of the physicochemical properties of drugs and drug products on the bioavailability of these drugs. To the principles of bioequivalence, biowaivers and in vitro, in vivo correlations (IVIVC's). The ability to communicate effectively the physicochemical properties of the drug product and the relevant physiology leading to the optimization of drug delivery by any route of administration will be emphasized.

### **Bioinformatics**

**Code:** PHM 451

**Pre-requisites:** Fundamentals of Molecular Genetics

**Department:** Microbiology and Immunology

**Credit hours:** 2

**Contact hours:** 2

This module is designed to give students both a theoretical background and a working knowledge of bioinformatics tools, as it supports various scientific areas including biomedicine. The major classic topics of bioinformatics include DNA sequences of genes or full genomes; amino acid sequences of proteins; and three-dimensional structures of proteins, nucleic acids and protein-nucleic acid complexes. Additional “-omics” data include transcriptomics (the pattern of RNA synthesis from DNA); proteomics (the distribution of proteins in cells) and metabolomics (the transformations of small molecules by the biochemical pathways active in cells).

### **First Aid and Toxicology**

**Code:** PHO 441

**Pre-requisites:** Pharmacology (3)

**Department:** Pharmacology and Toxicology

**Credit hours:** 3

**Contact hours:** 4

This module aims at providing the pharmacologic and clinical knowledge about some commonly occurring toxicological problems affecting different body systems and their implications in health promotion. It also enables students to understand the methods of diagnosis and management of common toxicological cases, injuries and emergency medical problems.

### **Clinical Pharmacy**

**Code:** PHL 411

**Pre-requisites:** Biopharmaceutics and Pharmacokinetics/Pharmacology (3)

**Department:** Clinical Pharmacy

**Credit hours:** 3

**Contact hours:** 4

The aims of this module are to help the student recall, comprehend and relate management concepts, functions and skills to pharmacy practice. Topics taught to the students will provide the facts and knowledge to make therapeutic decisions. Analytical skills, however, are attained through case studies

and problem-oriented discussions. It is expected that the students will develop competence in developing the most patient-specific therapeutic plans by integration of the knowledge obtained in this module, other modules in biochemistry and information given in pharmacology.

### **Pharmaceutical Technology (1)**

**Code:** PHT 461

**Pre-requisites:** Pharmaceutical Dosage Forms (4)

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 3

**Contact hours:** 4

This module aims to introduce students to industrial pharmacy and to help them acquire experience in machinery and equipment used in drug manufacturing. It also acquaints them with some pharmaceutical operations used in pharmaceutical industry, such as heat transfer, evaporation, drying, distillation, filtration, centrifugation, crystallization, and extraction. Moreover, it introduces them to the equipment and machines used during the production of different dosage forms and focuses on the applications of these unit operations in the pharmaceutical industry.

### **Pharmaceutical Biotechnology**

**Code:** PHM 452

**Pre-requisites:** Bioinformatics

**Department:** Microbiology and Immunology

**Credit hours:** 2

**Contact hours:** 2

The module aims to provide students with fundamentals, scope and applications in biotechnology through studying fermentation technology, upstream, downstream, scaling up and down processes, use of molecular techniques for production of recombinant products and other major biotechnological products, biotransformation, bioremediation, bioleaching, bioinsecticides, biosurfactants and biopolymer production.

### **Community Pharmacy Practice**

**Code:** PHL 421

**Pre-requisites:** Pharmacology (3)/Pharmaceutical Dosage Forms (4)

**Department:** Clinical Pharmacy

**Credit hours:** 3

**Contact hours:** 4

This Module aims to provide the students with the proper tools to practice community pharmacy. The module also aims to qualify the students to interact professionally with patients in community pharmacies to provide better medication use and improve therapeutic outcome, educate the students about their role in the community pharmacies, and familiarize the students with common diseases and clinical situations they may encounter in their practical and professional life. Another aim is to guide them to identify minor and major ailments so as to know when to respond to a patient and when to refer the case to a specialized physician. In addition, it focuses mainly on the therapeutics, treatment guidelines of OTC drugs and patient counselling. Another aim is to train the students to solve clinical cases simulating actual situations in community pharmacies.

## **Entrepreneurship**

**Code:** MS 403

**Pre-requisites:** None

**Supervising Department:** Clinical Pharmacy

**Credit hours:** 2

**Contact hours:** 2

The aims of the course is to immerse students into the world of innovation as a systemic process of tackling relevant business of social problems using a practical hands-on approach to allow students to have the necessary skills to identify, design, implement and scale an original and feasible technological innovations in the healthcare field.

## **Research Methodology**

**Code:** RS 403

**Pre-requisites:** Professional Ethics and Safety

**Department:** Biochemistry

**Credit hours:** 1

**Contact hours:** 1

The module aims to introduce the different types of research and research methodologies, elaborate the criteria for a good research, designing an experiment, analyze and present data appropriately and to write and critique a scientific paper.

## **Level five:**

### **Therapeutics (1) and Drug information**

**Code:** PHL 531

**Pre-requisites:** Clinical Pharmacy

**Department:** Clinical Pharmacy

**Credit hours:** 3

**Contact hours:** 4

The aims of the module are to extend knowledge about therapeutics of different disease states, enable the student to collect data about patients and correlate patient history with the proper medication. Another aim of this module is to improve the drug monitoring ability of the student.

### **Marketing and Pharmacoeconomics**

**Code:** PHL 541

**Pre-requisites:** Community Pharmacy Practice

**Department:** Clinical Pharmacy

**Credit hours:** 3

**Contact hours:** 4

#### **Pharmacoeconomics**

The aim of the module is to shed light on the science of health economics and introduce the students to the key principles and the different terminologies utilized, introduce the students to the different types of economic evaluation studies and highlight their importance in assessing different interventions and consequently aiding in the decision-making process and teach the students some modeling techniques. In addition, the module aims to familiarize the students with the definitions in health technology assessment and to discuss the components of healthcare financing and explain different methods of pricing.

#### **Marketing**

The objective of this course is to introduce students to the concepts, analyses, and activities that comprise marketing management, and to provide practice in assessing and solving marketing problems. The course is also a foundation for advanced electives in Marketing as well as other business/social

disciplines. Topics include marketing strategy, customer behavior, segmentation, market research, product management, pricing, promotion, sales force management and competitive analysis.

### **Drug Design**

**Code:** PHC 531

**Pre-requisites:** Medicinal Chemistry (2)

**Department:** Pharmaceutical Chemistry

**Credit hours:** 3

**Contact hours:** 4

This module aims at introducing the students to the fundamental aspects and current methodologies involved in drug design as a starting step for drug discovery. The Module will also focus on the role of molecular recognition in drug design, different strategies for lead discovery and optimization and the concept of drug latention and prodrugs. Furthermore, the Module aims to introduce to the students to the molecular aspects affecting ADME properties, as well as drug toxicity. In addition to the metabolic changes of drug molecules and its effect on the drug design process.

### **Pharmaceutical Technology (2)**

**Code:** PHT 562

**Pre-requisites:** Pharmaceutical Technology (1)

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 2

**Contact hours:** 2

This module aims at giving the students experience in machinery and equipment in medicine manufacturing, raising the awareness of the peripherals in drug manufacturing operations and correlating the type of operation needed and the type of feed to the best type of equipment to be used. The student will be able to design specific machinery flow charts in drug manufacturing operations. In addition to the container/closure systems, some of the packaging processing methods are covered. Moreover, the vision about designing a quality product and its manufacturing process to consistently deliver the intended performance of the product to meet patient needs is discussed by applying Quality-by-Design principles.

### **Clinical Pharmacokinetics**

**Code:** PHL 551

**Pre-requisites:** Biopharmaceutics and Pharmacokinetics

**Department:** Clinical Pharmacy

**Credit hours:** 3

**Contact hours:** 4

The aim of this module is to provide basic principles of pharmacokinetics and their application to the clinical setting. It includes studying different pharmacokinetic models following single intravenous bolus (one and two compartments), single oral dose, IV infusion, and multiple dosing. Non-linear pharmacokinetics will be also demonstrated. It also aims to learn the students about the sources of variability in pharmacokinetics, dosage regimen and dosage adjustment in children, obese, elderly patients and chronic disease states. Therapeutic drug monitoring approach is also included in this module. In addition, it aims to learn the students about dosage individualization of some drugs having narrow therapeutic index especially in patients with compromised renal and hepatic function.

## **Public Health**

**Code:** PHM 561

**Pre-requisites:** Medical Microbiology (2)

**Department:** Microbiology and Immunology

**Credit hours:** 2

**Contact hours:** 2

This Module aims at providing senior students with all scientific information required for health education and promotion directed to the community health and to introduce the student to the bases and principles of public health and epidemiology. The Module also aims at exposing students to different interventions (prevention and control strategies) that are used to reduce the burden of different types of diseases and to improve mental, social, environmental, occupational, geriatric and family health. Proper use of sufficient and balanced food and nutrition, supplying safe drinking water, treating and disposing wastes and proper intervention during disasters will also be discussed.

## **Advanced Drug Delivery Systems**

**Code:** PHT 571

**Pre-requisites:** Pharmaceutical Dosage Forms (4)

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 2

**Contact hours:** 3

This module aims at understanding the principles of modified release drug delivery systems, with an emphasis on the use of different polymers to achieve optimum drug release profile. In addition, it highlights the applications of different nano-carriers in drug delivery, with an emphasis of their pros and cons. It also aims at understanding the concepts of drug targeting using different nano-carriers. Moreover, it introduces students to the latest advances in drug delivery systems, by transforming proteins, genes, and other biotechnology-driven compounds into therapeutic products.

## **Therapeutics (2)**

**Code:** PHL 532

**Pre-requisites:** Therapeutics (1) and Drug information

**Department:** Clinical Pharmacy

**Credit hours:** 2

**Contact hours:** 3

The module is designed to integrate and apply the knowledge gained from studying pathophysiology, microbiology, pharmacology and other pharmaceutical sciences to formulate a rational and safe drug regimen for a particular patient. The module is taught in both lectures and group discussions (tutorials) and provides the student with an understanding of the rational drug and adjunctive therapy in the treatment of selected diseases. During this module the student will develop communication skills through presentation and discussion of clinical materials from case studies and current literature with their instructors.

## **Applied Pharmacology and Drug Interaction**

**Code:** PHO 535

**Pre-requisites:** Pharmacology (3)

**Department:** Pharmacology and Toxicology

**Credit hours:** 3

**Contact hours:** 4

One of the major factors that affect the response to a drug is the concurrent administration of other drugs and might be reflected seriously on patients' health and life. This module focuses on the discussion of the important drug interactions and the methods to predict and to manage if occur. The under lying

mechanisms of interactions, kinetic (absorption, distribution, metabolism and excretion), Dynamic (addition, potentiation, synergism and reversal) and the combination are discussed. Also drug and food interactions are deliberated.

### **Pharmacovigilance and Pharmacoepidemiology**

**Code:** PHL 561

**Pre-requisites:** Pharmacology (3)

**Department:** Clinical Pharmacy

**Credit hours:** 3

**Contact hours:** 4

The aims of studying pharmacovigilance module are to equip students with a basic understanding of the concepts and practice of pharmacovigilance and pharmacoepidemiology, and to apply these skills to drug safety issues and enhance patient care and patient safety in relation to the use of medicines via implementing a system for detection, assessment, and prevention of the adverse effects or any drug-related problems. The aims of studying pharmacoepidemiology are to shed the light on the basic principles of research; both interventional and observational, introduce the students to the science of pharmacoepidemiology, explaining the different types of studies and terminologies used and discuss evidence-based medicine and the different methods for criticizing Pharmacoepidemiological studies.

### **Quality Control of Pharmaceuticals**

**Code:** PHC 521

**Pre-requisites:** Instrumental Analysis/Pharmaceutical Microbiology/ Chemistry of Natural Products (2)

**Department:** Analytical Chemistry

**Credit hours:** 3

**Contact hours:** 4

This module allows the students to recognize the importance of quality control processes which contribute directly or indirectly to the safety, efficiency and acceptability of the pharmaceutical product. The module also raises the awareness to international and national standard organization requirements and acquaints the students with instrumental calibration, validation and manipulation. This will enable the students to design stability testing and stability indicating methods of analyzing raw materials and pharmaceutical products, in addition to, developing good manufacturing practice in drug industry. In addition, the module aims to provide pharmacy students with sufficient knowledge concerning quality control from herbal aspects, sampling, structural, physical and analytical standards, purity, safety and adulteration of drugs and their detection. It also provide the students with basic knowledge about the application of plant tissue culture for the production of pharmaceutically active materials.

### **Good Manufacturing Practice**

**Code:** PHT 563

**Pre-requisites:** Pharmaceutical Technology (2)

**Department:** Pharmaceutics and Industrial Pharmacy

**Credit hours:** 1

**Contact hours:** 1

This module involves the principles of the current Good Manufacturing Practices (GMP). It exposes students to all aspects of validation, calibration, inspection, and the requirements for manufacturing facilities. It also provides students with a review of the process engineering, technology transfer, personnel management, training and hygiene, premises and contamination control, documentation and

auditing, process deviation with emphasis on risk management, complaint handling and product recall theory.

### **Hospital Pharmacy**

**Code:** PHL 522

**Pre-requisites:** Clinical Pharmacy

**Department:** Clinical Pharmacy

**Credit hours:** 2

**Contact hours:** 3

The aim of the module is to provide the students with the proper tools to practice hospital pharmacy. The module aims also to qualify the students to interact professionally with patients in hospital pharmacies to provide better medication use and improve therapeutic outcome, educate the students about their role in the hospital pharmacies, and familiarize the students with common diseases and clinical situations they may encounter in their practical and professional life. In addition, it aims to educate the students about their role as hospital pharmacists and introduce them to the different practices including both administrative and technical services such as preparation of intravenous mixtures and total parenteral nutrition as well as the safe handling and dispensing of biohazardous compounds. Another aim is to train the students to solve clinical cases simulating actual situations in hospital pharmacies.

## Elective Modules Outline

### **Clinical Nutrition**

**Code:** PHB 401

**Pre-requisites:** Clinical Biochemistry

**Supervision Department:** Biochemistry

**Credit hours:** 2

**Contact hours:** 3

The aim of this module is to provide the student with understanding of the fundamentals of nutrition and how these fundamentals relate to the promotion and maintenance of optimal health. It also aims to emphasize the practical application of the current principles of nutrition and diet therapy in the prevention and management of different disease states.

### **Proteomics**

**Code:** PHB 402

**Pre-requisites:** Clinical Biochemistry

**Supervision Department:** Biochemistry

**Credit hours:** 2

**Contact hours:** 3

This course is designed to cover fundamentals as well as the new development in proteomics and mass spectrometry. The goal is to develop a comprehensive understanding of proteomics principles and applications in biomedical research and drug discovery.

### **Bioanalysis**

**Code:** PHB 403

**Pre-requisites:** Biochemistry (2)

**Supervision Department:** Biochemistry

**Credit hours:** 2

**Contact hours:** 3

The module will cover the definition of bio-analysis and its importance in different scientific disciplines, types of samples and the techniques used for different samples pretreatment. It will acquaint the students to bio-analysis techniques used for the determination of different analytes in biological samples together with the selection of the most suitable analytical technique and the construction and validation of bioanalytical methods.

### **Transcriptomics**

**Code:** PHB 501

**Pre-requisites:** Clinical Biochemistry

**Supervision Department:** Biochemistry

**Credit hours:** 2

**Contact hours:** 3

This module aims at presenting the fundamental concepts of transcriptomics, as well as its current analytical methods. It introduces the concept of the transcriptome explaining how microarrays and RNASeq can be used to trace expression signatures, measure transcriptional expression levels, and establish connections between genes based on their transcriptional activity in normal cells, differentiating cells, in tissues, and organs. Examples of the state of the transcriptome associated with major human diseases will be elaborated, such as inflammatory diseases, autoimmune diseases, metabolic diseases, genetic diseases, cancer and infections caused by pathogenic microorganisms. By the end of this module, students will be able to apply the concept and the different transcriptomics tools

to provide a comprehensive analysis of human transcriptome in health and disease.

### **Environmental Analysis and Remediation**

**Code:** PHC 401

**Pre-requisites:** Pharmaceutical Analytical Chemistry (3)

**Department:** Analytical Chemistry

**Credit hours:** 2

**Contact hours:** 2

This module aims at enabling the students to understand the underlying principles of assessment and remediation of contaminants. It allows the students to assess the concentration of contaminants in soil, water and sediments and provide information about the recycling importance, steps, process and technologies. Additionally, the module aims at enabling the students to understand sustainability, importance and advances in sustainable technology and development.

### **Food and Cosmetics Analysis**

**Code:** PHC 402

**Pre-requisites:** Instrumental Analysis

**Department:** Analytical Chemistry

**Credit hours:** 2

**Contact hours:** 3

This module introduces the students to food regulations and wide variety of different characteristics of foods, including their composition, structure and chemical properties. It will also allow the students to provide information about the classification of cosmetics, and the cosmetics additives as coloring matter and heavy metals. Additionally, the module aims at enabling the students to understand the principles and significance of the analytical procedures and instrumentation and sample treatment commonly used to analyze different food components as well as different cosmetic additives and food spoilage.

### **Forensic Chemistry**

**Code:** PHC 501

**Pre-requisites:** Instrumental Analysis/ First Aid and Toxicology / Chemistry of Natural Products (2)

**Department:** Analytical Chemistry/ Pharmacology/ Pharmacognosy

**Credit hours:** 2

**Contact hours:** 3

The module includes an overview on forensic pharmacognosy and analytical chemistry. It allow the students to describes the drugs, chemicals (heavy metals) and plants including their natural products that constitute health hazards, or intended for criminal uses to produce, abortion, loss of mental control, hallucination, heart arrest. Also the module acquires an appropriate scientific background of the types of forensic laboratories, objectives and techniques of forensic laboratory examination, and tools used during laboratory analyses. In addition it enables the students to understand the role of chemical laboratories in forensics examination of corpses and livings. Furthermore the course describes methods of collection of forensic evidences, methods of recovery and preservation, way of chipping, and the chain of custody. Also, the module provides different tissue extraction methods adopted in forensic practice and analytic procedures in use. Furthermore it performs the practical procedures adopted in preparation of analytical samples, choose the proper analytical procedure required for each forensic analytic situation.

### **Radiopharmaceutical Chemistry**

**Code:** PHC 403

**Pre-requisites:** Medicinal Chemistry (2)

**Supervision Department:** Pharmaceutical Chemistry

**Credit hours:** 2

**Contact hours:** 3

This module aims at introducing the students to a basic background of nuclear pharmacy and nuclear medicine. Besides, the module aims at making the students familiar with basics of nuclear chemistry, fundamentals of operating a nuclear pharmacy, the most common clinical applications of nuclear medicine, personnel protection from radiation sources and production, quality control and GMP procedures involved in nuclear pharmacy practice.

### **Advanced Organic Chemistry**

**Code:** PHC 404

**Pre-requisites:** Pharmaceutical Organic Chemistry (3)

**Department:** Organic Chemistry

**Credit hours:** 2

**Contact hours:** 3

The objective of this module is to provide the candidate with the basic and advanced principles of organic reactions, spectral identification and structural characterization of organic compounds. The student should be able to apply knowledge and skills gained to solve practical problems such as product design. The student should be able to design a complete protocol for synthesis, purification and characterization of any organic compound/pharmaceutical product.

### **Diagnostic Microbiology**

**Code:** PHM 401

**Pre-requisites:** Pharmaceutical Microbiology

**Credit hours:** 2

**Contact hours:** 3

This module aims at developing student's skills with theoretical and practical knowledge on diagnosing the infectious diseases using conventional microbiological, serological and molecular-based diagnostic methods. The module also studies the possible causative agents and the diagnosis of different infectious diseases in the human body system-based manner. The student will learn procedural skills considered in a diagnostic microbiology laboratory including collection, quality control, quality assurance, safety, setup, identification, susceptibility testing and reporting results.

### **Drugs and Sports**

**Code:** PHO 401

**Pre-requisites:** Pharmacology (3)

**Department:** Pharmacology

**Credit hours:** 2

**Contact hours:** 3

This module aims to provide the basic knowledge about commonly abused substances or methods that are used by athletes to enhance performance in sports. It offers deeper knowledge about commonly used drugs for sports-related injuries. It also aims to understand the safe use of these drugs regarding their use within the standardized limits, besides helping students to provide support for sports persons to improve the quality of their life by using various safe substances and avoid the embarrassment of doping.

### **Drug Abuse**

**Code:** PHO 402

**Pre-requisites:** Pharmacology (3)

**Department:** Pharmacology

**Credit hours:** 2

**Contact hours:** 3

This module provides the students with solid information about the difference between use, misuse, and abuse of drugs. In addition, the methods to differentiate between commonly abused legal and illegal substances are demonstrated. Moreover, the medical and behavioral recovery methods, to support any individual who is into substance abuse to give up the habit, are discussed.

### **Stem Cells and Regenerative Medicine**

**Code:** PHO 403

**Pre-requisites:** Cell and Pharmacogene Therapy

**Department:** Pharmacology

**Credit hours:** 2

**Contact hours:** 3

Topics of this course deal with the collection, isolation, and characterization of stem cells from different sources and exhibition of their therapeutic applications. Additionally, since the true test of the potential of stem cells for regenerative medicine, is to determine the ability to repair damaged tissue in vivo. This course includes discussions on the results of both animal and human testing of stem cells.

### **Pharmacogenomics**

**Code:** PHL 401

**Pre-requisites:** Fundamentals Of Molecular Genetics

**Department:** Clinical Pharmacy

**Credit hours:** 2

**Contact hours:** 3

This module reviews the key genomic technologies and genetic basis of inter-subject variability in response to drugs. It provides students with an understanding of how genetic factors influence drug disposition, response and adverse effects. Students will be guided through real world patient-pharmacist-physician interactions concerning the genetic mechanisms/basis of polymorphisms in the pharmacokinetics and pharmacodynamics of representative therapeutic drugs. The impact of epigenetics and environmental factors on the polymorphisms will also be discussed. By the end of this module, students will learn to stratify patients into different groups with medical decisions, practices based on their predicted response or risk of disease. They will also be offered a new research area to enhance their knowledge and ability to apply genetic information to pharmacy practice and select the most appropriate therapeutic interventions.

### **Computational Phytochemistry**

**Code:** PHG 401

**Pre-requisites:** Chemistry of Natural Products (2)

**Supervision Department:** Pharmacognosy

**Credit hours:** 2

**Contact hours:** 3

The module aims at enabling the students to learn the basic analytical platforms (chromatography, mass spectrometry, and NMR) currently used for metabolomics, use data interpretation with Multivariate Data Analysis and become familiar with data analysis using publicly available software and tools such as AMDIS and X-calibur. In addition, it enables the students to understand the goal of metabolomics and its applications to distinguish plant species using metabolic profiling and in quality control of herbs and

herbal products. By the end of the Module the students can contribute in designing a successful metabolomics study.

### **Marine Natural Products**

**Code:** PHG 402

**Pre-requisites:** Chemistry of Natural Products (2)

**Supervision Department:** Pharmacognosy

**Credit hours:** 2

**Contact hours:** 3

Upon completion of the module the student should have the knowledge and experience that enables her/him to understand, describe and deal with: the composition and bioactivity of sea water, the marine ecosystem and classification of major phyla of marine organisms; the importance of marine drugs as leads for novel pharmaceuticals; the chemistry, bioactivity and/ or toxicity of metabolites derived from marine organisms (specially algae, invertebrates and microorganisms); as well as, the techniques adopted for drug-development from marine resources.

### **Cosmetics**

**Code:** PHT 401

**Pre-requisites:** Pharmaceutical Dosage Forms (4)

**Department:** Pharmaceutics

**Credit hours:** 2

**Contact hours:** 3

This module aims to develop deep understanding of cosmetics as a real science related to other fields of science, Food and Drug Administration (FDA) & Food and Drug Cosmetics (FDC) rules for cosmetics with its labelling, different products for body and facial cleansing, pathogenesis and treatment of acne vulgaris, different whitening agents and deodorants vs. antiperspirants. Additionally; this module provides the student with knowledge on various techniques used to employ permanent and semi-permanent micro pigment treatment and the risks from any type of tattooing, skin aging and its management with noninvasive procedures and invasive technologies (dermabrasion, laser technologies, fillers, Botox, chemical peeling, Platelet Rich Plasma) together with surgical methods to remove excess fats by liposuction or injection lipolysis. This module also provides understanding about hair structure, shampoos, conditioners, different miscellaneous hair products and different types of dyes and finally cosmetic nail procedures and complications of nail procedures.

### **Registration of Generic Products**

**Code:** PHT 402

**Pre-requisites:** Pharmaceutical Dosage Forms (4)

**Department:** Pharmaceutics

**Credit hours:** 2

**Contact hours:** 3

The module introduces the students to guidelines for the registration of the generic products in Egyptian market. The module covers the development process of the pharmaceutical generic product in R&D stage. The pricing of the product, stability studies (accelerated and long term) and bioequivalence studies are considered in this module. The module also shed the light on other regulations governing the registration of generic products. The guidelines for the registration of biological products are also covered in this module.

**Computer-Aided Process Design****Code:** PHT 403**Pre-requisites:** Pharmaceutical Dosage Forms (4)**Department:** Pharmaceutics**Credit hours:** 2**Contact hours:** 3

This module aims at enabling the students to understand the principles of artificial intelligence and machine learning, as well as their applications in pharmacy. The module will also cover several chemo/bio informatics tools and statistical computational methods, where the behavior of several drugs in model drug delivery systems could be studied and predicted, utilizing several informatics tools. Within this module the students will be acquainted with different algorithms to build a machine learning model together with deep learning principles and applications.

**Veterinary Pharmacy****Code:** PHT 404**Pre-requisites:** Pharmaceutical Dosage Forms (4)**Department:** Pharmaceutics**Credit hours:** 2**Contact hours:** 3

This module aims at giving a detailed knowledge on the role of pharmacists in dispensing and compounding of prescribed medicines for animal use. Provision of information on the therapeutic delivery, formulation and administration of veterinary medicine. Allow the pharmacist to take a significant place in animal medicine market and communicate effectively with animal owners and veterinarians to: meet state mandated counseling requirements, to enhance medication compliance, solve drug administration problems, and to recommend appropriate drug therapy choices for the betterment of animal health.

## ➤ **Appendix (4): Learning Resources**

### **A- Library**

The library resources are appropriate to the programme needs. The library is built on a space of 1700 m<sup>2</sup> and it contains about 112 tables, 800 chairs with a capacity of 600-800 users. The library is equipped with central air conditions and sound system. The library has provided two copying machines to copy chapters of books without affecting the library policy concerned with the intellectual property rights of the authors. Also there are computer devices within the library working with high efficiency and connected to the internet and to the printer. These computers are available for both the students and the staff.

The library also offers "Koha 20.5" Library catalogue as part of the open source Library system that MSA University uses. The students and the staff can use the catalogue to search for books by title, author, subject heading, or keyword. They can also combine 2 or more search fields to achieve more accurate results. In addition, there is a repository "MSAR University's Digital Repository" in which there is documentation and digitization of all university outcomes that are of effective value in the scientific and academic community and reflects the university's image, work, and effective contribution to society. It is worth noting that, MSA library has recently added a new service called Quick Response (QR) Code where, users can use Smart Library Catalog from any smart phone by reading the Library QR Code. Distinguished graduation projects for students, are made available via different platforms: readable, audible or visual as well as images of students. All the data is made ready for search or retrieval by the automated library catalog ('OPAC'- Online Public Access Catalog), as well as the QR Code.

In addition, the library allows all the users to get free benefits from the international databases as: "Egyptian Knowledge Bank (EKB), EBSCOhost, JSTOR, OTL, Aluka, Greenwich University electronic library. There are highly qualified supervisors who are bachelor holders from the collage of literature- Library department. These supervisors help the library users and orient them for the different required activities.

### **B- Laboratories and Practical Resources**

#### **- Laboratories**

There are student labs for the different departments (4 Pharmaceutics labs, 2 Pharmacology labs, 2 Pharmacognosy labs, 2 Physiology labs, 2 Biochemistry labs, 3 Analytical Chemistry labs, 3 Organic chemistry and Pharmaceutical Chemistry labs and 3 Microbiology labs), in addition to research labs where level 5 students do their graduation projects' practical work. These labs are equipped with all the scientific instruments in all faculty's specialties.

The instruments and equipment are available within these labs which suit the natures of the faculty's specialties and the available number of students as well as the future expected number of students. Every department determines its needs of instruments and chemicals by the end of each academic semester depending on the expected number of students in the upcoming semester. All the labs are supplied with data show, vertical curtains, isolated floors and natural gas. Also in the chemistry labs there are showers, eye wash and suction and Fume hoods.

There are a suitable number of qualified technicians in all the labs, where there is one technician and

two assistants in each lab to perform the required preparations of every lab.

#### **- Bioequivalence and Research Labs Centers**

The bioequivalence and research labs centers are constructed on high level of technicality and specialty to encourage the researchers in the faculty to get the benefit from the available resources in the labs and also to provide research services for external researchers with fees for using the instruments and chemicals. These centers are independent from the students and staff research labs which do not require research fees.

It's worth mentioning that the provided state-of-the-art research facilities enabled the staff members to excel in carrying up-to-date researches in the different pharmaceutical disciplines in addition to very high impact multidisciplinary researches within different Faculty departments and with other equivalent Faculties.

#### **- Animal house**

The animal house is equipped to perform the following:

- Practical experiments for pharmacology students
- Experiments related to the students' graduation projects.
- Experiments for the staff members and teaching assistants related to their research work masters and PhD studies in pharmacology, biochemistry and physiology.
- Collaboration studies with staff from other faculties as Faculty of dentistry.

The animal house is simply and cleanly equipped to allow the healthy and suitable environment for the experimental animals which are regularly followed up.

#### **C- Computer Labs**

Computing facilities is considered as an evidence for the speed and ease of communications and integration with the outside world and improvement in all levels to keep up with the evolution of the era. From this point of view, The October University for Modern Sciences and Arts has provided the highest quality of computer facilities which are suitable for the academic activities and administrative processes. The information system services were evolved in between 2005-2007, thus increasing the services and speed which ensures the highest level of work and reduces the risk of breakdowns. The university has contracted with Microsoft to expand its presence at the university level and with the students and faculty members.

The university offers 30 computer labs which help in the academic work for both the students and the staff. These labs contain from 25-40 computer with a total of 881 computers. The students can use any other computer lab within the university. All computers are supplied with the required software for educational purposes as productivity tools, development tools, design and simulation packages, CAD tools etc.

#### **D- IT facilities and accessibility**

The unit offers IT Services to the entire University. It is also responsible for:

- Maintaining the IT infrastructure in the University.
- Providing hardware and software packages for the faculty requirements;

- Maintaining equipment.
- Equipping all computers with different operating systems platforms, database management systems, programming languages, software development kits, and education software tools to provide suitable training for different fields of specialization.
- Providing support to all instructors and students in using the audio-visual aids provided by the University.

In addition, The IT facilities at the University provide the student with access to the MSA Moodle. The Moodle facilitates the communication between the students and their instructor, since students can easily access and download module related material; such as handouts, PowerPoint presentations, previous exams and quizzes ... etc. Moreover, in a bid to decrease paper usage and ease the submission of assignments, completed assignments are submitted electronically onto the Moodle system. In addition, important dates and announcements such as assignment deadline, quiz dates and extra hours are posted onto the Moodle, to be available to all students registered in the module.

## ➤ **Appendix (5): Students Support Systems**

### **A- Financial Support**

The University provides direct financial support to students by offering percentage reductions in tuition fees for students whose parents (or one of them) are University employees or working in the pharmacy sector, students who excel in their studies, who have lost their sponsors, graduates of certain schools, and those who have sports championships, in addition to the reduction offered to early admission of students in accordance with the policy approved by the University.

### **B- Facilities**

The university provides the students with fully equipped lecture halls and laboratories in which all the necessary tools are available, in addition to, sports stadiums and gymnasiums. The faculty also organizes field trips for pharmaceutical companies and major hospitals. The University offers the Student Service Building (SSB) and the Opera House for different students' activities and cultural competitions, in addition to the library, which is one of the best university libraries in Egypt, and computer labs which are open to the students to search online and print their lectures and assignments for free. The university also contracted with MDK mart to provide its students with discounts on medical supplies and equipment. There are also banks branches, several restaurants and photocopy offices on campus.

### **C- Psychological support**

The University believes in the importance of supporting the students psychologically, especially in the early stages of youth and the transition from secondary school to university, and helping people with troubled psychological conditions to continue their studies. The University has contracted with a psychiatrist to discuss these cases weekly and provide them with the necessary psychological support.

### **D- Health support**

The University provides health support to all its students by providing an equipped medical clinic that operates 6 days a week from 8:00 am- 3:30 pm. The university also contracted with a nearby university hospital to receive critical emergency cases and provide them with all necessary treatments. There are also dental clinics at building H, in which examination and treatment are free for all students.

Also, all the faculty labs have a first aid kit to help the students immediately in case they get injured inside the labs.

Concerning the health care provided for the students during the Covid-19 pandemic, the university contracted with medical analysis laboratories to offer discounts to students. In addition to, giving the infected students 14 days off. The university also provided vaccination against Covid-19 for all students.

### **E- Social support**

The university also supports the students in cases of permanent or emergency social conditions, such as the death of a parent. In addition to, the entertainment trips organized by the university inside and outside Cairo, and the clubs system that allows the student to integrate into various activities within the university and to promote their relationships with faculty members. The University also organizes different parties of famous singers and artists with free admission to the students.

### **F- Career Opportunities and Placement**

MSA considers one of its main goals is to provide a unique, friendly and pleasant atmosphere for its students. Staff members and students interact together constantly as members of one large family.

MSA is keen to provide its students with competitive programmes that aim to prepare them to compete effectively in the job market. The Career Placement Center (CPC) is part of MSA HR department; it provides feedback on the skills required by the job market in a specific programme. The office also provides feedback on points of strengths of MSA graduates and comments on areas that require improvement. This continuous effort ensures the currency of our programme and its relevancy to the needs of both national and international employers. The CPC provides a full range of HR activities that include recruitment, training, and internships. The CPC benefits MSA students and graduates by creating a link between them and the corporate world, providing them with a comprehensive knowledge of the market and giving them firsthand enhancing experience of what to expect in the practical life.

The CPC organizes periodical employment fairs that aim to provide students with exceptional work opportunities. The office also contacts new employers to increase the number of companies joining the fair and to improve the standard of the portfolio of companies recruiting MSA graduates.

The Alumni Department was created for Alumni services and activities. It offers a range of benefits for MSA University graduates such as: Reunion, training sessions, employment opportunities, events, competitions, career advising, special discounts and rates.

Its slogan is 'Belong, Believe, Build' and that's because the department's main objective is to make graduates feel that they belong to the University even after graduation, to believe in themselves and their capabilities and to finally build on that by developing their skills and finding the career that best suits them.

### **G- Transportation services**

For all information regarding MSA Transportation facilities, Students are kindly requested to visit room B114.

## ➤ **Appendix (6): Students Activities**

### **A- Model of World Health Organization (MWHO)**

Model WHO conferences are educational simulations in which participants recreate the process of the annual World Health Assembly as held in the WHO Geneva Headquarters. The focus lies in addressing global health issues at the local, national, and international levels. Participants select from several different roles including WHO Ambassadors, Media Representative, NGO Representative, Pharmaceutical Representative, or an Assembly Moderator (Dais). During the course of the conference, participants participate in regional debate sessions to the conference theme in relation to its impact on their representative roles. Once similarities are realized, participants are able to collaborate in the creation of a resolution paper, a formal document that suggests the methods by which to address these concerns. Following presentation of and voting on these regional resolutions to the full assembly in Plenary.

The activity started in 2015 after a group of students made a proposal to the Faculty management to establish an activity that involves all the University students and focuses on increasing the Public awareness about the role of the World Health Organization, on playing an important role in public health to provide a foundation for a future career in global health. The Faculty invited the students from different disciplines from all over the University to join in this activity believing that health is a right for everyone. The activity provides training on public speaking, negotiation skills and budget managing, all of which are soft skills that will enhance the employability of the students later on.

The Faculty was able to introduce the role of the WHO and discuss health topics such as mental disorders, the Ebola virus outbreak, drug counterfeit. The MSA MWHO members have done a great effort to align the topics of discussions with those discussed on the WHO website and were honored by the presence of a representative from the WHO in all the organized conferences. Our 1st annual conference had the chief guest Dr. Rahiana Bou Haqqa, WHO Representative in Egypt who was excited and appreciated the organizers of the event. In our 2nd annual conference Dr. Alaa Hashish was our chief guest and WHO Representative. Finally, the Model celebrated its expansion by making the opening ceremony for the Third Annual Conference at the League of Arab States.

The Faculty has succeeded in arranging a campaign in one of the rural areas to increase the awareness about vaccination and its scheduled times. The MSA MWHO members also reached for schools and arranged for a junior conference and taught the children what is the WHO and its role in global health and introduced them to some of the global health issues.

In 2019, great achievements were reached through international collaboration with four different World health organization Simulation Models in Europe namely; UK WHO Simulation Model in UK, Sheff WHO Simulation Model in UK, Paris WHO Simulation Model in France and Gran WHO Simulation Model in Spain. Nationally, there was a collaboration with the Faculty of Medicine Ain Shams University World Health Organization Simulation Model. Protocols were signed with these models including a frame work of different workshops and awareness campaigns.

It is worth mentioning that the MSA-MWHO won the best Model at the annual conference of the Andalusian School of Public Health in Granada, Spain. The foreign model praised the achievements of the Egyptian model in the fields of global public health and community service as well as international cooperation with other models of the World Health Organization.

In July 2019; In the framework of the keenness of the Faculty of Pharmacy MSA University to develop the skills of its students and belief in the importance of youth and health to build the future, the Faculty was honored to inaugurate the first International Health Simulation Model Conference. The conference is the first of its kind in Egypt and the Middle East. The theme was non-communicable diseases in accordance with the National Campaign of the President of Egypt "100 million health". Prof. Siddiq Abdul Salam Secretary of the Supreme Council of Private Universities on behalf of HE Prof. Khaled Abdul Ghaffar, Minister of Higher Education, Dr. Wasiq Khan and Dr. Batoul al-Wahdani the WHO regional advisers to the Middle East Regional Office (EMRO) and Prof. Mohammed Hassani, Assistant Minister of Health Population for Public Health Projects and Initiatives and Associate of Liver and Digestive Diseases at the National Institute of Liver and Endemic Diseases participated in the opening ceremony. Dr Wasiq ran a session and gave a small talk on the means of possible collaboration between the EMRO office and the Model.

In November 2019, the juniors MWHO conference was held in participation with five different schools. Also, in line with the current situation of the Covid-19, a number of off/on-line awareness campaigns about corona virus were conducted. On the 11th of June 2020 the Model received an invitation from the WHO Regional Advisor of the EMRO office to participate in a webinar entitled "Young people at the front lines in COVID-19 response: successes, challenges and leading the way forward".

In October 2021; The faculty inaugurated the "MSA MWHO Second Annual International Conference 2021" entitled "Covid-19 Vaccination and its Impact Worldwide". The conference is the second of its kind in Egypt and the Middle East, and the aim of the conference is to raise health awareness among young people and university students about the Corona virus. The differences between different vaccines and their effectiveness were discussed within the conference. The discussion touched on many

of the most common questions, inquiries and concerns about vaccines and vaccination programs and their differences between Egypt, Europe and America, in the presence of the Spanish partner from the GranWHO simulation model and in the presence of specialists in the field of public health. It is worth noting that the theme of the conference coincides with the launched campaign from the side of the Ministry of Health and Population within the framework of President Abdel Fattah El-Sisi's directives to encourage Egyptians to receive vaccination against the Corona virus. The conference also coincides with the national project to donate blood plasma as part of the initiative of the Egyptian President to achieve self-sufficiency in plasma derivatives.

In November 2021; The MSA-MWHO organized a field trip to a Center for blood transfusion and plasma collection for the fourth and fifth year students. The field trip is in- line with the national project for plasma donation and within the framework of the Presidential initiative for industrialization and self-sufficiency of plasma derivatives that was launched last July under the title "Treatment inside you." The students got acquainted with the most important plasma derivatives, their use, the danger of not reaching the patient, the safety of the donation process, and the conditions that must be met for donation. The field trip contributed to inviting students to actively participate in the national project for plasma donation as permanent plasma donors periodically every two weeks, according to the guidelines of the World Health Organization, as plasma donation is the highest expression of community and humanitarian participation to save the lives of patients.

#### **B- MSA Egyptian Pharmaceutical Student's Federation (EPSF)**

EPSF was founded in 1982 and it is a full member federation representing Egypt in IPSF (International Pharmaceutical Students' Federation) which was founded in 1949. EPSF-MSA is the Pharmaceutical association representing pharmacy students at MSA University, it was founded in 2010. EPSF is non-governmental, non-political and non-religious organization and is the leading national advocacy organization of pharmacy students in Egypt, promoting improved public health through provision of information, education, networking and a range of publication and professional activities. Mainly, EPSF-MSA works on serving the community through awareness campaigns (targeting several subjects as Pharmacy Profession Awareness Campaign, Blood Donation, Anti-Microbial Resistance, Coronary Obstructive Pulmonary Diseases, Women Breast Cancer Peptic ulcer, Diabetes, HCV, Aids, and Down Syndrome) in addition to serving Pharmacy students through giving them sessions and workshops that will improve their professional skills as pharmacists and soft skills. Also, EPSF-MSA offers pharmacy students a chance of participating in international competitions, regarding the latest pharmacy careers

that opens every year providing the winners professional trainings in the specialized fields. Moreover, as EPSF-MSA has earned a full membership in the EPSF, thus, EPSF-MSA has the privilege to participate in the Student Exchange Program (SEP) which enables the members and their fellow mates in the University to study a specific module of their choice internationally via the travelling contracts that the federation provides to full member associations. Through the SEP; nine of our students were offered training opportunities and traveled to India, Indonesia, Tunisia, Poland and Tanzania.

During 2015-2016; EPSF-MSA helped fantastically in developing the soft skills and above all the research skills of pharmacy students through a 3-dimension project where the winning team of the local competition attended the National competition and were highly praised by the judges for their skills. The Professional Development committee did an outstanding performance in the patient counselling campaign and competition where a level 4 pharmacy student, was qualified to join the National patient counselling competition and proceeded to the finals.

During 2016-2017; a student of the Faculty of Pharmacy-MSA won the local competition held by the Egyptian Federation of Pharmacy Students in the field of scientific research projects after competing with 93 Pharmacy students representing 31 governmental and private Pharmacy colleges. This victory came after her research idea, which was to find an effective and safe treatment for the disease of the age, Alzheimer's using insulin in Nano-formulation given to the patient through the nasal route. Additionally, one of our Students won the first place in Patient Counselling Contest at the Republic's level and represented the MSA University in the regional competition held in Kuwait under the auspices of the International Federation of Pharmacy students (IPSF).

During 2017-2018; A level-4 student won the local competition held by the EPSF in the field of Pharmacy Profession Advocacy (PPA) and surpassed seventeen students participating in the competition from inside Egypt. This competition aimed at encouraging students to engage further in thoughts regarding the profession and how those thoughts can shape the near future. This competition was held as an essay style competition, the article was published in the newsletter of the International Pharmacy Students Federation (IPSF).

During 2018-2019; EPSF-MSA participated in 23rd annual congress "Educational Conference" which was held in Cairo. EPSF-MSA with the support of local exchange officer performed 7 English clubs with an authorized English academy "English Street Academy". Additionally, a level 2 Pharmacy student was qualified and proceeded to the National Clinical Competition in Nutrition.

During 2019-2020; EPSF-MSA participated in 24th annual congress "Educational Conference" which was held in Egypt. An outstanding performance for our students was recognized in the Clinical National

competition where a level 1 and level 5 Pharmacy students, were qualified and proceeded to the national final clinical competition and they won the 3rd and 4th place after competing with 66 Pharmacy students representing 33 governmental and private faculties of Pharmacy. Additionally, EPSF-MSA hosted two events; the 1st EPSF Pharmaceutical Educators workshop including several learning sessions and “PHOCUS” event through which several educational sessions were performed to support Pharmacy students.

During 2020-2021; Despite the current circumstances of the pandemic, EPSF-MSA overcome all the challenges; where Engie Emad, a 2nd year student won the first place in the annual competition for the most important event “PHocus” outperforming 74 participating students from different faculties of Pharmacy in Egypt as a result she represented Egypt in the international competition in Korea through the support of the continuous education committee.

EPSF-MSA hosted the annual conference “step on the way” for the first time which aimed to improve the medical knowledge and skills for more than 600 students.

Distributing more than 200 Ramadan bags in cooperation with Scouting group in 6th of October club, performing awareness campaigns including; the pharmacist role in society and the importance of electronic prescriptions.

Continuing the success throughout the year, one of EPSF-MSA members has been elected as one of IPSE EMRO Regional Working Group for the position of Regional Secretary all over the Eastern Mediterranean Region’ countries for the first time in EPSF-MSA History.

### **C- Scientific Microbiology Club (SMC)**

Scientific Microbiology Club is a club that started in 2016 and aims to provide benefits to the society through spreading scientific knowledge and improve the students’ skills during their time in the student activity. The club won first place in the Egyptian scientific week in 2017 and became the official sponsor of the Egyptian scientific week in 2018. Its recognizable work has led it to be honored by the United Nations as one of the top 20 charity organizations in Egypt. It changes the life of more than 30,000 people through the medical convoys. The club provided soft skills sessions for more than 200 students. SMC also organized very effective visits to 57357 and Baheya hospitals involving blood donations and financial donations to the hospitals.

## ➤ **Appendix (7): Arrangements and Opportunities for Students to Give Feedback**

Student feedback is obtained through a variety of mechanisms;

### **A- Boards of study**

The purpose of the Board of Study is to provide a forum for discussion between students and staff involved in all aspects of the programme.

The board is attended by:

- Chair (Dean)
- Representative from UoG
- Director of Learning and Quality
- Head of National Accreditation and Audit Unit
- Programme Leader, all Module Leaders (or their representatives) wherever feasible.
- Student representatives (two for each year).
- Support services representatives (IT, Admission, HR, PR, Examination Unit, Library, etc).
- Secretary (to take the minutes)

Student representatives are responsible for notifying the board with the students concerns, suggestions and complaints. A meeting is held each semester normally in week five to six as specified in the Quality Assurance Calendar. The dates of the Boards of Studies are published on MSA Website and on MSA Academic Calendar and Quality Assurance Calendar. The agenda must include all major items but further items suggested by the student representatives and members of the committee may be added where appropriate. The minutes should cover all agenda items and include a summary of the main points of discussion and an action/outcomes list. Any actions required include the timescale, the name of the person responsible and when a report back to the Board is expected. They should also include progress on actions from the previous minutes. Within five working days of the meeting a Chairs' Action List will be published and circulated to all those with action points to deal with and to the Quality Assurance and Audit Unit Head. In addition, copies should be put on appropriate student notice boards.

### **B- Module/ Programme Evaluation Survey**

Module feedback forms are distributed to students throughout the academic year. Students are required to complete the online evaluation (for Module/ instructor/teaching assistant). The aim of this feedback process is to elicit views on the quality of all the modules taken. Programme questionnaires are distributed at the end of the final year to invite comments on the programme in general. Both sets of forms are completely anonymous. A report detailing any issues identified, if any and the measures taken

to resolve any problems is generated to be discussed during the board of study or in Curriculum Development Committee (CDC) and reported in the annual monitoring report.

Reports of evaluation are sent to the Dean and Heads of Department/Programme Leader for action. In addition, the head of Board of Trustees, President, Vice Presidents and Director of Quality Assurance also receive a copy.

#### **A- Open Door Policy**

MSA University adopts an open door policy for receiving student feedback.

#### **B- MSA Official Facebook Page**

This is a new official channel for students' feedback. Students can login to <https://www.facebook.com/MSAUniversityOfficial/>

#### **C- Complaints Procedure**

Students may submit petitions to be exempted from certain rules or regulations such as assigned academic load or disqualification actions or module prerequisites.

The complaints procedure ensures that the student's opinion about any action taken against him/her is handled. Students submit their written complaints/petitions through an online form available on Student Zone (e-learning). Students must submit their complaints within one month of the occurrence of the action otherwise MSA is under no obligation to consider this complaint. The processing of these complaints is the responsibility of the office of Students' Affairs/programme leader. The complaint is discussed with the concerned member(s). An immediate feedback is given to the student if the student feels that the matter has been treated justly or the action has been remedied then the complaint is filed. In the event that the student is not satisfied with how the complaint is handled, the issue is escalated to the Faculty Dean. If the student is still unsatisfied the issue can be presented to the University President for final decision.

## ➤ **Appendix (8): General Policies**

### **A- Payment of Fees Policy**

Students should refer to MSA Academic Calendar published/updated on MSA website for the dates of payment for each semester. Reminders are conducted through MSA official website, MSA media platforms & e-learning as well as Student zone.

As a further service to facilitate the process of payment of fees, students could directly pay in the banks announced by MSA University using their MSA University ID card. Student could check their tuition fees via MSA Student Zone post the grade publication. For further details, contact MSA Accounting Department. A recent facilitation of payment has been introduced, where student bank receipts are automatically registered on MSA system. Students must ensure that their Bank payment receipt is registered in MSA Accounting Department prior to course registration.

### **B- Advising and Registration Policy**

The Advising and Registration Period for each semester is announced on MSA Academic Calendar almost two months prior to the academic year. Students *must adhere to this period* as delaying registration after the commencement of the semester will affect their academic progression and will also be counted as absence.

Students are eligible to register the full load of the semester as long as he/she is not under probation.

### **C- Online Registration Procedure**

To successfully register online, the student is requested to adhere to the following steps:

1. Visit MSA website [msa.edu.eg](http://msa.edu.eg) ( from your computer or mobile phone)
2. Click on “Student zone”
3. Enter your MSA user name and password. (In case you encounter any problem, contact MSA IT support : [online.suupport@msa.edu.eg](mailto:online.suupport@msa.edu.eg) or ext: 2131/2132)
4. You will be introduced to several services. Select ” registration” Now you are introduced to “Student Registration link” where you select your modules through a Drag and Drop process from the available modules.
5. After completing your schedule click “End Registration”. Being prompted to the print button implies that your schedule is automatically approved. If you are not prompted to the print button then review your schedule to ensure that all courses/modules, labs and tutorials are selected correctly and attempt again.

6. Students who register on-line, should Check that their online Schedules are approved (Approval is done within 48 hrs.) if the Schedule is not approved for any reason (Incomplete Schedules, violation of registration rules, .....etc.) the Schedule will be automatically cancelled, and the student must register again.
7. Students are not allowed to register for Graduation project except in the regular semesters exclusively i.e Fall and Spring semesters.
8. Students are not allowed to register for their colleague.
9. Probation Students must contact their academic advisor prior to registration
10. Students (Male students) must check their military status with MSA Military Department.

#### **D- Misconduct Procedures**

##### **Academic Misconduct Procedures:**

MSA University complies with the Rules and Regulations of the Ministry of Higher Education in Egypt as per decree 49 for the year 1972, as well as the Rules and Regulations of the Private Universities in Egypt as per decree 101 for the year 1992.

MSA students are expected to be honest in their academic endeavors. To falsify the results of one's research, to use the words or ideas of others as their own, to cheat in an examination, or to allow another to commit an act of academic dishonesty corrupts the basis of the academic process.

The act of plagiarism includes:

- Quoting another person's actual words, complete sentences or paragraphs, or entire piece of written work without acknowledgement of the source.
- Using another person's ideas, opinions, or theory even if it is completely paraphrased in one's own words, without acknowledgement of the source.
- Borrowing facts, statistics or other illustrative materials that are not clearly common knowledge without acknowledgement of the source.
- Copying another student's essay test answers.
- Copying, or allowing another student to copy, a computer file that contains another student's assignment, and submitting it, in part or in its entirety, as one's own.
- Working together on an assignment, sharing the computer files and programs involved, and then submitting individual copies of the assignment as one's own individual work.
- When in doubt about rules concerning plagiarism, students are urged to consult with the Faculty staff.

### **Procedure of Investigating Plagiarism and Academic Dishonesty During in-module Assessments:**

This procedure applies only to in-module assessment (e.g. assignment or coursework). It covers the following offences:

- Plagiarism.
- Contract writing of assessment by third party.
- Fabrication of results or conclusion.
- Collusion.

Where the marker of the assessment suspects that the student's submitted work is plagiarized or one of the above offences has been committed, the marker shall interview the student to establish that an offence has been committed or to demonstrate the plagiarized work and the proportion of the plagiarized work. During this interview, the marker shall give the students the opportunity to present his or her case and mitigating circumstances, if any.

Depending on the severity of the plagiarism or the offence being committed, the marker may take one of the following actions:

1. In case of first offence, (not deliberate or intended, one which has arisen inadvertently through mistake or ignorance), student may receive one of the following penalties as determined by the Module Leader or Programme Leader.
  - 1.1. Students are reminded of the seriousness of their act and is given a verbal warning.
  - 1.2. Students are reminded of the seriousness of their act and are asked to sign a 'Plagiarism Warning Form' (a written warning).
  - 1.3. Redo the same assessment or a new assessment within a set deadline. The new mark shall not exceed the mark awarded for the offended work, if any.
  - 1.4. Redo the same assessment or a new assessment and the new mark shall not exceed the pass mark.
  - 1.5. Exclude the plagiarized part of the assessment and mark the work accordingly.
  - 1.6. Award a zero grade to the assessment under investigation.
2. In case of second offence, the issue is escalated to the Programme Leader/Dean. The penalty may reach failing the assignment grade/coursework of the module where the act has been attempted.
3. In case of repeated act, the issue is escalated to the Respective Dean who directly reports to the University President for final decision. The penalty in this case may reach failing the module where this offence was committed or more than one module.
4. In severe cases, the issue is escalated to the University President and the penalty may reach dismissal from the University for one semester or more based on the circumstances of the case.

## **E- Exam Conduct Regulations**

- Students must have their MSA IDs available for inspection.
  - Strict silence must be observed at all times in the examination room.
  - The examination is deemed to be in progress from the time students enter the room until all the scripts have been collected. Students must not speak to or otherwise communicate with any other students throughout the examination.
  - Students should avoid cheating during the examination or he/she will be subject to misconduct act.
  - A student who causes a disturbance during the examination will be required to leave the room and may be subject to misconduct act.
  - Students are advised not to bring personal belongings into the examination room.
  - All briefcases, bags, books, pencil cases etc. must be placed to one side of the examination room as instructed by the proctor and not left beside the desks.
  - Students are advised to avoid bringing any material related to the exam.
  - It is also prohibited to borrow any tools inside the exam room. Every student must bring with him the needed tools for each exam. The University is not responsible for providing any tool during the exam.
  - Students are not allowed to visit the toilet during the exam duration, except in medical cases approved from the floor supervisor.
  - Students are not allowed to enter the exam hall before the proctors.
  - Students are strictly prohibited to enter exam rooms with their mobile phones.
  - All answers must be in English, unless otherwise instructed on the exam template.
  - Slang language should be avoided.
  - It is forbidden to write in pencil in the answer sheet.
  - It is strictly prohibited to enter the exam rooms with programmable calculators unless otherwise specified on the exam template.
  - Every student is assigned to a specific room for each subject.
  - Students have to check their rooms and seat numbers on the bulletin board before every exam.
- Any violation to these rules will be documented by the proctor in the “*Exam Misconduct Form*” and reported to the Exam Floor Supervisor who should investigate the case and submit a report to the University for Legal Action.

### **Procedure of Investigating Academic Misconduct during Exams:**

In the event of a student committing an act that is deemed by a staff member of the University to be an attempt to gain an unfair academic advantage during an exam, that staff member will refer the case to

the Academic Offences Investigating Officer within the Legal Affairs Department. This procedure covers cheating, collusion, and impersonation.

Each case is assigned to an investigating panel, which consists of:

- Investigating officer from the Legal Affairs Department,
- Member of the Examination Control Unit, and
- Member of the academic staff.

The panel would initially determine whether there is a prima-facie case for investigation. If yes, it will conduct a full investigation and prepare a report with its decision of whether the student has committed an academic offence and a description of the offence committed.

In arriving at its decision, the panel will invite the student(s) against whom the allegation is made to attend a hearing and may also invite the member(s) of staff who initially referred the case as well as other witnesses where applicable.

The panel will scrutinize evidence submitted with the initial referral and may request or collect further evidence. A summary of the panel deliberations will be included in the panel's report and any evidence will be attached or referred to as appropriate. The panel report is then submitted to the University Examination Offences Committee.

The student will be informed of the panel decision immediately after it has been reached. The student may appeal against the panel's decision to the University Examination Offences Committee within fifteen days of being informed of the decision.

The University President forms the University Examination Offences Committee, which consists of:

- The University President or a nominee
- The Director of the Examination Control Unit or a nominee,
- An Academic staff member, and
- Head of Legal Affairs Department or a nominee.

The University Examination Offences Committee meets at least twice per-semester (after the mid-term exam and after the end of semester exam) but before the semester assessment board.

The Committee receives all reports from investigating panels that were held within the semester. The Committee ensures that panels have concluded, where an offence has been committed, an appropriate penalty and similar offences across the University received similar penalties. It also ensures that cases have been investigated fairly and in compliance with the Supreme Council of Universities guidelines and regulations.

The committee produces a list of all students with confirmed penalties and submits it to the assessment

board to note at its meeting every semester.

#### **F- Dismissal from Class**

Students dismissed from classes for insubordination or other disciplinary reasons are not to return to class until the faculty member concerned permits it and in some cases after being referred to the Dean's office.

#### **G- General Conduct Regulations**

MSA University expects its students to be mature, honest and responsible members on campus and in their larger community. Any behavior that infringes upon the rights, safety, property and privileges of another person or which impedes the educational process of MSA University is unacceptable.

MSA students are expected to show their outmost respect towards their fellow students, staff members and MSA University as a whole. Any improper conduct such as *physical violence*, fighting, bullying and harassment of others represent behavior that is not conducive to an educational environment, will not be tolerated. Immediate disciplinary action will be taken against violators ranging from social probation to dismissal.

All students must carry their University *ID cards* and provide it to University personnel upon entrance/request. MSA University continues to recognize that its responsibility is linked with the protection of its students, faculty staff and property.

Members of MSA community are expected to abide by *Egyptian Laws*, and are subject to them. If any student violates Egyptian law and/or acts in a way that damages the reputation of the institution, the violation may obligate the University to carry out appropriate disciplinary action, which may include expulsion from the University. Moreover, MSA reserves the right to review and address incidents that take place off campus in which MSA students are involved.

All students are obliged to switch their *mobile phones* during class time. Any student who violates this policy may be asked to leave the class immediately and will not be permitted to return until the next lecture. This will be counted as an inexcusable absence. All mobile phones must be switched off in the libraries and computer labs. Ringing phones and loud conversation on these premises disturb faculty and students trying to read or study.

Students are responsible for the behavior of their *guests* at all times and are held accountable should the guest cause disturbance or damages. Guests must attain a security clearance from security personnel prior to entering University premises. There should be a valid and acceptable reason for visiting the

University. The University retains the right not to grant entrance clearance as it feels appropriate.

It is not allowed to be in the University campus with no justified purpose after the working hours unless granted a written approval from the University.

University staff are allowed *parking space* inside the University premises.

Students are not permitted to park inside the University campus. Designated parking areas are allocated for students outside the University gates.

*Dress code* is expected to conform to the educational setting. For example, males are prohibited from wearing shorts and slippers. The University's public image should guide their selection of dress.

The University reserves the right to alter and amend regulations if they are found to be unsatisfactory for prevailing circumstances. Such amendments will be communicated and incorporated in the document at the University's earliest convenience.

#### **H- Regulations during attending Virtual Classes**

In compliance with MSA University's General Conduct Regulations, the following conduct is expected from our students throughout any online communication platform, and while attending a virtual online class:

- 1- Make sure you are in a quiet area before entering an online class.
- 2- Join your scheduled class on time, preferable a few minutes earlier.
- 3- Use your real name while signing-in.
- 4- Turn off your camera, unless the instructor asks you to turn it on.
- 5- Mute your microphone when you are not speaking, and allow others to speak without interrupting them.
- 6- Use the "Raise Hand" feature if you wish to ask a question or share something, and wait for the Instructor's permission to unmute you.
- 7- Use the chat box to share ideas and ask questions that are related to the lecture.
- 8- Avoid typing words in ALL-UPPERCASE; which is the written equivalent of shouting.
- 9- Use language that is appropriate for an academic environment; polite, courteous, respectful, and clear.

Any improper conduct performed by a student during an online session, or through any used online communication platform, including but not limited to:

- 1- Sharing content without permission.
- 2- Showing disrespect for the university, faculty, instructor, or classmates.

3- Using inappropriate language, emoji, graphics, videos, photos, etc.

4- Sending messages that are threatening, offensive, or breaching tradition and moral standards.

Will not be tolerated, and immediate disciplinary action will be taken against violators. Further updated information is uploaded on: <https://msa.edu.eg/msauniversity/student-life/virtual-learning-guidelines>.

#### ➤ **Rules and Preventative Measures for Covid 19**

Preventing or limiting the transmission of infection within the University premise requires the application of procedures and protocols to ensure effectiveness in preventing infections.

These controls have been organized according to a certain hierarchy to ensure health and safety across all domains: administrative, environmental & engineering and personal protective equipment.

For further information, refer to: <https://msa.edu.eg/msauniversity/student-life/rules-and-preventive-measures-for-covid-19>.

MSA University as per the Ministry of Higher Education recommendations applied the HYBRID mode of Education to ensure applying health and safety measures. So while week one schedules attend in class (in campus), week 2 attend online (via online platform) and alternatively.

Students, in campus, are requested at all time to wear their face mask and maintain their social distance to ensure their safety.

#### **I- Health, Safety & Welfare**

Students have the same health and safety responsibilities as the employees at MSA and they must take reasonable care of their own health and safety and those of other people. Students' actions should not put them or other people at risk. Students must follow health and safety instructions/rules and report any faults or shortcomings in health and safety arrangements to the University Security Office/Faculty student affairs office. All students without exception are expected to comply with all health and safety regulations operating within the University, in laboratories, workshops and other hazardous places, to acquaint themselves with these regulations. Failure to do so is a serious breach of University regulations.

MSA provides on campus clinic with qualified practitioners (physicians) who are available for the students throughout the week. The clinic is equipped with first aid kits and medication.

## **Appendix (9): Information related to MSA/UoG Collaboration**

### **A- Access to University of Greenwich electronic resources**

Students will have access to our collaborative student portal via on line access. Students receive their UoG student portal login and password directly to their MSA email.

### **B- UK study abroad joint program**

MSA UK Student Study Summer Abroad Programme main objective is to increase the student's experience. The programme, is directed by MSA Head of Quality Assurance & International Partnership Unit. Candidates are selected as per a set criteria that includes the students' academic profile, CGPA, personal interview with Head of Central Quality Assurance & International Partnership. Dates are announced on MSA Academic calendar. The programme is usually conducted during July/August on annual basis. Registration for the programme commences during February, dates are announced on MSA official Media platforms.

The pharmacy programme at MSA provides an opportunity for joint summer abroad modules where the theoretical part of the module material is delivered in the MSA campus, while the practical part is delivered in the labs of the University of Greenwich. This offers students the chance to experience and familiarize themselves with the diverse culture, the different communities and the different protocols of the laboratories. Therefore, providing the students with a chance to have culture awareness and the ability to deal with different issues in an international setting.

For information concerning the deadline for application and the acceptance criteria, contact the Programme Leader.

### **C- Greenwich Graduate Attributes**

The students are expected to develop the following attributes that will endow them with different skills and behaviors that will prepare them for the future careers.

#### **1. Scholarship and Autonomy**

- a. Think creatively, independently, analytically and engage imaginatively with new areas of investigation.
- b. Have an informed understanding of their discipline or professional practice and the ability to question its principles, practices and boundaries.
- c. Appreciate discipline and forms of professional practice beyond their own and draw connections between them.
- d. Are intellectually curious, responsive to challenges, and demonstrate initiatives and resilience.

## **2. Creativity and Enterprise**

- a. Recognize and create opportunities and respond effectively to unexpected situations or problems.
- b. Generate new ideas and develop creative solutions.
- c. Communicate clearly and effectively, in a range of forms with different audiences.
- d. Make use of familiar and emerging information and communication technology.
- e. Seize and shape opportunities open to them after leaving the University.

## **3. Cross-cultural and International Awareness**

- a. Engage effectively in groups whose members come from different backgrounds.
- b. Appreciate the importance of behaving sustainably.
- c. Move fluently between different social, cultural and political contexts.
- d. Value the ability to communicate in more than one language.

### **D- Student Charter**

The Student Charter at University of Greenwich sets out what is expected of you as a member of UoG community and what you can expect from staff of the University. It also highlights the commitments that are shared between the students and staff. (<http://gre.ac.uk/studentcharter>).

The Charter is underpinned by UoG values of ambition, creativity, determination, excellence and inclusivity, and our mission of transforming lives through inspired teaching and research.

#### **We all undertake to:**

- Treat our fellow students and staff, our neighbors and the communities around us with courtesy and respect.
- Work in partnership to shape the academic and student experience through feedback at all levels.
- Develop an open and inclusive environment where everyone can feel welcome and can succeed.
- Celebrate the diverse achievements of our university community.
- Understand the individual differences and needs of our community, and respect and respond to those differences and needs.
- Ensure the safety and wellbeing of ourselves and others.

#### **Staff at the University of Greenwich undertake to:**

- Teach students about cutting edge ideas and practice in a way that is innovative, engaging, stretching, enjoyable and creative.
- Identify and understand students' expectations and what they need to learn, and respect and respond to differences in the ways in which students learn and the experiences they bring.

- Do everything we can to ensure the best possible outcomes for students.
- Care about how students develop at Greenwich and after they leave.
- Provide opportunities to enhance students' personal development and employability and support their career goals.
- Ensure that everything we do is well organised, timely and well communicated.

**Students at the University of Greenwich undertake to:**

- Take ownership of their academic experience and performance, and actively engage with the opportunities available to them while studying at Greenwich.
- Work within University policies and regulations and ensure they are aware of the requirements on them as a member of the Greenwich community. This includes all academic regulations.
- Make the most of the feedback channels available to them in order to improve the experience of the student body.
- Respect the social and physical environment of the University, including accommodation, and behave respectfully towards our community and our neighbors.