



جامعة قناة السويس

كلية الصيدلة

اللائحة الداخلية

لكلية الصيدلة – جامعة قناة السويس

مرحلة البكالوريوس

مادة (1): الرؤية و الرسالة و الأهداف الاستراتيجية للكلية :

مقدمة:

أنشأت كلية الصيدلة جامعة قناة السويس عام 1993, وتهدف الكلية الى تخريج صيدلى ملم بكافة متطلبات المهنة وبأحدث فروع علم الصيدلة وكل التقنيات الحديثة والتي تجعل منه صيدليا متميزا وتؤهله للعمل بصيدليات المجتمع كذلك الصيدليات الملحقة بالمستشفيات ومصانع وشركات الأدوية ومعامل الرقابة الدوائية وتحليل الأغذية بالإضافة الى العمل فى مجال الإعلام والتسويق الدوائى ومراكز البحوث والجامعات.

وتقدم كلية الصيدلة برنامج مرن يتلاءم مع ميول الطلاب ورغباتهم ويبرز طاقاتهم, حيث ان نظام الدراسة ومحتويات المقررات المطروحة تضمن تزويد الطلاب بمهارات الابتكار والتعبير وقدرات التخطيط وذلك للوصول الى المستوى العلمى الذى يؤهلهم الى ممارسة مهنة الصيدلة داخليا وخارجيا طبقا للمعايير العالمية.

رؤية الكلية :

تسعى كلية الصيدلة- جامعة قناة السويس لأن تكون إحدى الكليات الرائدة فى مجال الصيدلة على المستوى المحلى و الإقليمى و العالمى وأن تحظى بقدرة تنافسية من حيث جودة التعليم و الأبحاث العلمية و خدمة مؤسسات المجتمع المدنى.

رسالة الكلية :

تهدف كلية الصيدلة – جامعة قناة السويس إلى تخريج طلاب ذوى قدرة تنافسية عالية على المستوى المحلى و الإقليمى وذلك بأن توفر لطلابها تعليما صيدليا متميزا و مستمرا من خلال تقديم برامج أكاديمية و مهنية متطورة ، كما تهدف إلى المساهمة فى تنمية المجتمع المحلى و الإقليمى من خلال مواكبة منظومة البحث العلمى بالكلية لمتطلبات مؤسسات العمل الصيدلى و الصناعات الدوائية و مراكز خدمات الرعاية الصحية المختلفة، وتهتم الكلية بترسيخ مبادئ و آداب و أخلاقيات مهنة الصيدلة فى خريجها و تشجيع التفاعل الإيجابى بينهم وبين البيئة المحيطة والتأكيد على أهمية التعليم المستمر.

الأهداف الاستراتيجية الكلية :

1. تخريج صيادلة قادرين على الوفاء بمتطلبات المهنة والمنافسة فى سوق العمل فى إطار أخلاقى.
2. الإرتقاء بمستوي البحث العلمي بالكلية و المنافسة علي المستويين الإقليمي و العالمي.
3. تأكيد الالتزام بالمشاركة المجتمعية من خلال إمداد المجتمع بالخبراء وتوفير الخدمات للعاملين في مجال المهنة والمجالات العلمية الأخرى وللعمامة في منطقة القناة و سيناء.

مادة (2): أقسام الكلية:

1. قسم الصيدلانيات و الصيدلة الصناعية
2. قسم العقاقير
3. - قسم الأدوية والسموم
4. قسم الميكروبيولوجى والمناعة
5. قسم الكيمياء التحليلية الصيدلية
6. قسم الكيمياء الطبية
7. قسم الكيمياء الحيوية والبيولوجية الجزيئية
8. قسم الكيمياء العضوية الصيدلية
9. قسم الممارسة الصيدلية

مادة (3):

تمنح جامعة قناة السويس بناء على توصية مجلس كلية الصيدلة درجة البكالوريوس فى العلوم الصيدلية.

مادة (4): شروط القبول:

يشترط فى من يتقدم للالتحاق بالكلية أن يستوفى الشروط التى يحددها المجلس الأعلى للجامعات مع الأخذ فى الاعتبار أن يكون الطالب حاصلاً على شهادة الثانوية العامة القسم العملى أو ما يعادلها.

مادة (5): لغة الدراسة :

الدراسة في الكلية باللغة الانجليزية, ويجوز مع ذلك تدريس بعد المقررات باللغة العربية بناء على توصية القسم المختص وموافقة مجلس الكلية ومجلس الجامعة.

مادة (6): نظام الدراسة:

مدة الدراسة بالكلية خمس سنوات وفق نظام الفصلين الدراسيين
ينقسم كل عام دراسى الى فصلين دراسيين ومدة كل فصل خمسة عشر أسبوعا.

والساعة هى وحدة قياس دراسية وتعادل ساعة دراسية أسبوعية نظرية أو درساً عملياً (ساعتين أسبوعياً) وتدرس على مدى فصل دراسى واحد.

مادة (7): متطلبات الحصول على درجة البكالوريوس:

يتطلب الحصول على درجة البكالوريوس فى العلوم الصيدلية ما يلى:

1- دراسة 175 ساعة تشتمل على مقررات تخصصية ومقررات فى العلوم الأساسية الصيدلية و الطبية والإنسانية والاجتماعية وبعض العلوم المتنوعة ومقررات كمتطلبات جامعية. كما تشتمل على مقررات اختيارية.

2- يؤدي الطلاب تدريباً عملياً في مؤسسه صيدليه أو أكثر مدته لا تقل عن 300 ساعه خلال العطلة الصيفية التي تسبق الفرقة النهائية. و يعين مجلس الكلية المؤسسات الصيدليه التي يتعين علي الطلاب متابعة التدريب فيها أثناء هذه العطلة, و علي الطالب أن يبلغ الكلية عند انقطاعه عن التدريب سواء كان الإنقطاع مؤقتاً أو نهائياً. و لا يمنح الطالب درجة البكالوريوس في العلوم الصيدليه الا إذا قدم شهادته يعتمدها مجلس الكلية من مدير كل مؤسسه صيدليه تدرب فيها تثبت قضاء مدة التدريب علي وجه مرض بعد مناقشته بمعرفة السادة أعضاء هيئته التدريس الذين يعينهم مجلس الكلية.

مادة (8): المواظبة:

على الطالب أن يواظب على حضور المحاضرات النظرية والدراسات العملية ولمجلس الكلية بناء على طلب مجالس الأقسام المختصة أن يحرم الطالب من التقدم للامتحان التحريري إذا تجاوزت نسبة غيابه 25% من اجمالي الساعات المقررة للدروس العملية بعد التأكد من أن رئيس القسم المختص قد قام بإنذار الطالب رسمياً. وأن يكون الطالب وولى أمره قد تم إرسال الإنذار لهما عن طريق شئون الطلبة على العنوان المسجل فى ملف الطالب بالكلية.

الطالب الذى يحرم من دخول الامتحان النهائى تكون درجته صفراً فى ذلك الامتحان ويحسب تقديره على هذا الأساس.

يجب على الطالب أداء الامتحانات النهائية فى المواعيد المقررة لها، ويعتبر المتغيب عن الامتحان النهائى راسباً فى المقررات التى تغيب عن أداء الامتحان فيها إلا إذا منعه عن الأداء عذر قهرى يقبله مجلس الكلية فيعتبر غائباً بعذر مقبول فى المقررات التى تغيب عن أداء الامتحان فيها.

مادة (9): نظام التقييم:

تتكون الدرجة النهائية فى المادة من مجموع درجات الأعمال الفصلية والعملية والتحريرية والشفهية كما هو موضح بجدول البرنامج الدراسى.

الحد الأدنى للنجاح فى أى مقرر هو 60% ولا يكون الطالب ناجحاً فى أى مقرر إلا إذا حصل على 30% من درجة الامتحان التحريري النهائي ، وتكون النسبة المئوية للدرجات النهائية والتقدير كما هو مبين بالجدول التالى

| التقدير | النسبة المئوية |
|---------------|---|
| ممتاز | 85% فأكثر |
| جيد جدا | 75% الي أقل من 85% |
| جيد | 65% الي أقل من 75% |
| مقبول | في المقررات الأساسية: 60% الي أقل من 65% |
| | في المقررات المكملية: 50% الي أقل من 65% |
| | التقدير العام للطالب الناجح فى جميع المقررات و حاصل على 60% الى اقل من 65% من مجموع الدرجات |
| ضعيف | في المقررات الأساسية: 30% الي اقل من 60% |
| | في المقررات المكملية: 30% الي أقل من 50% |
| ضعيف جدا | أقل من 30% في الامتحان التحريري النهائي |
| غائب أو محروم | غائب بدون عذر أو محروم |
| غائب بعذر | غائب بعذر |

تشمل المقررات المكملية اللغة الإنجليزية, علم النفس, حقوق الإنسان, مدخل إلي علم الجودة, علم الأجتماع و ادارة الأعمال الصيدلية.

مادة (10): الرسوب والإعادة والإنذار والفصل:

- ينقل الطالب من الفرقة المقيد بها الي الفرقة التالية اذا نجح في جميع المقررات أو رسب فيما لا يزيد عن أربعة مقررات منها مقررین أساسيين علي الأكثر و في هذه الحالة الأخيرة يؤدي الطالب الامتحان فيما رسب فيه في العام التالي في الفصل المقابل له.

- بالنسبة لطلاب السنة الخامسة فانه يجري لهم امتحان دور ثاني للراسبين فيما لا يزيد عن أربعة مقررات منهم مقررین أساسيين علي الأكثر و يجري الامتحان في شهر سبتمبر قبل بداية العام الدراسي الجديد. وفي حالة رسوب الطالب في دور سبتمبر يجري له الأمتحان في ميعاد امتحانات الفصل الدراسي الخاص بهذه المواد.

فرص القيد للطلاب المنتظمين والطلاب المتقدمين للإمتحان من الخارج

استنادا الي المادة { 80 } من قانون تنظيم الجامعات ولائحته التنفيذية :

- لا يجوز للطالب أن يبقى بالفرقة أكثر من سنتين ، ويجوز لمجلس الكلية الترخيص للطلاب الذين قضوا بفرقهم سنتين في التقدم إلى الامتحان من الخارج في السنة التالية في المقررات التي رسبوا فيها ، وذلك فيما عدا الفرقة الأولى.
- ويجوز لمجلس الكلية علاوة على ما تقدم الترخيص لطلاب الفرقة قبل النهائية والفرقة النهائية بفرصتين إضافيتين للتقدم إلى الامتحان من الخارج ، وإذا رسب طالب الفرقة النهائية فيما لا يزيد على نصف عدد مقررات هذه الفرقة وذلك بصرف النظر عن المقررات المتخلفة من فرق سابقة رخص له دخول الامتحان حتى يتم نجاحه.

| الفرقة | فرص القيد | |
|---------|------------|--|
| | طالب منتظم | الترخيص للطلاب المتقدمين للإمتحان من الخارج |
| الأولى | سنتان | _____ |
| الثانية | سنتان | فرصة واحدة |
| الثالثة | سنتان | فرصة واحدة |
| الرابعة | سنتان | فرصتين |
| الخامسة | سنتان | ❖ فرصتين ❖ وإذا نجح في نصف عدد مقررات السنة النهائية علي الأقل (وذلك بصرف النظر عن المقررات المتخلفة من فرق سابقة) رخص له في الامتحان حتى يتم نجاحه |

مادة (11): الاعتذار عن دخول الامتحان

مع مراعاة الأحكام الواردة في اللائحة التنفيذية لقانون تنظيم الجامعات يراعي في طلبات الاعتذار عن دخول الامتحان ما يلي :-

1. يكون النظر في الأعذار المرضية من اختصاص اللجنة الطبية بالإدارة الطبية بالجامعة ، ويجوز للجنة استشارة الأخصائيين بالمستشفى الجامعي أو مستشفى الطلبة في الحالات التي تحتاج إلى استشاره . و بالنسبة للأمراض النفسية فتعرض بمعرفة الإدارة الطبية على لجنة ثلاثية مشكله من أعضاء هيئه التدريس بكلية الطب يختارهم عميد الكلية . وتعرض على اللجنة الطبية الشهادات الصادرة عن المستشفيات الحكومية العامة أو المركزية أو مستشفيات المؤسسات الصحية العامة ، ويجب أن تحمل الشهادة اسم المستشفى وان يكون موقعا عليها من الطبيب المعالج مع بيان اسمه وتخصصه . كما تعرض على اللجنة الطبية الشهادات الطبية الواردة من الخارج بشرط أن تكون معتمده من القنصلية المصرية وطبيبها إذا وجد . ولا يعتد بالشهادات الطبية الصادرة عن الأطباء أو المستشفيات الخاصة .
2. يقدم الطالب الاعتذار عن عدم دخول الامتحان قبل بدء الامتحان أو أثناءه أو خلال يومين على الأكثر من تاريخ انتهائه ، ولا يلتفت إلى أي طلب يقدم بعد هذا التاريخ ، يقدم الطلب باسم عميد الكلية ويودع إما باليد بأرشفيف الكلية أو يرسل إلى الكلية بالبريد المسجل المصحوب بعلم الوصول ولا يلتفت إلى أي طلب يقدم بغير هذين الطريقتين .
3. لا يجوز تكرار الاعتذار عن عدم دخول الامتحان في الدور الواحد .
4. يجوز تشكيل لجان امتحان خاصة بالمرضى تحت اشراف عميد الكلية ووكيل الكلية لشئون التعليم و الطلاب و رئيس الكنترول و ملاحظ (عضو هيئة تدريس).
5. يختص عميد الكلية بالنظر في التظلمات المقدمة من قرارات اللجنة الطبية.
6. لا يجوز أن يزيد عدد الأعذار المرضية عن عدم دخول الامتحان على مرتين خلال سنوات الدراسة ، تضاف إليها مره ثالثة بقرار من مجلس شئون التعليم والطلاب بالتفويض عن مجلس الجامعة وذلك طبقا للمادة 80 من اللائحة التنفيذية لقانون تنظيم الجامعات .

أحكام عامه

يكون تقدير الأسباب التي تدعو إلى الاعتذار عن عدم دخول الامتحان لعذر اجتماعي من اختصاص مجلس الكلية او مجلس شئون التعليم والطلاب بالجامعة كل في حدود اختصاصه ، بعد دراسة الظروف والملابسات المحيطة بكل حالة على حده .

مادة (12): نظام تأديب الطلاب:

الطلاب المقيدون بالكلية خاضعون للنظام التأديبي المبين فى قانون تنظيم الجامعات المصرية قانون 49 لعام 1972 والقوانين المكمله له.

مادة (13): القواعد الانتقالية :

1. القواعد واللوائح المحددة فى هذه اللائحة تطبق اعتبارا من العام الدراسي التالي لصدور القرار الوزاري وتسري على الطلاب الجدد فقط.

2. اما بالنسبة لطلاب السنوات الاخرى ، فإن القوانين واللوائح القديمة تنطبق عليهم حتى تخرجهم.

3. الطلاب المتقدمين للإمتحان من الخارج سينظر في المواد التي ركبوا فيها وفقا للقوانين واللوائح الصادرة عن القرار الوزاري رقم 1026 تاريخ 1995/07/20 ، والذي كان يطبق عليهم في السنوات الدراسية السابقة الخاصة بهم.

Suez Canal University

Faculty of Pharmacy

Bylaws and Regulations for

Undergraduate Students

Pharmaceutical Sciences Program

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1. Introduction:

The Faculty of Pharmacy, Suez Canal University began accepting students in the fall of 1993 and its first graduates completed studies in 1998. The Faculty of Pharmacy at the Suez Canal University strives to be one of the leading colleges in the Pharmacy field in the Arab Republic of Egypt in terms of quality of education, scientific research and community service. The Faculty of Pharmacy was created in essence to provide the secondary school graduates of the Suez Canal area with modern and applied education in the field of pharmaceutical sciences and also to serve the surrounding community as a whole. The Faculty of Pharmacy serves a wide geographic area of Egypt which includes all three Suez Canal governorates (Port-Said, Ismailia, and Suez) and the whole Sinai Peninsula. The Faculty has several educational, research and community service activities.

1.1. Vision Statement

The Faculty of Pharmacy at the Suez Canal University seeks to be one of the leading educational colleges at both the local and international levels. The Faculty of Pharmacy will be recognized for its impact on the health care needs of the community through its contributions in education, scientific research and service to the civil community.

1.2. Mission Statement

The mission of the Faculty of Pharmacy at the Suez Canal University is the development of students and scholars who are competitive at the local, regional and national levels. The Faculty will provide a strong foundation in the knowledge and application of pharmaceutical and biomedical sciences through offering and continuous development of state – of – the – art programs. The Faculty of Pharmacy also aims to serve the local community via development and implementation of modern scientific research plans which are geared towards the community pharmacy, health care and industrial needs. The Faculty of Pharmacy will embed in its students the principles and ethics of pharmacy practice and provides programs that promote an atmosphere for life-long learning and continued professional development.

1.3. Objectives

1. Graduate pharmacists able to meet the requirements of the professional goals and compete in the labor market in an ethical framework.
2. Promoting scientific research and compete at the regional and global levels.
3. Reaffirm the commitment to community participation through the supply community experts and the provision of services for workers in the field of pharmacist professional and other fields of science and the public sector in the Suez Canal and Sinai regions

2- THE FACULTY DEPARTMENTS

The Faculty of Pharmacy consists of the following departments:

1. Department of Pharmaceutics and Industrial Pharmacy
2. Department of Pharmacognosy
3. Department of Pharmacology and Toxicology
4. Department of Microbiology and Immunology
5. Department of Pharmaceutical Analytical Chemistry
6. Department of Medicinal Chemistry
7. Department of Biochemistry and Molecular Biology
8. Department of Pharmaceutical Organic Chemistry
9. Department of Pharmacy Practice

3. DEGREE AWARDED

Suez Canal University awards, at the recommendation of the Faculty of Pharmacy, a Bachelor degree in Pharmaceutical Sciences, after successful completion of the approved study programme.

4. ADMISSION POLICY

The faculty complies with the admission regulations and requirements of the Egyptian

Supreme Council of Universities (ESCU).

Every student who has paid the admission fees is given an ID card authenticated by the Faculty Seal and endorsed by the Dean or his representative. This ID card should be presented at all

times whenever requested. The student may be given a substitute ID card in case the original one is lost or damaged.

5. L LANGUAGE OF INSTRUCTION

English is the official language of instruction; all communication, lectures, coursework, and documentation are performed using the English language. Some courses may be taught in the Arabic language following recommendation of the Department Council and approval of the Faculty and University Councils.

6. PROGRAMME STRUCTURE

The Bachelor of Pharmacy programme can be completed in five years (ten semesters) of Full-time study. It provides knowledge, skills and attitudes in basic; pharmaceutical; medical; health; environmental; behavioral and social sciences and pharmacy practice and management. The program is structured into two semesters each year, each semester made up of 15 weeks.

The Faculty of Pharmacy implements the two semesters system. An hour represents an hour of lectures (L) or two hours of practical or tutorial (P/T) classes a week for a period of one semester.

7. GRADUATION:

The Bachelor degree in Pharmaceutical Sciences is granted after:

1. successful completion of 175 hours including 169 hours of required courses and 6 hours of elective courses.
2. In addition, summer training/internship of 300 hours in a pharmaceutical establishment is required during the summer break preceeding the final year of study. The Faculty Council will determine which pharmaceutical establishments the students may conduct their internships in. Students must notify the the Faculty if they temporarily or permanently discontinue the internship period. Students are not granted the Bacherlors degree of Pharmaceutical sciences unless they submit a document from the manager of the pharmaceutical establishment where they completed their internship.

The Faculty Council will appoint faculty members responsible for accrediting this document from the manager of the pharmaceutical establishment.

8. ATTENDANCE

The student has to attend satisfactorily the theoretical lectures and practical classes. The Faculty Council has the right, upon the request of Department Councils, to ban the student from attending the exams, if the attendance of the practical classes of a certain course is less than 75%. In this case, the student is considered “failed” in that course, unless he/she submits an excuse and the Faculty Council accepts it, then the student would be considered absent from the exam with an acceptable excuse. Under all circumstances, the student’s absence whether or not with an acceptable excuse should not exceed 25% of the practical classes.

9. ASSESSMENT

Student’s performance is assessed by both coursework and examinations. Exams are held at the end of each course. Methods of assessment include written, oral and practical examinations, research papers, course assignments and practical work.

- Written examination which may contain short-answer questions, essay-type questions and/or calculations.
- Assessed course work, including problem solving, essay writing, multiple choice tests, and or laboratory report writing, research project reports, poster or oral presentation.

9.1. Grading Scheme:

Evaluation of successful students is according to the following system:

Excellent: Starting from 85% of the total marks.

Very good: From 75% to less than 85% of the total marks.

Good: From 65% to less than 75% of the total marks.

Pass: a) In the basic courses (compulsory and elective); from 60% to less than 65% of the total marks.

b) In the complementary courses; from 50% to less than 65% of the total marks.

c) In the cumulative grade; for the student who is successful in all courses and obtaining from 60% to less than 65% of the total marks.

9.2. Failure in Courses

Student failure is evaluated with one of the following two grades:

Poor: a) In the basic courses (compulsory and elective); from 30% to less than 60% of the total marks.

b) In the complementary courses; from 30% to less than 50% of the total marks.

Very poor: Less than 30% of the written exam mark.

The complementary courses comprise; English language, quality assurance, human rights, pharmacy administration, psychology and sociology.

For the student to pass in a course, he/she should obtain the minimum marks required for the pass grade, taking into consideration that the mark for the written exam should not be less than 30% of the total marks allocated for it. The student should attend the required exams for the different courses whether practical, oral, or written.

10. TRANSFER RULES

- For the student to be transferred from one academic year to the next, he/she is required to have successfully passed in all courses. However, the student may still be transferred if he/she has failed in not more than two basic courses and two complementary ones from the same academic year or from previous years of study. In such cases, students “carrying” courses from one year to the next, should re-sit for their “failed” courses in their proper respective semesters.
- Final year students who have failed in a maximum of two basic courses and two complementary ones in that year or from previous years can re-sit for their exams in September of the same year. Should the student fail again, he/she has to re-sit for his/her exams in those courses in their proper respective semesters thereafter as many times as necessary until he/she succeeds.

- Students cannot remain in the same academic year for more than two consecutive years, if the student fails, then he/she becomes an “external” student. The Faculty Council in this case will allow the student to sit for the examinations for the failed courses according to the schedule outlined in the table below. Once the “external” student succeeds in his/her examinations, he/she will be allowed to be transferred to the next academic year and will automatically be registered as a regular student.

10.1. Enrollment opportunities for “regular” and “external” students

| Academic Year | Enrollment opportunities | |
|---------------|--------------------------|---|
| | Regular student | External student |
| First | Two opportunities | None |
| Second | Two opportunities | One opportunities |
| Third | Two opportunities | One opportunity |
| Fourth | Two opportunities | Two opportunities |
| Fifth | Two opportunities | Two opportunities But if the student succeeds in half the number of the fifth year courses, he/she would be allowed to re-sit for the exam in the courses he/she has failed indefinitely until he/she has graduated. |

- The “external” student should pay an examination fee of 300 L.E. for each course.

11. EXCUSES FOR NOT SITTING THE FINAL EXAMINATION

Excuses for not sitting the final examination are evaluated according to the by-laws listed by the Supreme Council of Universities as follows:

- Medical excuses must be approved by the University health services. The University health services may consult with specialists in the University hospital or the student hospital if needed. Psychological disorders are presented to a committee of three members from the Faculty of Medicine appointed by the Faculty Dean and with notification of the University health services. The University health services must review all medical certificates issued by general or public hospitals or medical centers. Medical certificates must contain the name of the hospital and must be signed by the primary health care provider. The name and speciality of the primary health care provider must be present on the medical certificate. The University health services will also review medical certificates issued from abroad, provided they are certified by the Egyptian Consulate and the consular physician if present. Medical certificates issued by independent physicians or private hospitals are not acknowledged.
- An excuse for not sitting the examination must be submitted before, during or at the most two days after the examination date. Excuses submitted after this time will not be accepted. The excuse must be addressed to the Dean of the Faculty and must be submitted either by hand, or sent via the Faculty's internal mail, or sent by registered mail with notification of receipt. Excuses sent by any other methods will not be accepted or acknowledged.
- A student cannot submit more than one excuse for not sitting final examinations during one academic year.
- Students with medical issues can sit final examinations in separate exam halls. These separate exam halls are supervised by the Dean of the Faculty of Pharmacy, the Vice Dean for Student Affairs, the head of the respective Control and should contain one proctor.
- The Dean of the Faculty of Pharmacy is responsible for making final decisions about complaints submitted over decisions taken by the University health services.

- A student cannot submit a medical excuse to not sit an examination more than twice throughout the 5 academic years of study. The University Council for Student Affairs is authorized by the University Council to accept a third excuse according to rule (80) of the by laws of the Supreme Council of Universities.
- The Faculty Council and University Council for Student Affairs are responsible for assessing reasons compelling students to not sit an examination, provided these reasons are social or familial.

12. DISCIPLINARY ACTIONS

All students enrolled in the Faculty of Pharmacy are subject to the disciplinary rules listed in the by laws outlined by the Supreme Council of Universities Law number 49, Year 1972, and all supplementary rules and regulations.

13. TRANSITIONAL RULES :

1. The rules and regulations specified herein will be applicable starting from the academic year following the issuance of the ministerial decree and apply to new students only .
2. For students of other years who were enrolled before that date, the older statutes and bylaws will apply to them until they graduate .
3. The external students will be examined in the courses in which they have failed in accordance with the statutes and bylaws issued by the Ministerial Decree number 1026 date 20/07/1995, which was applied to them when they were first enrolled .

14. LEARNING AND TEACHING CONCEPTS

The Bachelor of Pharmacy programme is designed to integrate the knowledge, skills and attitudes of pharmaceutical science in the context of pharmacy practice. The program is delivered through lectures, practical classes, group tutorials, seminars, research, assignments and external cooperation with the community and industry.

15. STUDY PLAN

The Bachelor degree of Pharmacy is granted to student who successfully completes a minimum of 175 hours divided as follows:

- A. University requirements: 8 hours.

B. Faculty requirement: 167 hours.

Key for Course Abbreviations

| | |
|-----|---------------------------------------|
| QA | Quality Assurance |
| EN | English language/Medical Terminology |
| HU | Humanities |
| PB | Biochemistry |
| POC | Pharmaceutical Organic Chemistry |
| PAC | Pharmaceutical Analytical Chemistry |
| PMC | Medicinal Chemistry |
| PG | Pharmacognosy |
| PM | Microbiology and Immunology |
| PO | Pharmacology and Toxicology |
| PP | Pharmacy Practice |
| PT | Pharmaceutics and Industrial Pharmacy |
| PS | Biostatistics |
| MD | Medical Science |
| MS | Mathematics |
| CS | Computer Science |

1. The Letter 'P' means that the courses are offered to students of Pharmacy only.
2. The first digit represents the year number.
3. The second and third digits represent the course number.
4. The letter "E" indicates 'elective course'.

Table 1. Courses offered to Pharmacy students classified according to the NARS course categorization

| Course Code | Course Title | Contact Hours | | Hours |
|------------------------------------|--|---------------|-----|-------|
| | | L | P/T | |
| Basic Sciences (16 %) | | | | |
| EN | English Language | 2 | - | 2 |
| PAC | Physical and Inorganic chemistry | 2 | 2 | 3 |
| MD | Cell Biology | 1 | 2 | 2 |
| MD | Biophysics | 1 | 2 | 2 |
| PAC | Pharmaceutical Analytical Chemistry | 4 | 4 | 6 |
| POC | Pharmaceutical Organic Chemistry | 7 | 6 | 10 |
| MS | Mathematics | 1 | 0 | 1 |
| CS | Computer Science | 1 | 2 | 2 |
| Total | | 19 | 18 | 28 |
| Pharmaceutical Sciences (42. 29 %) | | | | |
| PG | Introduction to Pharmacognosy and Natural Products | 2 | 2 | 3 |
| EN | Medical Terminology | 1 | - | 1 |
| PG | Separation technologies | 2 | 2 | 3 |
| PAC | Instrumental Analysis | 2 | 2 | 3 |
| PMC | Medicinal Chemistry | 6 | 6 | 9 |
| PMC | Medicinal Chemistry (4) | 2 | - | 2 |
| PMC | Drug Design | 1 | - | 1 |
| PG | Pharmacognosy | 4 | 4 | 6 |
| PG | Phytochemistry | 4 | 4 | 6 |
| PT | Physical Pharmacy | 2 | 2 | 3 |
| PT | Biopharmaceutics and Pharmacokinetics | 2 | 2 | 3 |

| | | | | |
|-----------------------------------|--|----|----|----|
| PT | Pharmaceutical Dosage Forms | 8 | 8 | 12 |
| PT | Pharmacy Orientation | 2 | - | 2 |
| PT | Industrial Pharmacy | 4 | 4 | 6 |
| PM | Pharmaceutical Microbiology | 2 | 2 | 3 |
| PM | Pharmaceutical Biotechnology | 2 | 2 | 3 |
| PAC | Pharmaceutical Quality Control | 2 | 2 | 3 |
| PO | Screening and Biological Standardization | 2 | 2 | 3 |
| PT | Quality Assurance and GMP | 2 | - | 2 |
| Total | | 52 | 44 | 74 |
| Medical Sciences (21.71%) | | | | |
| MD | Anatomy | 1 | 2 | 2 |
| MD | Histology | 1 | 2 | 2 |
| MD | Physiology | 2 | 2 | 3 |
| MD | Pathology | 1 | 2 | 2 |
| MD | Parasitology | 1 | 2 | 2 |
| PM | Medical Microbiology | 3 | 2 | 4 |
| PM | Microbiology and Immunology | 2 | 2 | 3 |
| PB | Biochemistry | 4 | 4 | 6 |
| PB | Clinical Biochemistry | 2 | 2 | 3 |
| PO | Pharmacology | 6 | 6 | 9 |
| PO | Therapeutics | 2 | - | 2 |
| Total | | 25 | 26 | 38 |
| Pharmacy Practice (7.43 %) | | | | |
| PP | Hospital pharmacy | 1 | 2 | 2 |
| PP | Pharmaceutical Legislation and Ethics | 2 | - | 2 |
| PP | Phytotherapy | 2 | - | 2 |
| PP | Clinical pharmacy | 2 | 2 | 3 |
| PP | Pharmacy practice | 2 | - | 2 |

| | | | | |
|--|---|----|---|----|
| PG | Production and Manufacturing of Herbal Medicines and Extracts | 2 | - | 2 |
| Total | | 11 | 4 | 13 |
| Health and Environmental Sciences (4.57%) | | | | |
| PM | Public health | 1 | - | 1 |
| PB | Human nutrition | 1 | - | 1 |
| PO | Toxicology | 2 | 2 | 3 |
| PO | Drug Interactions | 1 | - | 1 |
| MD | First aid | 1 | - | 1 |
| MS | Biostatistics | 1 | - | 1 |
| Total | | 7 | 2 | 8 |
| Behavioral and Social Sciences (2.86%) | | | | |
| HU | Psychology | 1 | - | 1 |
| HU | Humanities | 2 | - | 2 |
| QA | Quality assurance | 2 | - | 2 |
| Total | | 5 | - | 5 |
| Pharmacy Management (1.71 %) | | | | |
| PP | Pharmacy administration | 2 | - | 2 |
| PP | Sale marketing and drug promotion | 1 | - | 1 |
| Total | | 3 | - | 3 |
| Discretionary Courses (3.43 %) | | | | |
| PACE 1 | Cosmetics Analysis | 1 | 2 | 2 |
| PACE 2 | Food Analysis | 1 | 2 | 2 |
| PBE 1 | Introduction to Research Methodology | 2 | - | 2 |
| POE 1 | Drug Abuse | 1 | 2 | 2 |
| POE 2 | Immunopharmacology | 1 | 2 | 2 |
| POE3 | Pharmacogenetics | 1 | 2 | 2 |
| PGE 1 | Narcotics, Psychotropic and Toxic Plants | 1 | 2 | 2 |

| | | | | |
|--------|--|---|---|---|
| PGE 2 | Plant biotechnology | 1 | 2 | 2 |
| PGE 3 | Marine Natural Products | 1 | 2 | 2 |
| PGE 4 | Nutraceutical and Herbal Drug Interactions | 1 | 2 | 2 |
| PMCE | Drug synthesis | 1 | 2 | 2 |
| PTE 1 | Design and Formulation of Dosage Forms | 1 | 2 | 2 |
| PTE 2 | Cosmetics Preparation | 1 | 2 | 2 |
| POCE1 | Raw materials | 2 | - | 2 |
| POCE2 | Polymers | 2 | - | 2 |
| PME 1 | Environmental Control | 1 | 2 | 2 |
| PME 2 | Antimicrobial Agents | 1 | 2 | 2 |
| PB E 1 | Introduction to Research Methodology | 2 | - | 2 |
| PME 3 | Undergraduate Project | 1 | 2 | 2 |
| PBE2 | Biotechnology and Human Disease | 1 | 2 | 2 |
| PPE1 | Advanced Clinical Pharmacy | 2 | - | 2 |
| PPE2 | Clinical Pharmacokinetics | 2 | - | 2 |
| PPE3 | Community Pharmacy Practice | 2 | - | 2 |

L: Lecture; P/T: Practical or tutorial.

Tables 2 – 11: List all courses required to be awarded the Bachelors Degree of Pharmaceutical Sciences

A. Table 2. University Requirements

| Course Code | Course Title | Contact Hours | | Total Hours* |
|-------------|-------------------|---------------|-----|--------------|
| | | L | P/T | |
| EN | English Language | 2 | - | 2 |
| HU | Humanities | 2 | - | 2 |
| QA | Quality Assurance | 2 | - | 2 |
| CS | Computer Science | 1 | 2 | 2 |
| Total | | 7 | 2 | 8 |

L: Lecture; P/T: Practical or tutorial.

B. Faculty Requirements

Table 3. Courses offered by the Department of Pharmaceutics and Industrial Pharmacy

| Course Code | Course Title | Contact Hours | | Total Hours |
|-------------|--|---------------|-----|-------------|
| | | L | P/T | |
| PT 101 | Pharmacy Orientation | 2 | - | 2 |
| PT 102 | Physical Pharmacy | 2 | 2 | 3 |
| PT 201 | Pharmaceutical Dosage Forms (1) | 2 | 2 | 3 |
| PT 202 | Pharmaceutical Dosage Forms (2) | 2 | 2 | 3 |
| PT 301 | Pharmaceutical Dosage Forms (3) | 2 | 2 | 3 |
| PT 302 | Pharmaceutical Dosage Forms (4) | 2 | 2 | 3 |
| PT 401 | Industrial Pharmacy (1) | 2 | 2 | 3 |
| PT 402 | Industrial Pharmacy (2) | 2 | 2 | 3 |
| PT 501 | Biopharmaceutics and Pharmacokinetics | 2 | 2 | 3 |
| PT 502 | Quality Assurance and GMP | 2 | - | 2 |
| Total | | 20 | 16 | 28 |
| PTE 1 | Design and Formulation of Dosage Forms | 1 | 2 | 2 |
| PTE 2 | Cosmetics Preparation | 1 | 2 | 2 |

Table 4. Courses offered by the Department of Pharmacognosy

| Course Code | Course Title | Contact Hours | | Total Hours |
|-------------|---|---------------|-----|-------------|
| | | L | P/T | |
| PG 101 | Introduction to Pharmacognosy and Natural Products | 2 | 2 | 3 |
| PG102 | Pharmacognosy (1) | 2 | 2 | 3 |
| PG 201 | Pharmacognosy (2) | 2 | 2 | 3 |
| PG 301 | Phytochemistry (1) | 2 | 2 | 3 |
| PG 302 | Phytochemistry (2) | 2 | 2 | 3 |
| PG 401 | Phytotherapy | 2 | - | 2 |
| PG 501 | Separation technologies | 2 | 2 | 3 |
| PG 502 | Production and Manufacturing of Herbal Medicines and Extracts | 2 | - | 2 |
| Total | | 16 | 12 | 22 |
| PGE 1 | Narcotics, Psychotropic and Toxic Plants | 1 | 2 | 2 |
| PGE 2 | Plant biotechnology | 1 | 2 | 2 |
| PGE 3 | Marine Natural Products | 1 | 2 | 2 |
| PGE 4 | Nutraceutical and Herbal Drug Interactions | 1 | 2 | 2 |

Table 5. Courses offered by the Department of Pharmacology and Toxicology

| Course Code | Course Title | Contact Hours | | Total Hours |
|-------------|--|---------------|-----|-------------|
| | | L | P/T | |
| EN 102 | Medical Terminology | 1 | - | 1 |
| PO 301 | Pharmacology (1) | 2 | 2 | 3 |
| PO 302 | Pharmacology (2) | 2 | 2 | 3 |
| PO 401 | Pharmacology (3) | 2 | 2 | 3 |
| PO 402 | Toxicology | 2 | 2 | 3 |
| PO 501 | Drug Interactions | 1 | - | 1 |
| PO 502 | Therapeutics | 2 | - | 2 |
| PO 503 | Screening and Biological Standardization | 2 | 2 | 3 |
| MD 501 | First Aid | 1 | - | 1 |
| PS 501 | Biostatistics | 1 | - | 1 |
| Total | | 16 | 10 | 21 |
| POE 1 | Drug Abuse | 1 | 2 | 2 |
| POE 2 | Pharmacogenetics | 1 | 2 | 2 |
| POE 1 | Immunopharmacology | 1 | 2 | 2 |

Table 6. Courses offered by the Department of Microbiology and Immunology

| Course Code | Course Title | Contact Hours | | Total Hours |
|-------------|------------------------------|---------------|-----|-------------|
| | | L | P/T | |
| PM 201 | Microbiology and Immunology | 2 | 2 | 3 |
| PM 301 | Pharmaceutical Microbiology | 2 | 2 | 3 |
| PM 401 | Pharmaceutical Biotechnology | 2 | 2 | 3 |
| PM 402 | Medical Microbiology | 3 | 2 | 4 |
| PM 501 | Public Health | 1 | - | 1 |
| MD 301 | Parasitology | 1 | 2 | 2 |
| MD 202 | Pathology | 1 | 2 | 2 |
| Total | | 12 | 12 | 18 |
| PME 1 | Environmental Control | 1 | 2 | 2 |
| PME 2 | Antimicrobial Agents | 1 | 2 | 2 |
| PME 3 | Undergraduate Project | 1 | 2 | 2 |

Table 7. Courses offered by the Department of Pharmaceutical Analytical Chemistry

| Course Code | Course Title | Contact Hours | | Total Hours |
|-------------|---|---------------|-----|-------------|
| | | L | P/T | |
| PAC 101 | Physical and Inorganic Chemistry | 2 | 2 | 3 |
| PAC 102 | Pharmaceutical Analytical Chemistry (1) | 2 | 2 | 3 |
| PAC 201 | Pharmaceutical Analytical Chemistry (2) | 2 | 2 | 3 |
| PAC 301 | Instrumental Analysis | 2 | 2 | 3 |
| PAC 501 | Pharmaceutical Quality Control | 2 | 2 | 3 |
| Total | | 10 | 10 | 15 |
| PACE 1 | Cosmetics Analysis | 1 | 2 | 2 |
| PACE 2 | Food Analysis | 1 | 2 | 2 |

Table 8. Courses offered by the Department of Medicinal Chemistry

| Course Code | Course Title | Contact Hours | | Total Hours |
|-------------|---|---------------|-----|-------------|
| | | L | P/T | |
| PMC 301 | Medicinal Chemistry(1), and Drug Design | 2 | 2 | 3 |
| PMC 401 | Medicinal Chemistry (2) | 2 | 2 | 3 |
| PMC 402 | Medicinal Chemistry (3) | 2 | 2 | 3 |
| PMC 501 | Medicinal Chemistry (4) | 2 | - | 2 |
| PMC 502 | Drug design | 1 | - | 1 |
| Total | | 9 | 6 | 12 |
| PMCE | Drug Synthesis | 1 | 2 | 2 |

Table 9. Courses offered by the Department of Biochemistry and Molecular Biology

| Course Code | Course Title | Contact Hours | | Total Hours |
|-------------|--------------------------------------|---------------|-----|-------------|
| | | L | P/T | |
| PB 201 | Biochemistry (1) | 2 | 2 | 3 |
| PB 301 | Biochemistry (2) | 2 | 2 | 3 |
| PB 302 | Clinical Biochemistry | 2 | 2 | 3 |
| PB 401 | Human Nutrition | 1 | - | 1 |
| Total | | 7 | 6 | 10 |
| PBE 1 | Introduction to Research Methodology | 2 | - | 2 |
| PBE 2 | Biotechnology and Human Disease | 1 | 2 | 2 |

Table 10. Courses offered by the Department of Pharmaceutical Organic Chemistry

| Course Code | Course Title | Contact Hours | | Total Hours |
|-------------|--------------------------------------|---------------|-----|-------------|
| | | L | P/T | |
| POC 101 | Pharmaceutical Organic Chemistry (1) | 2 | 2 | 3 |
| POC 102 | Pharmaceutical Organic Chemistry (2) | 2 | 2 | 3 |
| POC 201 | Pharmaceutical Organic Chemistry (3) | 2 | 2 | 3 |
| POC 202 | Pharmaceutical Organic Chemistry (4) | 1 | 0 | 1 |
| Total | | 7 | 6 | 10 |
| POCE1 | Raw materials | 2 | - | 2 |
| POCE2 | Polymers | 2 | - | 2 |

Table 11. Courses offered by the Department of Pharmacy practice.

| Course Code | Course Title | Contact Hours | | Total Hours |
|-------------|---------------------------------------|---------------|-----|-------------|
| | | L | P/T | |
| PP 501 | Clinical Pharmacy | 2 | 2 | 3 |
| PP 502 | Pharmacy Practice | 2 | - | 2 |
| PP 401 | Pharmaceutical Legislature and Ethics | 2 | - | 2 |
| PP 402 | Hospital Pharmacy | 1 | 2 | 2 |
| PP 503 | Sales, Marketing and Drug Promotion | 1 | - | 1 |
| PP 201 | Pharmacy administration | 2 | - | 2 |
| Total | | 10 | 4 | 12 |
| PPE1 | Advanced Clinical Pharmacy | 2 | - | 2 |
| PPE2 | Clinical Pharmacokinetics | 2 | - | 2 |
| PPE3 | Community Pharmacy Practice | 2 | - | 2 |

a) The student must choose three elective courses.

b) Every academic year, the Faculty Council may offer some or all of the stated elective courses or add new ones after consulting with the respective departments.

Tables 12 – 21 show the curriculum program according to a two-semester system.

16. PROGRAMME CURRICULUM

First year (First Semester).

| Course Code | Course Title | Contact Hours | | Total Hours | Mark Distribution* | | | | | Exam Time |
|--------------|--|---------------|-----------|-------------|--------------------|----|-----|------|------------|-----------|
| | | L | P/T | | F.E.* | P | C.W | Oral | Total | |
| PAC 101 | Physical and Inorganic chemistry | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| POC 101 | Pharmaceutical Organic Chemistry (1) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PG 101 | Introduction to Pharmacognosy and Natural products | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| MD101 | Cell Biology | 1 | 2 | 2 | 65 | 25 | 10 | - | 100 | 1 |
| MD102 | Biophysics | 1 | 2 | 2 | 65 | 25 | 10 | - | 100 | 1 |
| PT 101 | Pharmacy Orientation | 2 | - | 2 | 80 | - | 10 | 10 | 100 | 2 |
| EN 101 | English Language | 2 | - | 2 | 90 | - | 10 | - | 100 | 2 |
| Total | | 12 | 10 | 17 | | | | | 850 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

First Year (Second Semester)

| Course Code | Course Title | Contact Hours | | Total Hours | Mark Distribution | | | | | Exam Time |
|--------------|---|---------------|-----------|-------------|-------------------|----|-----|------|------------|-----------|
| | | L | P/T | | F.E. | P | C.W | Oral | Total | |
| POC 102 | Pharmaceutical Organic Chemistry (2) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PAC 102 | Pharmaceutical Analytical Chemistry (1) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PG 102 | Pharmacognosy (1) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| MD103 | Histology | 1 | 2 | 2 | 65 | 25 | 10 | - | 100 | 1 |
| EN 102 | Medical Terminology | 1 | - | 1 | 40 | - | 10 | - | 50 | 1 |
| MS101 | Mathematics | 1 | - | 1 | 40 | - | 10 | - | 50 | 1 |
| CS 101 | Computer Science | 1 | 2 | 2 | 65 | 25 | 10 | - | 100 | 1 |
| PT 102 | Physical Pharmacy | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| Total | | 12 | 12 | 18 | | | | | 900 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

Second Year (First Semester).

| Course Code | Course Title | Contact Hours | | Total Hours | Mark Distribution | | | | | Exam Time |
|--------------|---|---------------|-----------|-------------|-------------------|----|-----|------|------------|-----------|
| | | L | P/T | | F.E. | P | C.W | Oral | Total | |
| POC 201 | Pharmaceutical Organic Chemistry (3) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PAC 201 | Pharmaceutical Analytical Chemistry (2) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PG 201 | Pharmacognosy (2) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PT 201 | Pharmaceutical Dosage Forms (1) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| HU 201 | Humanities | 2 | - | 2 | 90 | - | 10 | - | 100 | 2 |
| MD 201 | Anatomy | 1 | 2 | 2 | 65 | 25 | 10 | - | 100 | 1 |
| PP 201 | Pharmacy Business Administration | 2 | - | 2 | 90 | - | 10 | - | 100 | 2 |
| Total | | 13 | 10 | 18 | | | | | 900 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

Second Year (Second Semester)

| Course Code | Course Title | Hours | | Total | Mark Distribution | | | | | Exam Time |
|--------------|--------------------------------------|-----------|-----------|-----------|-------------------|----|-----|------|------------|-----------|
| | | L | P/T | Hours | F.E. | P | C.W | Oral | Total | |
| POC 202 | Pharmaceutical Organic Chemistry (4) | 1 | - | 1 | 25 | - | 10 | 15 | 50 | 1 |
| PM 201 | Microbiology and Immunology | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| MD 202 | Pathology | 1 | 2 | 2 | 50 | 25 | 10 | 15 | 100 | 1 |
| PT 202 | Pharmaceutical Dosage Forms (2) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PB 201 | Biochemistry (1) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| HU 202 | Psychology | 1 | - | 1 | 40 | - | 10 | - | 50 | 1 |
| QA 201 | Quality Assurance | 2 | - | 2 | 90 | - | 10 | - | 100 | 2 |
| MD 203 | Physiology | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| Total | | 13 | 10 | 18 | | | | | 900 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

Third Year (First Semester).

| Course Code | Course Title | Contact Hours | | Total Hours | Mark Distribution | | | | | Exam Time |
|--------------|---------------------------------|---------------|-----------|-------------|-------------------|----|-----|------|------------|-----------|
| | | L | P/T | | F.E. | P | C.W | Oral | Total | |
| PAC 301 | Instrumental Analysis | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PG 301 | Phytochemistry (1) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PO 301 | Pharmacology (1) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PT 301 | Pharmaceutical dosage forms (3) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| MD301 | Parasitology | 1 | 2 | 2 | 50 | 25 | 10 | 15 | 100 | 1 |
| PB 301 | Biochemistry (2) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| Total | | 11 | 12 | 17 | | | | | 850 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

Third Year (Second Semester)

| Course Code | Course Title | Contact Hours | | Total Hours | Mark Distribution | | | | | Exam Time |
|--------------|---------------------------------|---------------|-----------|-------------|-------------------|----|-----|------|------------|-----------|
| | | L | P/T | | F.E. | P | C.W | Oral | Total | |
| PG 302 | Phytochemistry (2) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PB 302 | Clinical Biochemistry | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PMC 301 | Medicinal Chemistry (1) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PO 302 | Pharmacology (2) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PT 302 | Pharmaceutical dosage forms (4) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PM 301 | Pharmaceutical Microbiology | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| Total | | 12 | 12 | 18 | | | | | 900 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

Fourth Year (First Semester)

| Course Code | Course Title | Contact Hours | | Total Hours | Mark Distribution | | | | | Exam Time |
|--------------|-------------------------------------|---------------|----------|-------------|-------------------|----|-----|------|------------|-----------|
| | | L | P/T | | F.E. | P | C.W | Oral | Total | |
| PG 401 | Phytotherapy | 2 | - | 2 | 80 | - | 10 | 10 | 100 | 2 |
| PO 401 | Pharmacology (3) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PMC 401 | Medicinal Chemistry (2) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PT 401 | Industrial Pharmacy (1) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PP 401 | Pharmaceutical Legislature & Ethics | 2 | - | 2 | 80 | - | 10 | 10 | 100 | 2 |
| PM 401 | Pharmaceutical Biotechnology | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| Total | | 12 | 8 | 16 | | | | | 800 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

Forth Year (Second Semester)

| Course Code | Course Title | Contact Hours | | Total Hours | Mark Distribution | | | | | Exam Time |
|--------------|-------------------------|---------------|-----------|-------------|-------------------|----|-----|------|------------|-----------|
| | | L | P/T | | F.E. | P | C.W | Oral | Total | |
| PO 402 | Toxicology | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PMC 402 | Medicinal Chemistry (3) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PM 402 | Medical Microbiology | 3 | 2 | 4 | 110 | 60 | 10 | 20 | 200 | 3 |
| PP 402 | Hospital Pharmacy | 1 | 2 | 2 | 50 | 25 | 10 | 15 | 100 | 1 |
| PT 402 | Industrial Pharmacy (2) | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PB 401 | Human Nutrition | 1 | - | 1 | 35 | - | 5 | 10 | 50 | 1 |
| PE | Elective Course | 2 | - | 2 | 75 | - | 25 | - | 100 | 2 |
| Total | | 13 | 10 | 18 | | | | | 900 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

Fifth Year (First Semester)

| Course Code | Course Title | Contact Hours | | Total Hours | Mark Distribution | | | | | Exam Time |
|--------------|---------------------------------------|---------------|----------|-------------|-------------------|----|-----|------|------------|-----------|
| | | L | P/T | | F.E. | P | C.W | Oral | Total | |
| PP 501 | Clinical Pharmacy | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PG 501 | Separation technologies | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PO 501 | Drug Interactions | 1 | - | 1 | 35 | - | 5 | 10 | 50 | 1 |
| PMC 501 | Medicinal Chemistry (4) | 2 | - | 2 | 80 | - | 10 | 10 | 100 | 2 |
| PM 501 | Public Health | 1 | - | 1 | 35 | - | 5 | 10 | 50 | 1 |
| PT 501 | Biopharmaceutics and pharmacokinetics | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PO 502 | Therapeutics | 2 | - | 2 | 80 | - | 10 | 10 | 100 | 2 |
| PE | Elective Course | 2 | - | 2 | 75 | - | 25 | - | 100 | 2 |
| Total | | 14 | 6 | 17 | | | | | 850 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

Fifth Year (Second Semester)

| Course Code | Course Title | Contact Hours | | Total Hours | Mark Distribution | | | | | Exam Time |
|--------------|---|---------------|----------|-------------|-------------------|----|-----|------|------------|-----------|
| | | L | P/T | | F.E. | P | C.W | Oral | Total | |
| PT 502 | Quality Assurance and GMP | 2 | - | 2 | 80 | - | 10 | 10 | 100 | 2 |
| PMC 502 | Drug Design | 1 | - | 1 | 35 | - | 5 | 10 | 50 | |
| PO 503 | Screening and Biological Standardization | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| MD 501 | First Aid | 1 | - | 1 | 35 | - | 5 | 10 | 50 | 1 |
| PP 502 | Pharmacy Practice | 2 | - | 2 | 90 | - | 10 | - | 100 | 2 |
| PG 502 | Production and Manufacture of Herbal Medicines and Extracts | 2 | - | 2 | 80 | - | 10 | 10 | 100 | 2 |
| PS 501 | Biostatistics | 1 | - | 1 | 35 | - | 5 | 10 | 50 | 1 |
| PP 503 | Sale marketing and drug promotion | 1 | - | 1 | 45 | - | 5 | - | 50 | 1 |
| PAC 501 | Pharmaceutical Quality Control | 2 | 2 | 3 | 80 | 45 | 10 | 15 | 150 | 2 |
| PE | Elective Course | 2 | - | 2 | 75 | - | 25 | - | 100 | 2 |
| Total | | 16 | 4 | 18 | | | | | 900 | |

* F.E.: Final Exam; P: Practical Exam; C.W: Course work.

- The allocated time for the written exam is equal to the number of hours assigned per week for the theoretical lectures of that course. Fifty marks are allocated for every hour.

17. COURSE DESCRIPTIONS

Courses offered by the Department of Pharmaceutics and Industrial Pharmacy

PT 101: Pharmacy Orientation:

Topic covered: History of pharmacy practice with particular emphasis on Arab impact, pharmacy orientation, roles of the pharmacist, pharmacy organizations, systems of medicine. Introduction to pharmaceutical dosage forms, types of prescriptions, and Incompatibilities.

PT 102: Physical Pharmacy

Principles of physical pharmacy, rheology and the flow of fluids, surface and interfacial phenomena, solutions and their properties, solubility and dissolution rate, disperse systems for preparation and characterization of suspensions, emulsion, colloids and macromolecular system.

PT 201: Pharmaceutical Dosage Forms (1)

Includes, pharmaceutical calculations, pharmaceutical solutions, colloids and macromolecular systems, coarse dispersions, suspensions , and emulsions colloids.

PT 202 :Pharmaceutical Dosage Forms (2)

Formulation, preparation and evaluation of semisolids and related dosage forms, transdermals, topical Drugs and Suppositories.

PT 301: Pharmaceutical Dosage Forms (3)

Formulation, preparation and evaluation of solid forms, micromeritics, powders and granules, tablets, coating, hard capsules, soft capsules microencapsulation and sustained release dosage forms.

PT 302: Pharmaceutical Dosage Forms (4)

Topics covered the principles of the preparation and uses of different sterile products. Parenteral medications, ophthalmic preparations and radiopharmaceuticals.

PT 401: Industrial Pharmacy (1)

Topics covered the principles of different manufacturing steps of different dosage forms, e.g. Heat transfer, evaporation, drying, extraction, crystallization, filtration, centrifugation and distillation.

PT 402: Industrial Pharmacy (2)

Mixing, emulsification, homogenization, size reduction, size separation, size enlargements, materials for plant constructions, packaging materials, good manufacturing practice, flow of fluids, mass transfer, safety measures and validation.

PT 501: Biopharmaceutics and Pharmacokinetics

Factors affecting drug absorption, factors affecting drug elimination, product development, pharmacokinetics models, pharmacokinetics following I.V. administration, pharmacokinetics following oral dosage forms, kinetics of drug absorption, clearance, bioavailability and bioequivalency, absolute and relative bioavailability, assessment of bioavailability and correlation between in vitro dissolution and in vivo absorption.

PT 502: Quality Assurance and GMP

Quality control and assurance organization, analytical control, inspection control, documentation, environmental control, GMP regulations, statistical quality control.

PTE 1: Design and Formulation of Dosage Forms (elective)

Formulation of oral dispersion systems, dermatologicals, suppositories, solid dosage forms, parenterals and sustained release products

PTE 2: Cosmetics Preparation (elective)

Definition and concepts, classification, hair preparation, bath preparation, fragrance preparation, make-up preparation, nail lacquers, shaving preparations, after-shave preparations, skin-care and anal hygiene products, antiperspirants and deodorants, quality control tests and evaluation of cosmetic products.

Courses offered by the Department of Pharmacognosy

PG 101: Introduction to Pharmacognosy and Natural Products

Devoted to the study of the basic areas of the pharmacognostical features of any natural medicinal agent. The different methods of natural medicinal preparation i.e., cultivation, collection, drying, storage as well as the different adulteration ways of the phytomedicinals.

PG102: Pharmacognosy (1)

An introduction to pharmacognosy and a detailed pharmacognostical study of drugs composed of leaves, flowers, barks, galls and woods and unorganized drugs.

PG 201 : Pharmacognosy (2)

Detailed pharmacognostical study of drugs composed of seeds, fruits, herbs, rhizomes and roots and animal drugs

PG 301 : Phytochemistry (1)

Devoted to the study of plant-derived therapeutically active principles; volatile oils, carbohydrates, resins and resin combinations, bitter principles and tannins.

PG 302: Phytochemistry (2)

Detailed study of phytochemicals; alkaloids and glycosides, in addition to hallucinating and anticancer drugs. Introduction to chromatography and separation techniques.

PG 401 : Phytotherapy

Guidelines for prescribing herbal medicines, drugs affecting digestive system, cardiovascular system, respiratory system, nonspecific enhancement of resistance, urinary system, rheumatic conditions, nervous system, gynecological conditions, cancer, skin diseases, eye diseases, wounds and other injuries.

PG 501 Separation technologies

Introduction and modes of separation, gel filtration and permeation, ion exchange chromatography, ion exchange and non-ion exchange manifestation and applications. High-pressure liquid chromatography, gas liquid chromatography and their applications.

PG 502: Production and Manufacturing of Herbal Medicines and Extracts

Quality control of herbal drugs including; herbal adulteration, detection of common pollutants in herbal medicine such as pesticide residues, heavy metal, radioactive contaminants, aflatoxins, bacteria and fungi.

PGE 1: Narcotics, Psychotropic and Toxic Plants

Interpretation of the difference between the narcotic drugs from natural source based on their potential for abuse, existing medicinal use as well as safety assessments and analytical detection and quantification in biological samples.

PGE 2 Plant biotechnology

Principles of different biotechnological pathways for the production of secondary metabolites in different plant cultures, plant genetic engineering and its applications in production of pharmaceutical agents.

PGE 3 Marine Natural Products

Detailed study of biologically active agents from marine organisms; chemistry, preparation and pharmaceutical uses.

PGE 4: Nutraceutical and Herbal Drugs Interaction

Devoted to food or food products that provide health and medical benefits, including the prevention and treatment of disease. Such products may range from isolated nutrients, dietary supplements and specific diets to genetically engineered foods and herbal products.

Courses offered by the Department of Pharmacology and Toxicology**MD 102 Biophysics**

Cell membrane structure, method of transport, channel types, receptors. Application of action potential, electrocardiogram and electroencephalogram identification and waves elucidation.

EN 102: Medical Terminology

Topics provide the good knowledge about word parts (suffixes, roots and prefixes) used to express different medical terms. This enables the students to understand medical terminologies used to describe pathological conditions or surgical procedures.

PO 301: Pharmacology (1)

Topics cover the general principles and essential concepts of pharmacology, pharmacokinetics, pharmacodynamics, receptor theory and drug interaction. To instruct students the pharmacology of drugs acting on the autonomic nervous system and the cardiovascular system.

PO 302: Pharmacology (2)

To instruct students about the nervous system and pharmacology of drugs that act in the central nervous system and anti-inflammatory drugs.

PO 401: Pharmacology (3)

The course deals with renal pharmacology, gastro-intestinal system and antiemetic drugs, drugs act on the respiratory system, autacoids and autacoid antagonists, anti-hyperlipidemics as well as drugs used to treat important dysfunctions of the blood. Also the course covers drugs affecting the endocrine system.

PO 402: Toxicology

Topics cover the general principles of basic toxicology. The course provides adequate knowledge about mutagenesis, carcinogenesis, teratogenesis, maternal, fetal and neonatal toxicity. In addition, the course includes other topics like toxicity of heavy metal, radiation, radioactive materials, pesticides, plastics and food additives. The course discusses specific organ toxicities, general procedures for managing toxicity with gases, drugs, as well as animals and plant toxins. The course highlights the importance

of the forensic chemistry and its applications in detecting drugs or poisons in body fluids and tissues.

PO 501: Drug Interactions

The course covers the outlines the mechanisms of drug interactions including drug-drug interactions, drug-food interactions, drug-disease interactions and drug-laboratory test interactions. The course also discusses the role of drug information and poison information centers.

PO 503: Screening and Biological Standardization

The course covers different procedures applied for screening of pharmacological activity of new compounds. The course includes screening of autonomic acting drugs, drugs acting on the cardiovascular system, drugs affecting the central nervous system, anti-inflammatory drugs, analgesics (narcotics and non-narcotics), anti-ulcer drugs as well as hormones.

MD 501: First Aid

Topics outline the first aid measures for basic life support and first aid ABCs. The principles of the first aid measures in management of choking, respiratory failure, bleeding, soft tissue injuries and musculoskeletal injuries. Shock, sudden illnesses and environmentally-related injuries.

PS 501: Biostatistics

Measures of central tendency and measures of dispersion. The course covers the different statistical methods applied for testing significance of the difference between groups and their utility in the bioassay of drugs.

POE 1: Drug Abuse

Topics provide students with a comprehensive overview of the drugs and chemicals that are commonly being abused in our society. The course addresses the classes of drug and short-term and long-term effects of each class of drug. Emphasis is on short-term and long-term effects of the drugs, as well as treatment strategies and principles for prevention. The course

also discusses the common methods of administration, the speed of transmission to the brain and the neurological impact on the brain as well as treatment strategies and principles for prevention.

POE 2 :Immunopharmacology

Topics cover the basics of immunology and its relevance for human disease. The course also provides students with essential knowledge on the structure and function of the immune system. Systematic coverage of drugs affecting the immune system (immunostimulants, immunosuppressants). Immunotoxicology including types of allergic reactions, management of allergy, management of inflammation, management of organ transplantation and tests for allergy. Autoimmune diseases and immunodiagnostics using molecular techniques

POE 3: Pharmacogenetics

Topics cover the gene structure and function and the organization of the human genome, the nature of mutations and their impact on disease, the nature of molecular lesions in various genetic diseases, the various methods available for treatment of genetic disease.

Courses offered by the Department of Microbiology and Immunology.

PM 201: Microbiology and Immunology

Eukaryotic and prokaryotic cells, nomenclature of microorganisms, structure and form of the bacterial cells, spores, mycoplasma or PPLO, actinomycetes. Rickettsiae, viruses, eukaryotic microorganisms (fungi), bacterial genetics, molecular genetics, physiology of microorganisms, the growth curve microbial metabolism

PM 301: Pharmaceutical Microbiology

Sterilization, sterilization indicators, sterility testing, microbial contamination of pharmaceutical products, aseptic area, the microbiological quality of pharmaceuticals. Antimicrobial agents: classification, mechanism of action of antimicrobial drugs, drug combination, resistance of microorganisms to antimicrobial agents, assessment of a new antibiotic, microbiological assay of antibiotics, microbiological assay of vitamins, amino acids and growth factor, mode of action of nonantibiotic antimicrobial agents. Chemical disinfectants, antiseptics and preservatives

MD 301: Parasitology

Introduction, protozoology; amoebae; ciliate; flagellates; blood and tissue sporozoa. Medical helminthology; nematodes; cestodes; trematodes, and arthropods

PM 401 Pharmaceutical Biotechnology

Introduction, biology of industrial micro-organisms, biophysical and biochemical processes, introduction to tissue culture and genetic engineering techniques. Techniques for the improvement of the economically important plants and animals and for the development of micro-organisms to act on the environment. Manipulation of living organisms, especially at the molecular genetic level, to produce new products, such as hormones, vaccines or monoclonal antibodies.

production of pharmaceuticals by microorganisms. Gene therapy

PM 402: Medical Microbiology

Topic covered include: Bacteriology; gram positive bacteria, the mycobacterium group, Gram negative bacteria, Chlamydia and Rickettsiae. Mycology: Ringworm, Moniliasis, Maduromycosis and Sporotrichosis. Virology: RNA viruses and DNA viruses. Immunology: Host parasite relationship, Non-specific and specific immunity, Mechanism of protective immunity, Hypersensitivity and in vitro antigen antibody reactions, Autoimmunity and auto-immune disease, Immune deficiency disorders, Transplantation immunology, Cancer immunology, Immunological tolerance

PM 501: Public Health

Introduction, epidemiology, communicable and non-communicable diseases, control of communicable diseases, immunization, infections, occupational medicine, environmental health, water-borne and food borne diseases, milk-borne diseases, nutrition and family health, environmental pollution, waste water treatment, waste disposal

PME 1: Environmental Control

PME 2: Antimicrobial Agents

Factors affecting choice of antimicrobial agent, types of antimicrobial compounds, types of antibiotics and synthetic antimicrobial agents, clinical uses of antimicrobial drugs, manufacturing of antibiotics and other synthetic antimicrobial agents, principle methods of assaying antibiotics, mechanism of action antibiotics, bacterial resistance

PME 3: Undergraduate Project Course

The aims of the undergraduate project thus encompass both intellectual and skills development. Identification of the problem, assessment of value of the research process, development of the research proposal, development of the research design, determination of data collection methods and procedures, determination of analytical procedures, evaluation of results, final reports including results, evaluation and recommendations.

Courses offered by the Department of Analytical Chemistry

PAC 101: Physical and Inorganic Chemistry

Introduction to qualitative inorganic analysis, Qualitative analysis of anions and cations and gravimetry.

PAC 102: Analytical Chemistry (1)

Titrimetry, acid- base equilibrium and titrations, non-aqueous titrations, complex formation titration, precipitation titrations.

PAC 201: Analytical Chemistry (2)

Potentiometry, conductimetry, oxidation reduction reaction.

PAC 301: Instrumental Analysis

Spectrophotometric methods of analysis , spectrofluorometry, atomic absorption, chromatography. Water and lipid analysis.

PAC 501: Pharmaceutical Quality Control

Control and quality assurance, inprocess control and validation, sampling process prior to analysis, analysis of raw materials and finished products using reference standards, pharmacopeial methods of stability and stability testing of drugs, performance and calibration of instruments used in pharmaceutical analysis, validation of analytical methods and ISO and BSI.

PACE 1: Cosmetics Analysis

Classification of cosmetics, additives, preservatives, coloring matter, degradation of coloring matter, sampling analysis of preservatives, analysis of coloring matter, analysis of heavy metals.

PACE 2: Food Analysis

Sampling techniques, calculation of the energy content of foods , determination of moisture and solids, analytical methods of food lipid, analysis of food carbohydrate, analysis of fiber, analysis of proteins, ,analysis of Vitamin and trace element analysis, elemental analysis.

Courses offered by the Department of Medicinal Chemistry**PMC 301: Medicinal Chemistry (1)**

Topics cover Nomenclature, synthesis, assay, medicinal uses, structure modification in related to biological activity, mode of action of the drugs belonging to the following therapeutic classes; Antimalarials, Anti-trypanosoma, Anti-lieshmania, Anti-amoeba, Anthelmenntics & Local Disinfectants. Predict the different metabolic pathway the drugs followed within the body and different factor affecting that metabolism. Predict the possible means of the lead compound designing & optimization. Also, predict the factors affecting the drug-receptor interactions.

PMC 401: Medicinal Chemistry (2)

Topics cover nomenclature, synthesis, assay, medicinal uses, structure modification in related to biological activity, mode of action of the drugs belonging to the following therapeutic classes; Antibiotics, Sulphonamides, Antiviral, Anticancers, Oral Hypoglycemic, Diagnostic agents, Anti-mycobacterials & Antifungal.

PMC 402: Medicinal Chemistry (3)

Topics cover nomenclature, synthesis, assay, medicinal uses, structure modification in related to biological activity, mode of action of the drugs belonging to the following therapeutic classes; CNS depressant, CNS stimulant, Narcotic analgesic, Non-Steroidal anti-inflammatory, and local anaesthetic drug

PMC 501: Medicinal Chemistry (4)

Topics cover nomenclature, synthesis, assay, medicinal uses, structure modification in related to biological activity, mode of action of the drugs belonging to the following therapeutic classes; Autonomic nervous system, Steroidal hormone, cardiovascular, Diuretics, Local anaesthetic and antiulcer

PMC 502: Drug design

Structure activity relationships, quantum mechanical approaches, molecular connectivity, pharmacophore generation, molecular modification by isosteric replacement. Natural products leading to new pharmaceuticals, mathematical treatment serving prediction, defining sites and targets, molecular modeling, prodrugs and drug latention.

PMCE: Drug Synthesis

Topics cover different synthetic pathway of drugs, characters, advantages and disadvantages and application of each way

Courses offered by the Department of Biochemistry and Molecular Biology

PB 201: Biochemistry (1)

Subcellular organelles and membranes. biological and biochemical properties of proteins, nucleic acids, carbohydrates, lipids, porphyrins and enzymes. Biological oxidations, and related

biochemical processes. Storage and transfer of genetic material (DNA replication, transcription, translation)

PB 301: Biochemistry (2)

Metabolic map, regulation of metabolism, metabolism of carbohydrates, metabolism of lipids, nitrogen metabolism, integration of metabolism.

PB 302: Clinical Biochemistry

The course covers the analysis of blood and body fluid tests for the functional state of liver, kidney, heart, bone, gastrointestinal tract, endocrine glands, and interpretation of the results in relation to health and disease.

PB 401: Human Nutrition

The course focuses on the kinds and amounts of macronutrients (carbohydrates, fat, and proteins) and micronutrients (vitamins and minerals) that are needed to maintain optimal health and prevent chronic disease in adults.

PBE 1: Introduction to Research Methodology

Research methodology by concentrating on the foundations of scientific research and educating students on multiple methods of tackling research points, how to conduct literature surveys, experimental design, data collection and statistical analysis and time management. This course is intended for students who hope to pursue careers in scientific research.

PBE 2: Biotechnology and Human Disease

The course focuses on understanding of genes and their expression, possible several techniques that contributed to our understanding of many genetic diseases. This includes discovery of restriction endonucleases. Second, the development of cloning techniques, providing a mechanism for amplification of specific nucleotide sequences. Finally, the ability to synthesize specific probes, which has allowed the identification and manipulation of nucleotide sequences of interest. These and other experimental

approaches have permitted the identification of both normal and mutant nucleotide sequences in DNA. This knowledge has led to the development of methods for the prenatal diagnosis of genetic diseases, and initial successes in the treatment of patients by gene therapy.

Courses offered by the Department of Organic Chemistry

POC 10:1 Pharmaceutical Organic Chemistry (1)

Chemistry of the different organic classes, Nomenclature, Synthesis, Physical Properties and Chemical Reactions of: Alkanes, Alkenes, Polyenes, Halogen compounds, Alcohols, Thio alcohols, Ethers, Thio ethers, Aldehydes and ketones, Carboxylic acids, Derivatives of carboxylic acids at the alkyl group, Poly carboxylic acids, Unsaturated dicarboxylic acids, Amines.

POC 102: Pharmaceutical Organic Chemistry (2)

Chemistry of aromatic organic compounds including Aromaticity, Nomenclature of benzenoid compounds, Reactions of Benzene, Electrophilic Substitution, Nitration, halogenation, sulphonation, FC alkylation and acylation, Alkyl benzene and aralkyl benzene, Orientation of electrophilic reactions for mono and disubstituted benzene, Aromatic Nitro- Compounds, Aromatic amines, Aromatic Diazonium salts, Phenols: acidity/reactions of the OH and SH/ Reactions of the benzene ring/Protection and deprotection of OH/examples of pharmaceutical products, Sulphonic acids and sulphonamides, Aldehydes and ketones, Aromatic Carboxylic acids, Hydroxy acids, Carboxylic acid derivatives: acid chlorides/anhydrides/esters/ amides, Polynuclear Aromatic Compounds Naphthalene, anthracene, phenanthrene pyrene. Bio- amino acids; (Types, synthesis, IP values, Reactions, determination of sequence, solid phase synthesis of peptides).

POC 201: Pharmaceutical Organic Chemistry (3)

Heterocyclic chemistry: Nomenclature, Monocyclic, Fused Bicyclic and polycyclic with benzene and other heterocycles, Five membered ring heterocycles with one heteroatom: (thiophenol, pyrrole, furane), Six membered ring heterocycles with one

heteroatom: (pyridine, pyran, Fused benzene with 5 membered rings, Fused benzene with 6 membered rings, Monocycles (5, 6, 7 membered rings) with more than one heteroatoms, N, S, O.

POC 202: Pharmaceutical Organic Chemistry (4)

Stereochemistry and Stereoisomerism: Organic reaction mechanisms (substitutions, additions, eliminations and condensations, Carbohydrates. Monosaccharides, Aldohexoses, Ketohexoses, Ketonic sugars, Mutarotation, Acetals and Ketals formation, ethers Formation, esters Formation, Oxidation of monosaccharides, Reduction of monosaccharides, Reactions with phenylhydrazine, Kiliani-Fischer Synthesis, The Ruff Degradation, Disaccharides, Reducing disaccharides, Non reducing disaccharides, polysaccharides, Glycans Homopolysaccharides Heteropolysaccharides, Starch, Glycogen Cellulose, Biologically important sugars, Uronic acids, Deoxy sugars, Nitrogen containing sugar, Glycosylamines, Glycolipids and Glycoproteins, Carbohydrate Antibiotics.

POCE1 Raw Material

Introduction to mini-scale and mass-scale production, Production Methods & Continuous improvement, Mass production of raw materials, Mass production of antibiotics, Production of aspirin, Production of paracetamol, Production of p-aminophenol, Production of ibuprofen, Production of piroxicam & related heterocycles, Production of diclofenac sodium.

POCE2 Polymer

Introduction to Synthetic and Biological Polymers Methods for making polymers, Introduction to Addition, or chain-growth, polymers, Free Radical Polymerization, Cationic Polymerization, Anionic, Polymerization, Introduction to Condensation, or step-growth, polymers, Polyamides, Polyesters, Polycarbonates, Polyurethanes, Applications in pharmaceutical industry.

Courses offered by the Department of Pharmacy Practice

PP 201: Pharmacy Administration

Topics cover management skills in addition to oversight in the area of pharmaceutical trade and industry, skills necessary for the registration of accounting operations and financial ledger, daily ledger, and preparation of the pharmacy audit, the preparation of the budget for pharmacies. , measure the cost of pharmaceutical products and the development of manufacturing of pharmaceuticals. Planning profitability of pharmaceutical manufacturer. Planning selling prices of pharmaceutical products.

PP 401: Pharmaceutical Legislature and Ethics

A detailed presentation of law that governs and affects the practice of pharmacy, legal principles for non-controlled and controlled prescriptions, over-the-counter drug requirements, opening new pharmacies, opening medical stores, opening factories, opening scientific offices, medicine registration, pharmacies and medicine stores management. Pharmacist duties and responsibilities, pharmacist-patient relationship, patient's rights and ethical principles and moral rules.

PP 402: Hospital Pharmacy

Organization and structure of a hospital pharmacy, hospital pharmacy department and dispensing, hospital formulary, radio-pharmaceuticals and nuclear pharmacy, surgical dressing and sutures, plasma substitute, central sterile supply unit and its management, manufacture of sterile and non-sterile products, I.V. admixtures, pharmacy and therapeutic committee and manufacturing units in hospitals.

PP 501 Clinical Pharmacy

Topics cover different drug patient problems associated with adverse reactions and drug management and different techniques for dose tailoring and drug monitoring.

PP 502: Pharmacy Practice

Topics cover concept of pharmaceutical care, different approaches and techniques of patient counseling, and role of the pharmacist in management of symptoms of certain diseases.

PP 503: Sales, Marketing and Drug Promotion

Designed to get student acquainted with the most recent techniques for marketing of drugs.

Topics covered include: Marketing concepts, business strategies, consumer and organizational market, marketing research, product management, advertising, promotion and personal selling.

PPE1 Advanced Clinical Pharmacy

Clinical pharmacy in obstetrics, gynaecology, neonates, paediatrics, geriatrics, blood

disease and CNS disease. Nutritional deficiencies, energy and nutritional needs, enteral and parenteral nutrition.

PPE2 Clinical Pharmacokinetics

Introduction, applied clinical pharmacokinetics, therapeutic drug monitoring, mono and multi-exponential pharmacokinetics, Non-compartmental pharmacokinetics and moment analysis. Drug distribution and drug clearance mechanisms, IV infusion kinetics and kinetics following extra-vascular dosing, metabolite kinetics, multiple dose kinetics, nonlinear pharmacokinetics, dosage regimen design, dosage individualization of drugs of low therapeutic index, especially in patients with compromised renal and hepatic function.

PPE3 Community Pharmacy Practice

Concept and techniques of pharmaceutical care, the pharmacy profession, professional communication, patient counseling, problem solving skills, role of the pharmacist in management of symptoms of certain disease of cardiovascular system, GIT, kidney, respiratory tract, eye, skin and certain rheumatic and metabolic disease.

MS 101: Mathematics

Functions and graphs, limits and continuity, differentiation, exponential, logarithmic, and trigonometric functions, integration, basic differential equations.

MD 103 Histology

Cytology, various tissues (epithelial, connective and muscular and nervous), heart, blood vessels, lymphatic organs, skin and its appendages, systems (digestive and associated glands, respiratory, urinary, reproductive, central nervous system), endocrine glands and eye.

MD 201 Physiology

Introduction (cell, body water, homeostasis, transport of materials), nervous system (autonomic nervous system), neuron structure and function (reflex arc), cardiovascular system, blood, respiratory cycle, gastrointestinal system, reproduction system, renal system, endocrine glands and body temperature regulation.

MD 202 Anatomy

Introduction to the skeletal system, muscular system, articular system, fascia, cardio-vascular system, lymphatic system, nervous system, digestive system, respiratory system, uro-genital system, endocrine glands, cytology, blood, structure of liver, spleen, lungs, kidney, lymph nodes, cardiac muscle, stomach intestine and aorta.

MD 202: Pathology

The study of the etiology, principle diagnostic features, and main characteristics of diseases of the cardiovascular system, respiratory tract, central nervous system and other important organ systems of the body.

MD101: Cell Biology

The cell theory, membraneous organelles, non-membraneous organelles, cell inclusions, the nucleus, cell growth and proliferation, apoptosis, apoptosis and cancer, AIDS and cellular transplants, cellular aging.

EN 101: English Language

Training in reading, comprehension, basic grammatical rules, writing and translation. The course adopts a systematic approach to proper essay writing, such as idea development, paragraph structure, introductions, support, and conclusions.

CS 101 Computer sciences

Introduction to computer technology. Computer hardware, software and operating systems. Using various input/output devices and operating systems, data organization. Practice on major application software packages such as word processing, spreadsheets, database, and presentation graphics. How to use the Internet (searching and finding topics) and accessing email.

QA 201: Quality Assurance مدخل إلى علم الجودة

مفاهيم الجودة الحديثة - مدخل إلى علم الجودة و الملامح الأساسية لتطوير التعليم الجامعي – معايير الجودة المعتمدة في مؤسسات التعليم العالي – دور التقويم الذاتي لتحقيق الجودة في مخرجات التعليم.

HU 202: Psychology

The objective of this course is to help understand the behavior of the people around us. Topics include: Contemporary psychology: Psychological processes, sensation, perception, conditioned learning, motivation. Secondary psychological processes: learning, memory, language and cognition, intelligence, personality, developmental psychology, environmental and child psychology.

Behavior dynamics: Groups, the individual, environmental, group problems, differentiation, density, handicaps, aggression, the media.

Mental Health: signs of good mental health and disturbances (neuroses and psychoses), conflicts and frustration as precursors to the neuroses, genetic predisposition and diseases as precursors to the psychoses, some of the main therapies in psychology.

أهداف وتطور ومناهج البحث في علم النفس ومجالاته وعلاقته بالعلوم الأخرى. و مدارس علم النفس : (مثل التحليل النفسي والمدرسة السلوكية والمدرسة الإنسانية.....). الإنفعالات و تعريفها وأسبابها ومكوناتها وطبيعتها. الفروق الفردية و تعريفها وأنواعها والخصائص العامة لها.

الدافعية و تعريفها وأنواع الدوافع والنظام الهرمي للدوافع التعلم : أسسه ومراحله وشروط التعلم الجيد وطرقه والعوامل المساعدة على التعلم. الشخصية و أهميتها ومقوماتها وكيفية مقياسه والنظريات المفسرة لها. الصحة النفسية : الفرق بين الصحة النفسية والمرض النفسي-العرض والمرض والسلوك المرضى-الإحباط والصراع وأثارهما على الفرد-الميكانيزمات الدفاعية. علم النفس الإيجابي : السعادة والتفاؤل وطرق تحقيقهما-وجود الحياة.

HU 201: Humanities حقوق الإنسان

مفاهيم أساسية لحقوق الإنسان (ماهية حقوق الإنسان و أهمية حقوق الإنسان) – نشأة و مصادر حقوق الإنسان – اليات حماية حقوق الإنسان علي مستوي الدولي و الأقليمي و الوطني – تطبيقات حقوق الإنسان في المجال الهندسى و الطبى و الزراعى و البحث العلمى.