

FACULTY OF

MEDICINE



Instructions for the MD degree –the school of medicine at an Najah National University

Article 1: These are the instructions necessary to obtain the MD degree from the school of medicine at an-Najah University starting from 2009-2010

Chapter one The study plan

Article 2: The council of deans approves this study plan recommended by the school of medicine council

Article 3:

1. this study plan is based on two stages: by the end of the first one the student gets a degree of biomedical sciences bachelor (by the semester system) whereas by the end of the second stage the student gets an MD degree (by the annual system).
2. Each course requires a certain number of credit hours approved by the council of deans and recommended by the school of medicine council. All the courses have their own serial numbers. Moreover, the study plan explicates in detail number of credit hours, number of lectures, seminars, number of lab hours per week, number of field practice hours, or number of clinical training weeks.
3. The credit hours for each course of the first stage (bachelor of biomedical sciences) are assessed on the basis that each 16 hours of lectures, and seminars equals one credit hour , while lab and field practice hours will be assessed separately (according to different courses).
4. 4-What has to do with the second stage (MD), each week of clinical training will be equal to one credit hour. Of course, different training qualifications will match different courses.

Article 4

a-The minimum number of credit hours for obtaining the degree of bachelor in biomedical sciences is 135 credit hours distributed as following:

1. compulsory university courses (20credit hours). All the compulsory courses at an Najah National University and their criteria apply to the medical students
2. The elective courses (6credit hours) will be chosen from a variety of such courses offered by the university and in a manner that is suggested by the school of medicine.
3. The school of medicine's general compulsory courses plus the compulsory and elective specialization requirements (109 credit hours).

- b-The minimum of credit hours needed for completion of the second stage (MD) are 135 credit hours and all are specialization courses in clinical sciences.

Chapter two

Organizing and managing the study process at the first stage (the biomedical sciences)

Article 5:- Period of study and study load

- a. The school of medicine organizes studying for the bachelor of biomedical sciences that forms a prerequisite for the second stage (MD)
- b. The minimum of the study length is 3 years, while the maximum is 5
- c. The maximum number of credit hours per one year must not exceed 52 credit hours while not more than 21 credit hours per semester, and never more than 10 credit hours per the summer session.
- d. The academic year starts at the beginning of the university academic year and ends by the end of the summer session of the same one. All alterations in the academic calendar are applicable.

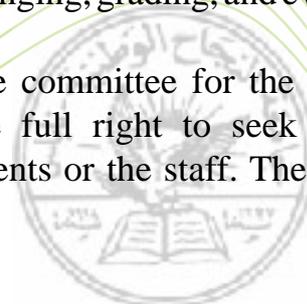
Article 6: Persistence

- a. It is very important in all lectures, discussions, practical training, and field visits according to certain schedules (each for each course) as pointed out in the study plan.
- b. Unexcused absence must not exceed 12.5% of the total hours of each course.
- c. If the absence exceeds the allowed percentage without any justified EXCUSES, the student will get an F that will be put into his annual records for that very year, yet he will be able to move to the next academic year following the instructions.
- d. Withdrawal is when a student's justified absence exceeds 25% of the total hours. Accordingly, this fact will be put into his records.
- e. The faculty dean in addition to department chairs, teaching staff and dean of admission are all responsible of the implication of all these rules.

Article 7: Exams, Grades, and Averages

Firstly:

- a-The faculty of medicine council is responsible of arranging, grading, and evaluating the exams.
- b-The dean appoints a special committee called the committee for the bachelor of biomedical sciences examinees that has the full right to seek answers to COMPLAINTS posed either by one of the students or the staff. The resulted recommendations will be referred to the dean.



- c-Each final grade for each course will be recorded both in numerals and letters.
- d-1: All final grades received by the student (including university compulsory courses) are the sum of the final exam grades in addition to the grades for the work throughout the semester.
- 2-Some courses such as first aid, and history of medicine are given no grades. Instead, they are evaluated as FAILED or PASSED and are not calculated into the year's average and so are some university compulsory courses as computer and community service courses.

Secondly:

The general outline for the exams for students of the bachelor of the biomedical sciences will be as following:

a-Grade distribution for the basic medical sciences:

- 1-Semester work receives 50% of the final grade provided by that two written semester tests each with weight of 25% of the total grade, or one single test will be carried out with weight of 25% of the total grade and the rest of the 25% will be graded for short tests and other work.
- 2-The final exam weighs 50% of the total grade and is carried out after the completion of the entire course. This final exam will include a practical part that will be given a proper evaluation.

b-1; The sum of the credit hours for taken courses will make the semester grade for each semester (except article 7-firstly and d-2).

2-The school of medicine council is the body responsible for appointing exams (except the university compulsory courses)

c-1-Appointing exams, grading, and such will be set in approval of the interested department and the consent of the school of medicine council (whether these are written records or electronic ones accredited by the university)

2-In case of joint courses among more than one department, the school of medicine council will appoint an educational unit that would involve all the staff members that teach that very course. Also, a coordinator will be appointed in order to facilitate the educational process and the necessary follow-up in addition to grading and preparing exams.

d-when a student fails a course, he will have to register again for the very course and pass it.

Article 8

Approving the grades and keeping model answers

- 1-Once the department council approves grades, they will be sent to the deanship
- 2-Records of the final grades will be sent to the admission deanship, and therefore

announced according to the regulations.

- 3-Copies of students' answers along with two exam papers and a copy of model answers are kept at the deanship for 2 months and then are discarded in accordance with the dean of the school of medicine and dean of admission.
- 4-Students' final exams answers are not returned to students and are discarded in a year time.

Article 9:

1- Absence during exams

- 1-All who do not sit for exams because of some urgent reasons must prove that in three day time for the dean. In case of consent, a new exam will be appointed.
- 2-anyone who does not sit for an announced final exam without accepted justification will fail it.
- 3-In case that does not sit for a final exam, but his justification is accepted by the dean, will have his final rescheduled by the chair in ten day time. Following, the dean will inform the admission deanship.
- 4-When a student does not sit for a final, yet has an accepted justification, he will receive INCOMPLETE until he gets his exam according to article 9-part 3

Article 10 Grade reviewing and complaints

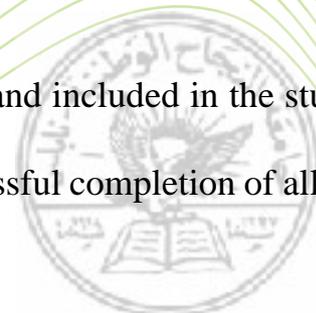
- 1-Any student can ask the admission deanship to double-check his grades in three day time after the announcement of the results, and the dean will double-check if there has been any mistake in grading, or whether there have been any upgraded questions. All that will be carried out by the dean, the chair, and the teacher of the given course. In such cases, the student will have to pay fees for this service.
- 2-students have the right to send an exceptional complaint to the dean of the admission in no longer than two week time after the results have been announced, therefore the school of medicine dean will double-check if there are any mistakes in the paper ,all that via the committee for the biomedical examinees. As well, student will pay the necessary fees.

Article 11

- 1-The minimum grade to pass any compulsory or elective college requirements is D+
- 2-The minimum grade to pass a general college requirement or a compulsory university course is D (except for article 7-d-2)

Article 12: GPA

- a-All university requirement studied by the student and included in the study plan will be calculated in the GPA
- b-The GPA for each year is calculated after the successful completion of all courses required for that year.



c-The GPA is calculated by multiplying each letter (according to the following table) by the number of the credit hours and then by summing up all the results and dividing them by the entire number of the credit hours that have been studied. The semester average is calculated similarly, but according to the courses been taken during that semester.

Letter value	grade in letters	the result
Pass	A	4
PASS	A-	3.75
PASS	B+	3.5
PASS	B	3.0
PASS	B-	2.75
PASS	C+	2.5
PASS	C	2
PASS	C-	1.64
PASS	D+	1.5
PASS	D	1
FAIL	D-	0.75
FAIL	F	0.0

SECONDLY: GPA evaluations for the BA students:

GPA	EVALUATION
3.65 AND ABOVE	EXCELLENT
3-3.64	VERY GOOD
2.5-2.99	GOOD
2-2.49	ACCEPTED
LESS THAN 1.99	WEAK

Article 13: Tthe system of warning and DISMISSAL at the bachelor of biomedical sciences program

Students should successfully complete all requirements in no longer than five years

1-Any student whose GPA is below 2 by the end of first semester will be warned and he has to cancel that warning in no longer than three semesters from the date of it. In case the student is unable to cancel the academic warning, he will get DISMISSED.

2-Failing any required course means the student has to repeat it and pass it. Three successive failings in one course lead to the student's suspension from the program.

3-Any student who received C and above can not repeat this course.

4-Any student who has completed successfully 42 credit hours is regarded a sophomore, while any student who has completed successfully 90 credit hours is regarded a junior.

5-Regarding the terms above, any student who has failed all required courses in 2 successive semesters is regarded to be suspended.

Article 15:

A-A student may delay studying a semester in no longer than 4 weeks from starting that semester if he has one of the following reasons that would persuade:

1-Dean of the college; if the delayed semester is only one.

2-The school of medicine council; if the delayed semesters are two and do not exceed two successive or separate ones.

b-Any student whose excused absence exceeded 25% of the credit hours of that course is considered to be withdrawn and this is recorded in his records. In case of a student's withdrawal from all courses, his studying for that semester will be considered delayed.

c-The period of delayed studying must not exceed two successive semesters during the basic stage whether these semesters are separated or successive. also any transferred or new student may not delay his studies before one whole semester of studying at the school of medicine.

Chapter Three

Organizing and managing the educational process at the clinical stage

The MD program

Article 16: Conditions for admission at the MD program

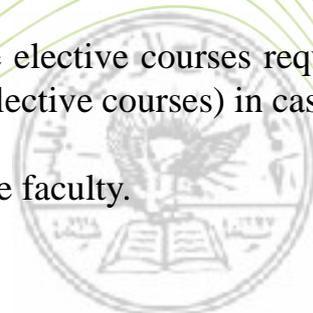
In order to reach this level, the student has to have completed successfully the bachelor of biomedical sciences stage according to the following criteria:

a-The student must have completed successfully the first stage no longer than 8 studying semesters with an average of C+ as minimum

b- The student must have c+ as minimum in the college specialization requirements.

c-The student must have completed successfully the elective courses required by the administration of the MD program (from the elective courses) in case he did not take them, he has to study them as courses.

d-Passing the medical test and other criteria set by the faculty.



Article 17: Study system

- a-The MD program is annual system.
- b-The maximum time spent for studying the MD program is 6 years
- c-The maximum load per academic year is 52 credit hours
- d-The academic year starts on August 15 and ends on July 15 of the following year.

Article 18: Persistence

- a-It is very important for all MD program students including continuous presence at discussions, lectures, field training...etc. in case of absence, the student must inform the chair or the dean's assistant for clinical affairs of a reasonable excuse (as soon as the absence takes place) because unexcused absence will be punished
- b-students may not miss more than 10% of the training days even if the absences were excused or urgent and approved by the dean's assistant for clinical affairs.
- c-if the absence exceeds 15% of the entire training days, (whether excused or not) the student will be deprived from sitting for the final exam and consequently will get an F. this grade will be put into his annual GPA for that year. Still, he will move to the next academic year.
- d-students' clinical training will be monitored through the log book for each of the clinical departments, that will be received by the student and returned to the chair as soon as the training ends.
- e-students will be evaluated according to such log books and other reports.
- f-all of the dean, chairs, teaching staff, full-time and part-time specialists, in addition to coordinators and clinical administrative workers are to implement all these terms and conditions mentioned above.

Article 19: Exams, Grades and Averages

Firstly:

- a-the school of medicine is the body responsible for arranging, performing, grading and evaluating the exams.
- b-the dean requires the school of medicine council to appoint a committee for clinical examinees that sees and seeks solutions to exam and other problems or complaints.
- c-the approval of the interested department's council and the consent of the school of medicine council are vital for preparing, grading, and evaluating exams
- d-each course's grades will be calculated and recorded in letters.

Secondly:

A-the final grade of any of the medical and clinical courses is composed of the sum of all the evaluation grades in addition to both of the written and clinical parts of the final test that may include an oral part.

B- The school of medicine council names the courses that the exam at the end of training will include in addition to those included in the written final exam.

C-grades for the medical and clinical courses will be distributed as follows:

1-the clinical part that includes:

a-25% is left to the instructor's evaluation or if there is more than one instructor, to the average of their evaluation of the student's performance during the clinical training period.

b-25% is left for the clinical test at the end of the training.

2-The written exam, since there is 50% for the written one that will be held either at the end of the training or the academic year end.

d-Students pass only if they pass the two parts of the exam (evaluation and clinical) in addition to the written exam.

a-30 points Are left for the instructor's evaluation during the student's training

b-70 points are left the final multiple clinical exam and which is carried out after the completion of training period at the end of every course. The exam is carried out by the specialized department at the school of medicine at the Najah University. It weighs 40 points at least out of 70. students pass it if they receive C as minimum.

Article 20: Approving grades and keeping model answers:

1-All results are sent to the college deanship after being approved by the department council and will be announced within 48 hours after being approved by the admission deanship.

2-All records are sent in letters to the admission deanship to be announced properly.

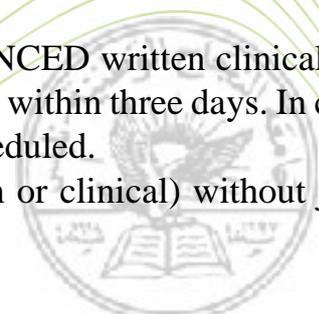
3-Students' answers are kept for each test with a copy of model answers and two copies of question papers at the college deanship for one year and then will be treated properly.

4-Students' final exam papers are not returned to the students.

Article 21: Absence during exams

1-any student who is absent for any of the ANNOUNCED written clinical exams, (with an urgent excuse) has to prove tat to the dean within three days. In case this excuse has been accepted, the exam will be rescheduled.

2-any absence for an announced final exam (written or clinical) without justified excuses will receive an F.



3- ANY STUDENT WHO IS ABSENT FOR AN ANNOUNCED FINAL EXAM WITH AN ACCEPTED EXCUSE will be given another chance within ten days and the admission deanship.

4-incomplete is put for the student absent for a final exam with an accepted justified excuse till the final is taken.ofcourse the new grade is recorded.

Article 22: Reviewing exam results and making complaints:

a-any student can send complaints to the admission deanship in case of any problems related to exams within three days from the announcement of results. In such situations, the college dean will double-check if there were any mistakes via a committee composed of the college dean, and the instructor\'. the student will pay fees for each separate complaint.

B-any student send an exceptional complaint to the admission deanship in no longer than two week time after the announcement of results. Any problems or mistakes will be double-checked by the committee for the clinical examinees appointed by the college dean. The student will have to pay fees.

Article23:

The minimum grade to pass any of the clinical courses is C .GPA will be recorded in letters and numerals as following:

GPA	EVALUATION
3.65	EXCELLENT
3-3.64	VERY GOOD
2.5-2.99	GOOD
2-2.49	ACCEPTED
LESS THAN 1.99	WEAK

Article24 :

The GPA is calculated by multiplying each letter (according to the following table) by the number of the credit hours and then by summing up all the results and dividing them by the entire number of the credit hours that have been studied. The semester average is calculated similarly, but according to the courses been taken during that semester.

Result	grade in letters	value in numbers
Pass	a	4
Pass	a-	3.75
Pass	b+	3.5
Pass	b	3
Pass	b-	2.75
Pass	c+	2.5
Pass	c	2

Fail	c-	1.75
Fail	d	1
Fail	d-	0.75
Fail	f	0.0

Article 25: Terms and conditions for moving from the first clinical year to the second

a-The criteria are

- 1-Passing all the courses of the first clinical year
- 2-GPA in the first year should be 2 and above

b-Those who failed a course or more (not exceeding 8 credit hours) can sit for an exam appointed by the authorized department. In case he passes, a new grade (c+ as top) will be recorded.

c-the following are the cases when a freshman fails:

- 1-Failing the first year's courses that exceed 8 credit hours.
- 2-Failing the exam mentioned in 25-b
- 3-GPA below 2.

Article 26: terms and conditions for moving from the second to the third clinical year:

a-The criteria are:

- 1-Passing all courses except forensic medicine and research methods in medical sciences that can be taken again in the third year.
- 2-GPA for the second year should be 2 and above.

b-Students who failed one of the following courses: selected medical specialties, selected surgical specialties, clinical and therapeutic reviews, and medical specialties elective ,and special surgery elective , can sit for an exam appointed by the specialized department with a grade that does not exceed c+

c-Students fail the second clinical year if;

- 1-The student fails any two courses from the ones mentioned in 26-b
- 2-The student fails the repetition exam
- 3-TheGPA is below 2 in the second clinical year

d-If a student fails the second year, he will have to repeat all the courses he failed and a new grade will be considered.



Article 27: The third clinical year

Passing criteria are;

1-Passing all the courses of that year.

2GPA should be 2 and above

b- If a student's GPA was 2, yet he failed one of the courses, he may sit for a repetition exam for that course. In case of passing ,a new grade (c+ as maximum will be recorded) the exam takes place in two week time if there was no need to repeat clinical training as whole or partially.

c-a student fails in the following cases:

Article 28: Dismissal from the MD program:

1-Failing more than one of the courses, no matter the GPA.

3-Failing the exam mentioned in b

Any student is considered to be dismissed in case he fails to pass any of the study years in no longer than two academic years.

Article 29: Delay and withdrawal at the clinical stage.

Any student may ask for a delay in no longer than two week time from the beginning of the academic year in case of having strong reasons that will persuade the specialized party e.g. the college dean (in case of one academic year delay).

b-Any student whose excused absence exceeded 15% of the entire hours of all courses is considered to be withdrawn from all these, therefore his studying for that academic year will be delayed.

c-any student can ask the college dean to delay a semester four weeks before the beginning of the academic year, (at least). In case of the dean's approval, that academic year will be considered to be delayed.

d-The delay in the MD program should never exceed one year.

e-The delay will never be considered as part of the maximum time for obtaining the MD degree.

**Chapter Four
Private Terms**

Article 30: Moving from other schools to the school of medicine at an Najah University.

Entering MD program starts by passing the first stage (bachelor of biomedical sciences) in addition to fulfilling the criteria needed to be admitted at the MD program

according to an Najah University criterion. So, any student coming from any other school at an Najah University should fulfill this very criterion.

Article 31: The criteria for moving from any school of medicine to the school of medicine at an Najah University.

Firstly:

Students moving to our school of medicine can be considered (bachelor of biomedical sciences) in case there were vacancies according to:

- a-The previous university must be acknowledged by an Najah University.
- b-The student's Tawjihi average should be in the range of the approved ones that qualify the student to enter the bachelor of biomedical sciences stage at an Najah. Also his GPA at the former medical school should be not less than B and the taken credit hours taken there should not exceed 50% of the total credit hours needed
- c-In case of entering the MD program, the student must have passed the bachelor of biomedical sciences stage, in addition to meeting the requirements of the MD program at an Najah

Secondly:

- a- A special committee is formed appointed by the vice president for academic affairs and the dean of admission for discussing new students' applications.
- b-The school of medicine at an Najah will decide the suitable academic year for the newcomer according to the study plan and the opinions of the specialized departments.

The school of medicine might ask such students to study some prerequisites needed, and this student can not move to the following year before passing such courses.

Thirdly:

Applications for those who move will be sent to the dean of admission, consequently, a decision will come out whether positive or negative. Any way, moving from another school of medicine into ours can be done only once.

Article 32: Te clinical training outside the an Najah university hospital

A-Students may train and practice outside an Najah hospital (any other hospital or medical institutions) according to certain standards approved by the president of the university in cooperation with the school of medicine.

b-Second and third clinical year students may train in any university medical facilities or clinical institutions outside Palestine no longer than 2 months and

no less than one month for each subject. Such students write an application (at least 2 months before training) and send it to the specialized department chair, who will send it later to the dean for final decision. The university does not pay any of the expenses and such students must register for the intended courses and sit for exams for them at an Najah University.

Article 33: The comprehensive exam

At the end of the sixth year, a comprehensive exam is held for the clinical stage at an Najah University for all students who completed successfully the 6 years. The exam is held at the end of the academic year to classify those who are eligible for the specialization programs run by an Najah University, in addition to scholarships supervised by the same university and T.A. positions.

General Terms

Requirements for obtaining the MD degree

Article 34:

This degree is granted to those students who are persistent in their presence and have registered at the school of medicine after the successful completion of:

a-Passing all the courses at the MD program study plan.

b-GPA not below 2 according to the study plan.

c-Not exceeding the time limit according to the regulations.

Article 35:

Certificates are granted at the end of every academic year and the graduation celebration will be held once a year.

Article 36:

The council of deans will decide upon what has not been mentioned in the regulations texts.

Article 37:

The college dean and the admission dean are responsible for the implementation of all instructions.

COLLEGE BOARD

Board Members of the Faculty of Medicine - An-Najah National University -
Academic Year 2009/2010

Title	Name
Dean, Faculty of Medicine	Prof. Anwar Dudin
Head of Anatomy and Embryology	Prof. Ghassan Abu-Hijleh
Assistant Dean for Graduate Studies and Research	Dr. Samar Musmar
Assistant Dean for Clinical Scientific Phase	Dr. Khalil Issa
Assistant Dean for Basic Biomedical Sciences Phase	Dr. Rami Al-Zagha
Coordinator of Internal Medicine Department	Dr. Abdullah Al-Khatib
Coordinator of Pediatric Department	Dr. Hasan Fitian
Coordinator of General Surgery Department	Dr. Kamal Abed
Coordinator of Obstetrics and Gynecology Department	Dr. Hisham El-Nana
Coordinator of Medical Sub-specialties Department	Dr. Yassir Abu Safieh
Coordinator of Surgical Sub-specialties Department	Dr. Abdel Hafeez Daghlas
Head of Physiology, medicines & poisons department	Dr. Belal Rahhal
Head of Pathology and clinical chemistry and Medical Laboratory Department	Dr. Husni Maqboul
Head of Microbiology and Immunology Department	Dr. Waleed basha
Head of Biochemistry and Molecular Biology and Genetics department	Dr. Ayman Hussein
Director of Al Watani Governmental Hospital	Dr. Husam Jawhari (invitee)
Director of Rafidia Governmental Hospital	Dr. Khalid Saleh (invitee)

Rema'a Daraghmeh: Executive Secretary

Noor Quadi: Secretary

Mona Al Abed: the computer Lab. Supervisor



ACADEMIC STAFF OF THE FACULTY OF MEDICINE

Specialty	Academic Title	Name
NeuroPediatrics	Professor	Prof. Anwar Dudin
Anatomy	Professor	Prof. Ghassan Abu-Hijleh
Neurology	Professor	Prof. Rifaat Bashir
Biochemistry	Associate Professor	Dr. Ayman Hussein
psychology	Associate Professor	Dr. Jawad Fatayer
Family Medicine	Assistant Professor	Dr. Samar Musmar
Orthopaedics Spine	Assistant Professor	Dr. Khalil Issa
Pathology	Assistant Professor	Dr. Rami Al-Zagha
Pathology	Assistant Professor	Dr. Husni Maqboul
Hematology	Assistant Professor	Dr. Riad Amer
Biochemistry	Assistant Professor	Dr. Iyad Al-Ali
Microbiology	Assistant Professor	Dr. Waleed Al-Basha
Internal Medicine	Assistant Professor	Dr. Shehab Snobar
Public health & nutrition	Assistant Professor	Dr. Haleemeh sabah
Ophthalmology	Lecturer	Dr. Mazen Khwaira
Forensic Medicine	Lecturer	Dr. Rayan Al-Ali
Internal Medicine	Lecturer	Dr. Sahar Mansour
Anatomy	Teacher	Dr. Malik Sabubeh
Physiology	Teacher	Dr. Abdul-Rahman Aqraa
MD	Teaching Assistant	Dr. Hanood Abu-Ras
MD	Teaching Assistant	Dr. Taysir AlSadder

BACHELOR DEGREE PROGRAM IN BIO-MEDICAL SCIENCES

I- Introduction:

This program is called: Bachelor program in Bio-medical sciences, it is organized under the responsibility of Faculty of Medicine at An-Najah University. Students who successfully pass the third year completing the requirements of this program can obtain its certificate; Bachelor in Bio-medical sciences “BBMS” either they chose to continue to the clinical part to obtain the degree of Doctor of Medicine or if they were unable or not willing to go forward for the program leading to obtain the degree of Doctor of Medicine at An-Najah University.

Required courses to have BBMS are delivered through basic departments at the faculty of medicine and faculties of health and sciences.

Student is graduated after completing 135 CH of courses divided as following: 26 CH as University requirements, 21 CH as compulsory faculty requirements (basic sciences), 24 CH as optional requirements and 64 CH as compulsory speciality requirements.

Students are accepted for this program when they fulfill the requirements to enter Faculty of Medicine according to the University rules, as well as students of faculty of pharmacy and pharmacy doctor and those who are referred from bio-scientific programs at the University, making sure that they are fulfilling the requirements to join the program and that they have already scored a minimum of 90% in the high school national exam (Tawjihi) in the scientific branch and only after passing a special entrance exam to the program.

As soon as the student is accepted in this program, an academic advisor is assigned to follow his/her progress till graduation.

This program is linked to high education studies’ program (master in basic medical sciences) and PhD afterwards.

After completing this program and graduation, students are capable to continue their studies at faculties of medicine, pharmacy, sciences or optometry according to specific conditions set by each faculty.

Students can shift from this program to any of other specialties in different faculties at the University according to rules set by the University.

II- Why this program?

We can summarise the goals of this program by the following:

International reorganization of medical education:

There is a wide international process set recently to organize medical education through two phases; three years each. This is now called: (Process Bologna). These two phases may be separated or mingled (consecutive), yet distinct. The first is completed by obtaining a certificate in Bio-medical or basic medical sciences according to differences in nomenclatures, which gives the graduate a clear capability to choose or

continue his/her process.

Canada and USA are adopting the separate phases while most European countries are adopting the mingled (consecutive) phases; students are prepared for the second phase at the faculty of medicine, this what An-Najah University chose. In the Canadian and USA systems this preparation is accomplished mostly outside medical schools.

Preparing new programs to suite national medical progress needs

Medical professions demanding high scientific qualifications are still in need to be improved to fulfill the growing needs of the population in the fields of advanced labs of genetics and clinical biochemistry and advanced physiotherapy and rehabilitation in the fields of acoustics, phonics and learning difficulties and neurological examinations, as well as advanced general medical and health technologies.

Improving these capabilities needs new programs based on sound bio-medical program. By its own, the new University hospital project needs the production of tens of these personnel soundly trained and prepared according to this program.

Giving new opportunities to students who chose medicine initially and don't have the desire to continue in this field

With time, studying medicine becomes more difficult and complicated especially when starting the clinical phase with relations with patients and diseases, such long and demanding study continues to be challenging to students' initial choices and desire to continue in the field. Many become unable to continue or loose the desire although they are scientifically fit and have good wealth of basic medical sciences that makes them qualified to be directed to related fields and research in basic sciences to improve master and PhD programs, the ones that we should start preparing for through this program.

Having the possibility to choose studying medicine when more mature

Choosing to study medicine as a teenager may reflect a social or familial fantasy in considerable cases; this makes it an obligation rather than a true conscious choice, the matter that so much adversely affects future carrier.

Study through two phases allows more mature decision to study medicine (the mean age to study medicine in Canada and the USA is 25) the thing that will so much positively affect the students' psychology and carrier performance.

III- Course Description

Faculty General Compulsory Requirements

General biology (140521) (4 CH)

The focus of this course is basic biological concepts as well as the basic biology of the cell and its relationship to other sciences and biological systems in mammals. The bulk of the course will concentrate on the understanding of the basic biology of living organisms and interactions that lead to life as well as introduce structure function and function/structure relationship of the unit of life the cell, tissues, organs and system. Having completed the course the students should be able to know the basic interactions that lead to life, its need, the cell, the diversity of living organisms and finally the organs and systems that make the living organisms.

Medical Physics (140711) (3 CH)

Applications of physical sciences in medical technology are the main field of this course. Topics include bio-mechanics, sound and hearing, pressure and motion of fluids, heat and temperature, electricity and magnetism in the body, optics and the eye, biological effects of light, use of ionizing radiation in diagnosis and therapy, radiation safety and medical instrumentation.

Biostatics and epidemiology (140621) (3 Ch)

The aim of this course is to teach epidemiological and biostatistical methods in clinical research within an integrated framework, and to develop proficiency with computer software for performing the analysis of clinical and epidemiological data sets. Applied Epidemiology and Biostatistics will introduce epidemiologic and biostatistical methods as applied to clinical research.

General Chemistry (23114) (4 CH)

A comprehensive survey of chemistry for premedical students which emphasize the principles underlying the formation and interaction of chemical substances: stoichiometry, states of matter, thermo-chemistry, atomic and molecular structure, intermolecular forces, solutions, thermodynamics, kinetics, chemical equilibrium, acids and bases, electrochemistry and introduction to organic and biological chemistry. The course includes one credit hour laboratory.

Organic chemistry: (23236) (4 Ch)

The course comprises a systematic study of nomenclature, structure, properties, and reactions of aliphatic compounds. Attention is given to recent developments in interpretation of structure and reaction mechanisms. The course will address the basic concepts in organic chemistry for students who are planning to study medicine, dentistry, pharmacy or health professions. The course will concentrate on the hybridization theory, molecular geometry and polarity of the covalent bond. Nomenclature of

alkanes, alkyl halides, alkenes, and alkynes as well as their reactivity and mechanism of reactions are included. Stereoisomerism and optical activity will be given special attention since biologically active compounds are often chiral. Oxygen containing functional groups (alcohols, ethers and epoxides) and alicyclic hydrocarbons will be addressed too. The course includes one credit hour laboratory.

Lab Methods (140400) (2 CH)

This 2 credit hour course lab is designed to introduce students to general and special medical laboratory techniques. Techniques include making and formulating chemical solutions and compounds, processing clinical specimens in all medical laboratory branches including: routine, microbiology, hematology, blood bank, immunology and serology, molecular genetics, histopathology and cytology and clinical chemistry.

Faculty Special requirements

Anatomy I (140121) (3 Ch)

This course delivered by the department of anatomy and embryology concentrates on the study of the thorax, abdomen and pelvis gross anatomical structures. This part of anatomical knowledge is essential for all students of medical sciences. In addition to classic lectures one credit hour anatomy lab (dissection supplemented by special electronic materials) will be delivered by the department of anatomy.

General Physiology (140221) (2 Ch), and Medical Physiology I (140222) (4 Ch), and Medical Physiology II (140223) (4 Ch)

These courses provide students with basic aspects of general physiology (140221) and extensive study of human medical physiology “cardiovascular, pulmonary, renal, gastrointestinal and reproduction”, the control of different organs and the coordination among them. Special emphasis will be on water, electrolyte and acid-base balance, body responses and adaptation to various stress conditions and physiological disorders. The course includes a one credit hour lab that will cover all the systems.

Pharmacology I (141131) (4 Ch) and II (141132) (4Ch)

These courses introduce medical student to the pharmacological concepts of drugs and other xenobiotics action. The classification, mechanism of action, therapeutic uses and toxic effects of pharmacological agents will be stressed. Discussion of representative examples of major drug classes will be emphasized, and treatment modalities, whenever appropriate will be presented. This basic course is planned to assist the student, via lectures, clinical correlative discussions and independent study, to be able to understand pharmacological therapy in the clinical phase of medical education.

Histology I- (140321) (2 Ch)

This course is designed to give students detailed description of general histology and organology with the emphasis on human material.

Pathology I (140331) (5 Ch), and II (140332) (5Ch)

These 2 courses delivered over two semesters cover the principles of the discipline of pathology. Disease is presented by organ system. The method of instruction includes lectures, demonstrations, group discussions, laboratories and autopsy participation.

Basic Microbiology (140431) (4 Ch), and Clinical (140432) (4 Ch)

A two semester course specialized in basic and medical microbiology. The first part introduces medical students to basic concepts in microbiology including, bacteriology, virology, mycology and parasitology. The second part concentrates on medical microbiology and provides core knowledge of infectious disease processes affecting each organ system, as well as working knowledge of the appropriate clinical laboratory investigations. The course has one credit hour laboratory, which covers a variety of microbiological and immunological techniques, with experiments designed to illustrate major concepts of bacteriology, virology, mycology and immunology.

Human Genetics (140522) (2 CH)

This course provides students with comprehensive view of the science of genetics. It covers the history and development of genetics, structure and function of genes, chromosomes and their anomalies, patterns of single gene inheritance, types and mechanisms of mutations and tools of human molecular genetics.

Biochemistry – Principle of Biochemistry (140523) (3Ch), Metabolic biochemistry (140524) (3 Ch) and Molecular (140525) (3 Ch)

An integrated function of the human body is considered ranging widely from cellular to higher organ-system levels. This course will cover the molecular composition of living cells, the chemical reactions that biological components undergo the regulation of these reactions and the nutrients that are needed by the living cells. The course material covers bioenergetics and intermediary metabolism of carbohydrates, lipids and proteins and their enzymatic regulation. It is a fundamental biological and medical science course that provides an understanding to cell biology, microbiology, nutrition, pharmacology, pathology and physiology at the molecular level. The course has one credit hour lab.

Public Health (140631) (3 Ch)

This is a 3 credit hour course offered to third year students. It deals with the dimensions of personal and environmental health and their relationship to social, economic, psychological and political factors, measurements and indices of community health status. Theoretical framework for viewing organizational issues in the delivery of health services is also discussed.

Art and Science of clinical Medicine (142031) (4 Ch)

This course is organized in hospital-based groups of 6 students, and will take place 1/2 day each week of the third academic year. (4 hours /week 16 sessions = 2CH / semester). This course constitutes the first experience of the possible future doctors or health science professionals with clinical medicine.

Medical Ethics (142731) (1 Ch)

This is a one credit hour offered to second year students. It deals with fundamental ethical principles underlying medical practice. Ethical aspects of decision – making are discussed with special emphasis on moral, cultural and religious issues in addition to confidentiality and respectability in patient management.

(Examples) of Optional Requirements: 28 CH

Behavioral science for medical students (142723) (3 Ch)

This course introduce important notion in medical psychology and different old and modern approach of behavioral theories applied to the field of patient care and encounter

First Aid & Patient Encounter (142722) (1 Ch)

This is a one-week introductory course to second year medical students to hospitals. It is designed to introduce students to patients and the hospital environment including the different departments and facilities. Students are also given a brief exposure to first aid.

Neuroscience (140231) (3 Ch)

An advance course designed to provide the student with basic knowledge in neuroscience mainly neurophysiology and neurochemistry. It covers the autonomic and somatic nervous systems, somatic sensation and sense organs, motor system and brain complex functions, life cycle of neurotransmitters and synaptic integration, in addition to basic mechanisms of neurological disease.

Neuroanatomy (140131) (3 Ch)

The aim of this course is to provide students with a basic understanding of the structural organization of the human central nervous system in sufficient depth to form the basic for further clinical studies of the nervous system. Students will learn to identify the major features of the brain and spinal cord (using protected specimen's models and cross-sectional images) to understand the structural and functional relationships between these structures and to apply this knowledge to the clinical situation. The course include 1 hour lab that covers also head and neck anatomy.

History of Medicine (142721) (1 Ch)

The course is organized as seminars to initiate students on the history of medical achievement and the epistemology of medical thinking and ideas. Few lectures will be introduced by prominent local medical figures about the history of medicine and medical institutions in Palestine.

Anatomy II (140122) (3Ch), and III (140123) (2 Ch)

These courses complete the essential notions of human anatomy for spine, lower and upper limbs (II) and head and neck anatomy (III).

Embryology (140124) (3 Ch)

Human embryology from fertilization to the end of the fetal period will be reviewed. Topics include: current concepts in mammalian morphogenesis applied to the development of various organ systems, the principles of teratology; mechanisms of malformation and the etiology and pathogenesis of some of the more common human congenital abnormalities

Immunology (140436) (3 Ch)

This course concentrates on the basic and clinical science of the immune system and its relationship to other sciences and biological systems of mammals. The component of the immune system, their development, structure and functions will be detailed. The clinical and diagnostic input to medical sciences and subjects related to prevention, causation and diagnosis of human diseases such as cancer, autoimmune disease will be then clearly exposed

Histology II- (140322) (2 Ch)

This course is designed to give students detailed description of general histology and organology with the emphasis on human material.

Clinical Biochemistry (140544) (3 Ch)

This course is concerned with the study of biochemical changes occurring in the human body under pathological conditions. Disorders in protein, lipid and mineral metabolism as well as electrolytes, blood gases, haematological diseases and acid base balance are assessed in view of laboratory data. Laboratory work deals with evaluation of biological constituents of the blood, urine and their interpretations.

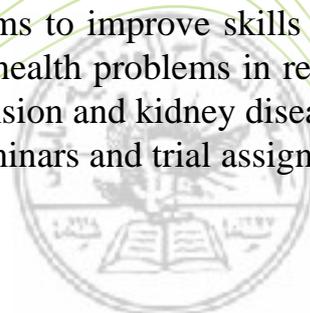
Vaccine and Vaccination (140445)(2 Ch)

This course is designed to afford precise and clear information about the need for vaccines and its great and efficient role in major diseases' prevention. It also gives information about the vaccination protocols, timing and complications as well as methods to save vaccines.

Clinical Nutrition (140641)(2 Ch)

This course concentrates on nutrition and its relation to diseases. It has been designed though 30 lectures of scientific and study cases. It aims to improve skills in using clinical nutrition in disease prevention and managing health problems in relation to nutrition as cardiovascular diseases, diabetes, hypertension and kidney diseases.

This course constitutes of lectures, discussions, seminars and trial assignments



Hematology (140342)(3 Ch)

This course is organized to deal with giving knowledge of the normal blood constitution and values after which students know the normal variants in relation to age and sex. Concentration is then directed to blood pathologies in regards to congenital and acquired causes from its carcinomatous, coagulability and different anaemic aspects.

Immunoematology & Blood Banking (140343) (3 Ch)

This course deals with giving students the knowledge of major and minor blood groups and related antibodies, it also concentrates on the needs for transfusion of blood and its constituents as plasma and platelets unveiling the complications related to transfusion and stressing on the proper methods to save blood ensuring the safety of donors and recipients

Science and Art of laboratory Medicine (142032) (4 Ch)

This course is organized in laboratory-based groups of 6 students, and will take place 1/2 day each week of the third academic year. It will include rotations in major lab divisions dedicated to patient services and in different research labs at An-Najah University and other Institutions in the country.

University requirements (26CH):

Course	CN	CH(26)	Laboratory
English language 1(UR)	010103	3	0
English language 2 UR	010322	3	0
Computer (UR)	010100	3	0
Islamic culture UR	010101	3	0
Arabic skills UR	010102	3	0
UR obligatory (Social Service)		1	0
UR obligatory		1	0
UR elective		2	0
UR elective		2	0
UR elective		2	0
Palestinian studies UR	010105	3	0

Faculty Requirements (21 CH):

General Chemistry	23114	4	0
Organic Chemistry	23236	3	1
Medical Physics	140711	3	0
General Biology	140521	4	0
Biostatistics & Epidemiology	140621	3	0
Laboratory methods	140400	0	3
		17	4



Specialty Requirements: (64 CH)

Anatomy Thorax Abdomen Pelvis	140121	2	1
General Physiology	140221	2	0
Medical Physiology I	140222	4	0
Medical Physiology II	140223	3	1
Pharmacology I	140232	4	0
Pharmacology II	140233	4	0
Histology I	140321	1	1
Pathology I	140331	4	1
Pathology II	140332	4	1
Immunology	140436	3	0
General Microbiology	140431	4	0
Medical Microbiology	140432	3	1
Human Genetics	140522	2	0
Principles of Biochemistry	140523	3	0
Metabolic Biochemistry	140524	3	0
Molecular Biochemistry	140525	2	1
First Aid & Patient Encounter	142722	1	0
Medical Ethics	142731	1	0
Public health	140631	3	0
Science & Art of clinical Medicine	142031	0	4 (hospitals)
		53	11

Optional (Examples) (24CH):

Anatomy Limbs & Back	140122	2	1
Anatomy Head & Neck	140123	2	0
Embryology	140124	3	0
Neuroanatomy	140131	2	1
Neuroscience	140231	3	
Behavioral sciences	142723	3	
History of Medicine	142721	1	
Vaccines & Vaccination	140445	2	
Clinical Nutrition	140641	2	0
Histology II	140322	1	1
Clinical Biochemistry	140544	3	
Haematology	140342	3	
Immunohaematology & Blood Banking	140343	3	
Science & Art of laboratory Medicine	142032	0	4

Executive plan for the program

First Year:

Course	CN	Year	Semester	CH	Lab
General Chemistry	23114	1	1	4	0
General biology	140521	1	1	4	0
Medical Physics	140711	1	1	3	0
English language 1(UR)	010103	1	1	3	0
Computer (UR)	010100	1	1	3	0
Biostatistics & Epidemiology	140621	1	1	3	0
Total S1Y1				20	0
English language 2 UR	010322	1	2	3	0
Organic Chemistry	23236	1	2	3	1
Anatomy Thorax Abdomen Pelvis	140121	1	2	2	1
General Physiology	140221	1	2	2	0
Histology I	140321	1	2	1	1
Human Genetics	140522	1	2	2	0
Principles of Biochemistry	140523	1	2	3	0
Total S2Y1				16	3
Total Y1 S1 S2				36	3

Second Year:

Course	CN	Year	Sem.	CH	Lab
Anatomy Limbs & Back (OP)	140122	2	1	2	1
Medical Physiology I	140222	2	1	4	0
Histology II (OP)	140322	2	1	1	1
Metabolic Biochemistry	140524	2	1	3	0
History of Medicine (OP)	142721	2	1	1	0
Behavioural sciences (OP)	142723	2	1	3	0
UR elective		2	1	2	0
Palestinian studies UR	010105	2	1	3	0
Total Y2 S1				19	2
Anatomy Head & Neck (OP)	140123	2	1	2	0
Embryology (OP)	140124	2	2	3	0
Neuroanatomy (OP)	140131	2	2	2	1
Medical Physiology II	140223	2	2	3	1
Molecular Biochemistry	140525	2	2	2	1
Public health	140631	2	2	3	0
UR elective		2	2	2	0
Total Y2 S2				17	3
Total Y2 S1S2				36	5

Third Year:

Course	CN	year	Sem.	CH	Lab
Neurophysiology (OP)	140231	3	1	3	0
Pharmacology I	141131	3	1	4	0
Pathology I	140331	3	1	4	1
Microbiology General	140431	3	1	3	1
Science & Art of clinical Medicine	142031	3	1	0	4
First Aid & Patient Encounter	142722	3	1	1	0
Total Y3 S1				15	6
Pharmacology II	141132	3	2	4	0
Pathology II	140332	3	2	5	1
Immunology	140436	3	2	3	0
Microbiology Medical	140432	3	2	3	1
Science & Art of laboratory Medicine (OP)	142032	3	2	0	4
Total Y3 S2				15	6
Total Y3 S1 S2				30	12

Summer semester for all years for uncompleted courses

Course	CN			CH	Lab
Islamic culture UR	010101	1,2,3	Sm1	3	0
Arabic skills UR	010102	1,2,3	Sm1	3	0
UR obligatory UR		1,2,3	Sm1	1	0
UR facultative UR		1,2,3	Sm1	2	0
UR obligatory (social service)		1,2,3	Sm1	1	0
Lab methods (FGR)	140400	2,3	Sm2	0	3
Vaccines & Vaccination (OP)	140445	2,3		2	0
Clinical Biochemistry(OP)	140544	2,3		1	2
Haematology (OP)	140342	3		2	1
Medical Ethics (OP)	142731	1,2,3	Sm2	1	0
Immunohaematology & Blood Banking(OP)	140343	3		2	1

According to Requirements

Course	CN	Y	S	CH	Lab
University Requirements (UR 26)					
English language 1(UR)	010103	1	1	3	0
English language 2 UR	010322	1	2	3	0
Palestinian studies UR	010105	2	1	3	0
Islamic culture UR	010101	1,2,3	Sm1	3	0
Arabic skills UR	010102	1,2,3	Sm1	3	0
UR obligatory UR		1,2,3	Sm1	1	0
UR obligatory (social service)		1,2,3	Sm1	1	0
Computer (UR)	010100	1	1	3	0
UR elective		2	1	2	0
UR elective		2	2	2	0
UR elective		1,2,3	Sm1	2	0
Total UR				26	
Faculty General Requirements (FGR 21)					
General Chemistry	23114	1	1	4	0
Organic Chemistry	23236	1	2	3	1
General biology	140521	1	1	4	0
Medical Physics	140711	1	1	3	0
Biostatistics & Epidemiology	140621	1	1	3	0
Lab methods (FGR)	140400	2,3	Sm	0	3
Total FGR				17	4
Faculty specialty requirements (FSR 64)					
Anatomy Thorax Abdomen Pelvis	140121	1	2	2	1
General Physiology	140221	1	2	2	0
Medical Physiology I	140222	2	1	4	0
Medical Physiology II	140223	2	2	3	1
Histology I	140321	1	2	1	1
Pathology I	140331	3	1	4	1
Pathology II	140332	3	2	4	1
Immunology	140436	3	2	3	0
Microbiology General	140431	3	1	4	0
Microbiology Medical	140432	3	2	3	1
Human Genetics	140522	1	2	2	0
Principles of Biochemistry	140523	1	2	3	0
Metabolic Biochemistry	140524	2	1	3	0
Molecular Biochemistry	140525	2	2	2	1
Pharmacology I	141131	3	1	4	0
Pharmacology II	141132	3	2	4	0
Medical Ethics	142731	2	2	1	0
First Aid & Patient Encounter	142722	3	1	1	0
Public health	140631	2	2	3	0
Science & Art of clinical Medicine	142031	3	1	0	(4)
Total FSR				53	11

Optional courses (OP 24)					
Anatomy Limbs & Back (OP)	140122	2	1	2	1
Embryology (OP)	140124	2	2	3	0
History of Medicine (OP)	142721	2	1	1	0
Behavioral sciences (OP)	142723	2	1	3	0
Anatomy Head & Neck (OP)	140123	2	1	2	0
Neuroanatomy (OP)	140131	2	2	2	1
Neurophysiology (OP)	140231	3	1	3	
Histology II (OP)	140322	2	1	1	1
vaccines & Vaccination (OP)	140445	2,3		2	0
Clinical Biochemistry(OP)	140544	2,3		1	2
Hematology (OP)	140342	3		2	1
Immunohematology & Blood Banking(OP)	140343	3		2	1
Science & Art of laboratory Medicine	142032	3	2	0	(4)

CH according to years:

	C H	Lab
Total Y1 S1 S2	36	3
Total Y2 S1S2	36	5
Total Y3 S1 S2	30	12
	102	20
Summers 1,2,3	10	3
Total program 135ch	112	23
Faculty General, specialty and optional courses	86	23

Courses' distribution and tutors

Course	CN	CH	Teacher	Degree	Time
University Req. (26)					
English language 1(UR)	010103	3			
English language 2 UR	010322	3			
Computer (UR)	010100	3			
Islamic culture UR	010101	3			
Arabic skills UR	010102	3			
UR obligatory (Social Service)		1			
UR obligatory		1			
UR elective		2			
UR elective		2			
UR elective		2			
Palestinian studies UR	010105	3			
Total university requirements		26			
Faculty general req. (21)					
General Chemistry	23114	4	F science		FT
Organic Chemistry	23236	4	F science		FT
Medical Physics	140711	3	F science		FT
General biology	140521	4	Sabri nasser	Ass. P	FT
Biostatistics & Epidemiology	140621	3	S. Musmar	Ass. P	FT
Lab methods	140400	3	A Hussein	Asc. P	FT
Total Faculty general requirement		21			
Faculty speciality req. (64)					
Anatomy I Thorax Abdomen Pelvis	140121	3	G. Abuhijleh	FP	FT
General Physiology	140221	2	A. Aqra3	MD	FT
Medical Physiology I	140222	4	B. Rahal	Ass. P	FT
Medical Physiology II	140223	4	B. Rahal	Ass. P	FT
Pharmacology I	141131	4	I. Jarrar	Lect.	FT
Pharmacology II	141132	4	I. Jarrar	Lect.	FT
Histology I	140321	2	H. Maqbul	Ass. P	FT
Pathology I	140331	5	H Maqbul R Zagha	Ass. P Ass. P	FT
Pathology II	140332	5	H Maqbul R. Zagha	Ass. P Ass. P	FT
Immunology	140436	3	W. Basha	Ass. P	FT
Microbiology General	140431	4	W. Basha	Ass. P	FT
Microbiology Medical	140432	4	W. Basha	Ass. P	FT
Human Genetics	140522	2	A Hussein	Asc. P	FT
Principles of Biochemistry	140523	3	I Ali	Ass. P	FT
Biochemistry Metabolic	140524	3	I Ali	Ass. P	FT
Biochemistry Molecular	140525	3	A Hussein	Asc. P	FT
First Aid & Patient Encounter	142722	1	A. Aqra3	MD	FT
Medical Ethics	142731	1	A. Aqra3	Lect.	FT
Public health	140631	3	S. Musmar	Ass. P	FT
Science & Art of clinical Medicine	142031	4	C l i n i c a l Specialists		

Total Specialty requirements		64			
Optional courses (24) (examples)					
Anatomy II Limbs & Back	140122	3	G. Abuhijleh	FP	FT
Anatomy III Head & Neck	140123	2	K. Issa	Ass. P	FT
Embryology	140124	3	G. Abuhijleh	FP	FT
Neuroanatomy	140131	3	M. Sabobeh	Lect.	FT
Neuroscience	140231	3	B Rahal	Ass. P	FT
Behavioural sciences	142723	3	J. Fatayer	Asc. P	FT
History of Medicine	142721	1	A. Aqra3	MD	FT
Histology II	140322	2	H. Maqbul	Ass. P	FT
Vaccine and vaccination	140445	2	S Musmar	Ass. P	FT
Clinical Biochemistry	140544	2	A Hussein	Asc. P	FT
Hematology	140342	3	R Amer	Ass. P	FT
Immunology & blood banking	140343	3	R Amer	Ass. P	FT
Science & Art of laboratory Medicine	142031	4	Kamel adwan	Ass. P	FT
Total optional		24			

SECOND (CLINICAL) PHASE: DOCTOR OF MEDICINE

This phase includes the three clinical years (4th, 5th and 6th medical years previously), study system here is yearly based. Transfer to this phase is according to conditional accumulative score accomplished after the first phase.

Through this phase student is subjected to direct contact with patients. Study concentrates on different clinical sciences.

Clinical phase constitutes from 135 CH, it is distinguished by:

- Concentration on clinical education through training rotations that have been precisely described including the skills that the student should attain through, and the objectives that should be accomplished.
- Giving peculiar attention to students' behaviour and commitment to professional, ethical, and humanitarian bases as well as creating measuring tools to guarantee accomplishing these goals considering them as basic part of evaluation.
- Training courses are including periods of practical and psychological preparation before starting them.
- Two elective rotations in surgery and medicine are included in the plan to give students the chance to explore preferable fields that may affect or direct their future speciality.
- A clinical research course is included as an introduction to be able to accomplish scientific research in the clinical, basic or general health. Research now is essential in studying medicine and preparing students internationally.
- Courses of therapeutic and medical reviews (I and II) aim to prepare students for comprehensive and generalized thinking in diagnosis and management at "evidence based medicine" bases. Training students on critical thinking and not accepting information which are not well analysed is essential as well as the ability to present logically. They are also trained on the international exams to evaluate the clinical phase.



Plan executive regulations

It worthies mentioning the following here:

- Although both phases are mingled and consecutive yet there should be
- sort of separation by rules governing transfer from the first phase.

Concerning upgrading to the second phase, students should complete all the requirements of the first phase with accomplishing accumulative score of a minimum of 75% (C+), this same accumulative score should be accomplished regarding the sum of specialty requirements' courses too.

- Students should complete the first phase with a maximum of four years.
-
- Students can't be upgraded from a clinical year to another unless they score a minimum of 70% (C) as cumulative. The same is applied to graduation.
-
- Students should complete the second clinical phase with a maximum of six years

Courses listing for the 1st, 2nd and 3rd clinical years

Course	CN	CH	Year	Wks/Rot
Introduction to clinical Medicine	142141	8	4	8
Internal Medicine	142142	10	4	10
General surgery	142241	12	4	2+10
Gynaecology-Obstetrics	142441	8	4	2+6
Psychiatry	142741	4	4	4
Clinical Nutrition	140641	2	4	2
Research methods in medical sciences	140651	2	5	2
Selected Surgical specialties	142551	10	5	2+8
Selected Medical specialties	142651	10	5	2+8
Elective medical specialties	142652	4	5	4
Elective Special surgery	142552	4	5	4
Paediatrics	142351	12	5	4+8
Forensic medicine	142751	2	5	2
Clinical and Therapeutic reviews I	142051	4	5	0
Clinical and Therapeutic reviews II	142061	4	6	0
Research Project	142752	6	6	8
Senior medicine	142161	8	6	8
Senior surgery	142261	8	6	8
Senior Paediatrics	142361	6	6	6
Senior obstetrics-gynaecology	142461	6	6	6
Community medicine	142761	5	6	5
		135		127wks



Clinical Course Description

First clinical year courses

Introduction to clinical medicine (142141) (8 CH):

This course constitutes from 8 weeks that includes internal medicine and related subspecialties. This course is taught through lecturing in the first semester of the first clinical year and is considered as a starting point for internal medical sciences and their branches. This course will fortify acquired skills at the third basic year of the first phase as well as assuring the importance of basic sciences in the clinical field.

This course introduces the physiological principles that are essential to understand the rising of signs and symptoms of diseases. The course prepares students to complete clinical sciences through developing skills and accomplishing rich clinical information. There is also concentration on the basic principles to reach diagnosis.

Internal Medicine (142142) (10 CH):

This course is designed for first clinical year students, it introduces special training on dealing with medical problems concerning adults. Under direct specialist supervision students take the role of a physician taking history from patients, doing physical examination, writing differential diagnosis and asking for routine investigations in relation to the case.

Course includes preparing consecutive oral and written reports concerning patients and the importance of student's performance and team work.

Students participate in seminars, meetings, and lectures in the department he/she are trained in. Students also share on call duties.

Students are encouraged for serious analytical thinking, improvement and creation of differential diagnosis, routes to reach diagnosis and management plans that should be followed.

Students are also directed to deal with patients outside hospitals in their environment. This and obtaining clinical experience can be accomplished through hospital based clinics, physicians' clinics in hospitals, social services clinics, emergency departments ... etc.

Gaining experience is to be accomplished through concentration on development of health services and disease prevention as well as gathering the concepts that have been learned in the introductory to internal medicine.

General Surgery (142241) (12 CH):

This course constitutes from 12 weeks including 2 weeks of preparatory course and 10 weeks of organized rotations in hospitals. Course is designed for students in the first clinical year to prepare them to have the knowledge to diagnose and manage surgical problems.

Inclusive program is offered that includes the basic physiological principles for surgical care, differential diagnosis, and decision making as well as basic principles of surgical management.

Concentration will be done on active participation in inpatients and outpatients care as well as entering to operation theatres and being exposed to sterilization principles, all of which gives the opportunity to attain practical experience in accomplishing surgical skills.

Psychiatry (142741) (4 CH):

This course is designed for students of the first clinical year constituting of 4 weeks. Students have primary responsibility to reach diagnosis under specialist supervision and taking care of patients in general psychological institutions or hospitals.

Concentration will be on emergency rooms, analysis of urgent crisis, knowledge of psychiatric drugs and short training in hospitals.

Objective is to improve skills in dealing with patients and reaching to sufficient information regarding patient.

Obstetrics and Gynaecology (142114) (8 CH):

This course is designed for the students of the first clinical year constituting of 8 weeks including two lecturing weeks that concentrate on this speciality. After that, students are subjected to 6 weeks of in hospital training concerning the principles of taking care adults and young women.

Students learn how to take history, accomplish physical examination and managing problems of the field.

Students are prepared and assigned through in hospital rotations, outpatient clinics, delivery rooms, operative theatres as well as lectures and teaching seminars.

Clinical Nutrition (140641) (2 Ch):

This course concentrates on nutrition and its relation to diseases. It has been designed though 30 lectures of scientific and study cases. It aims to improve skills in using clinical nutrition in disease prevention and managing health problems in relation to nutrition as cardiovascular diseases, diabetes, hypertension and kidney diseases.

This course constitutes of lectures, discussions, seminars and trial assignments.



Second clinical year courses

Clinical Research Methods (140651) (2 CH):

This course confirms ideas and notes that has been given in bio-statistics, epidemiology and public health. It gives students different methods in clinical research and sensitive ethical issues related in involving patients and people to research.

Paediatrics (142351) (12 CH):

This course which is designed to students of the second clinical year includes 4 weeks of general introduction of paediatrics, paediatric surgery and neonatology as well as basic principles in relation to paediatrics ethical issues.

Students go through 8 weeks of clinical paediatrics care concerning dealing with paediatrics patients in hospitals and in the out patient clinics of authorised educational institutions. Rotations under specialist supervision, outpatient clinics visits, seminars and teaching lectures.

Concentration will be also on history and physical examination.

3. Selected Surgical Specialties (142551) (10 CH):

This course has been designed to afford students of the second clinical year with basic clinical information in:

ENT (2 weeks): through which students are exposed to common ear, nose and throat diseases that face the beginning physicians.

Ophthalmology (2 weeks): designed to introduce students with the basics of ophthalmic diseases. Students learn how to accomplish examination and know the common ophthalmic diseases.

Orthopaedics (2 weeks) and Traumatology (2 weeks):

Through these 4 weeks students learn how to take history and perform physical examination for musculo-skeletal and locomotor system. Students learn how to diagnose and manage common related conflicts in children and adults.

These practical courses are preceded by 2 weeks theory lectures through which students learn different fields related to special surgeries.

Selected Internal Specialties (142651) (10 CH):

This course has been designed to afford students of the second clinical year with basic clinical information in:

Clinical neurology (2 weeks): through this rotation students learn how to take history and perform physical examination as well as evaluation and management of neurological diseases.

Learning includes taking care of in hospital and outpatient subjects under direct specialist supervision, case discussions, lectures and scientific seminars

Dermatology (2 weeks): this course is designed to give students in their second clinical year the broad clinical experience in dermatology. It concentrates on the diagnosis of out patient subjects and managing common dermatological diseases as

well as getting the knowledge of dermatological signs and symptoms in relation to systemic diseases. Evaluation is given at the end of the course.

Medical Imaging (2 weeks): This is a two -credit hour course. It is designed to familiarize students in their second clinical year in the interpretation of medical images including chest radiographs, abdominal films and bone films in addition to introduction to ultra-sound, C-T Scan and MRI. Emphasis is given on case studies and on correlation between radiographic findings and clinical data. Students also become acquainted with the working of the radiology department and observe performance of a variety of diagnostic procedures

Anaesthesiology (2 weeks): This is a two week clerkship offered during the second clinical year. It is designed to expose students to the varieties of practice available in anesthesia and the application of basic knowledge in pharmacology and physiology in clinical situations. It also prepares students to the management of victims of cardiac arrest. Students will acquire the knowledge and skills necessary for resuscitation of critically ill patients.

These practical courses are preceded by 2 weeks theory lectures through which students learn different fields in relation to these specialties.

Forensic Medicine (142751) (2 CH):

This course is designed for the second clinical year, it is considered a special part of pathology which not only deals with disease and its leading to sudden death but also investigates the implications of external causes (gun shot, poisons, traumas ...) upon human body.

It also discusses special situations that require informing investigators with causes of death, autopsy, issuing death certificate and the needed steps to prepare for court attendance when necessary. Certificate is issued by the end of the course.

Clinical and Therapeutic Reviews (I) (142051) (4 CH):

This is a four credit hours seminar course intended for students in their second clinical year. This course covers different aspects of medicine, surgery, obstetrics and gynaecology. It concentrates on problem solving approach and comprehensive reviews of subjects. Revision courses will be run by senior consultants, each in his / her subspecialty. The course is also intended to help medical students and qualified doctors to sit for different medical exams, like USMLE, PLAB and others. The course is compulsory for fifth year students, but open to other interested students and junior doctors, it is expected to run on the weekends, currently on Saturdays. It will be organized in 4 hours seminars over for 16 sessions.

The course will be evaluated by comprehensive final exam.

This course covers the following subjects:-

1. General medicine
2. General surgery
3. Obstetrics and gynaecology



Elective surgical (142552) and elective medical (142652) (4+4 CH)

Students have the possibility to select 2 sets of 4 weeks rotation one in surgery or obstetrics (142552) the other in medical or paediatrics (142652) or any of their branches.

Third Clinical year Courses

1- Clinical and therapeutic reviews II: (142061) (4 CH):

This is a four credit hours course intended for students in their third clinical year. This course covers different aspects of medicine, surgery, obstetrics and gynaecology and paediatrics. Aims and objectives of the course are the same as part I with extension to paediatrics, medical and surgical specialties and community health.

This course is compulsory for sixth year students, but open to other interested students and junior doctors, it is expected to run on the weekends, currently on Saturdays. It will be organized in half day seminars over for 30 sessions.

This course is followed by a formal exam at the end of the year

This course covers the followings subjects in addition to matters covered in the first part:-

1. Medical subspecialties
2. Pediatrics
3. Surgical subspecialties.
4. Family / Community medicine

2- Research Project (142752) (6 CH):

This is a six credit hour project offered to students in their third clinical year. The aim of this course is to introduce students to the field of medical research; the subjects dealing with public health issues are particularly encouraged. The students can choose also a pure scientific clinical or basic medical science subject. Projects that regroup 2-3 students are also encouraged. Students can choose their own project research or choose a subject from a proposed list by the department of Medicine and society at the beginning of the third year. The Best researches will be proposed for publication in local or international journals. Each student (or 2) will have an advisor.

3- Internal Medicine (Senior): (142161)(8 CH):

This course is offered to students in their third clinical year. Emphasis is placed on acquiring skills and attitudes desirable from a compassionate and understanding physician. Students record histories, physical examinations and laboratory data together with the diagnosis and treatment plans. They are taught how to develop sound clinical reasoning and responsibility for full time involvement in patient care including night calls. Each student works with and is supervised by a resident and attending staff. Two of the 8 weeks rotations will be spent in medical emergency unit.

4- General Surgery (Senior): (142261) (8 CH):

This is a 8 week clerkship offered to students in their third clinical year. This is designed to give students the chance to improve on their skills of history taking and physical examination and provides them with clinical exposure in the evaluation and treatment of a wide variety of surgical diseases. Emphasis is placed on teaching students to recognize and manage basic clinical problems. Students function as active members of the surgical team and follow patients both pre-operatively and during the post-operative period. They attend ward rounds, seminars, out patient clinics, operations and participate in night duties under supervision of surgical residents. Two of the 8 weeks rotations will be spent in surgical emergency unit.

5- Obstetrics & Gynaecology (Senior): (142461) (6 CH):

This is a 6 week clerkship offered to students in their third clinical year. This is designed to provide students with the skills and knowledge needed to care for patients with common gynecological problems, the well – woman examination and pregnancy from prenatal care through delivery and post-partum. Emphasis is placed on history and physical examination and the management of pregnancy and vaginal delivery and common gynecological procedures. Students attend ward rounds, seminar discussions, out-patient clinics, labor and delivery and operating rooms.

6- Paediatrics (Senior): (142361) (6 CH):

This is a 6 week clerkship offered during the third clinical year. Students will improve on their skills in history taking, physical examination and problem solving appropriate for children of various ages. Emphasis on differential diagnosis and therapeutic approaches to common paediatrics problems in general wards, paediatric intensive care units and out-patient clinics. Students participate in daily follow-up care of patients and in night duties. Two of the 6 weeks rotations will be spent in community or office paediatric facility.

Community Medicine: (142761) (5 CH):

This is a five-week course offered to students in their third clinical year. It is designed to introduce students to the practice of community medicine. Students rotate into different clinics and sites including ante-natal care well-baby and mother, immunization, food processing and handling and industrial medicine. They also attend didactic lectures and group discussions



FACULTY OF NURSING



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Conceptual Framework

The primary concepts on which the baccalaureate curriculum is built are care and cure of healthy and sick individuals. Care and cure are essential to professional practice.

Research-based practice and developing clinical judgment and assessment are core strands in the curriculum. Students progress through developing their cognitive, motor, and effective skills in dealing with individuals throughout the life cycle.

Impairment to normal development and health status of individuals, their families and the community at large constitute basic fundamental concepts to the baccalaureate curriculum. Nursing action is based on adequate screening and management of the human being with the ultimate aim of promoting and maintaining health, preventing and curing illness, and rehabilitation at all three levels of health care-primary, secondary and tertiary.

Leadership skills are essential for professional nurses in dealing with clients, guiding subordinates, working as professionals with colleagues and members of the health team and for community mobilization, in order to achieve progress in the nursing and health agendas.

NURSING

Credits needed for the degree

A student needs to earn a total of 147 credits distributed as follows:

Category	Credit hours
University Requirements Mandatory	20
University Requirements Elective	6
Major in Nursing Mandatory	77
Faculty Requirements Mandatory	44
Total	147

Faculty requirements (36 Credit hours)

pre-requisites	Course number	Course name	Credit hours
	24121	Biology for Pharmacy	3
	23105	Chemistry for Pharmacy	3
	23107	General chemistry lab	1
or co. requisites 241010	150110	Anatomy & physiology(1)	3
150110	150111	Anatomy & Physiology (II)	3
24101 , 23101	150115	Medical biochemistry	3
or co. requisites 150111	150119	Pharmacology	3
	25202	Biostatistics	3
24101	150125	Medical Microbiology	3
or co. requisites 150111	150127	Pathophysiology	3
	150129	Applied Nutrition	2
	71412	Clinical psychology	3
	35374	Medical Sociology	3
Total			36



Nursing Compulsory Courses (85 Credit hours)

pre-requisites	Course number	Course name	Weekly Theory	Hours Clinical	Number of credits
	150201	Communication and Health Education	3	-	3
150343	150457	Gerontology	2	150343	150457
	150140	Introduction to Nursing	3		150140
	150303	Mental Health Nursing	3	-	3
	150458	English for nursing	3		150458
150303 or co-requisites	150304	Mental Health Nursing/ Clinical	-	9	3
	150411	Community Health Nursing	3	-	3
150141 or co-requisites	150412	Community Health Nursing/Clinical	-	9	3
	150212	Nursing ethics & professionalism	2	-	2
	150421	Intensive Clinical Nursing	-	18	6
	150131	Fundamentals of nursing (I)	3	6	5
150131	150132	Fundamentals of nursing (II)	2	3	3
150132 or co-requisites	150133	Fundamentals of nursing (II) / Clinical	-	9	3
150132,101030 or co-requisites	150241	Adult Health Nursing (I)	3	-	3
150410 or co-requisites	150242	Adult Health Nursing (I)/ Clinical	-	9	3
150241,10323 or co-requisites	150343	Adult Health Nursing (II)	3	-	3
150343 or co-requisites	150344	Adult Health Nursing (II)/ Clinical	-	9	3
150111,150125,150343	150351	Critical Care Nursing	3	-	3
150351	150352	Critical Care/Clinical	-	9	3
	150451	Administration & Management in Nursing	3	-	3
150451 or co-requisites	150452	Administration & Management in Nursing/ Clinical	-	6	2
150132 or co-requisites	150135	Health Assessment	2	3	3
150343	150361	Maternal Health Nursing	3	-	3
150362 or co-requisites	150362	Maternal Health Nursing/ clinical	-	9	3
150343	150371	Children and Adolescents Health Nursing	3	-	3
150372 or co-requisites	150372	Children and Adolescents Health Nursing/ clinical	-	9	3
25202	150453	Introduction to Nursing Research	3	-	3
150453	150454	Nursing Project	2		2
	150455	Comprehensive Exam for Nursing	0		
Total					85

Course Description/ Nursing

24121 (General Biology):

A discussion of biology activity at the level of the single cell. Cell structure. Chemical constituents, material exchanges with the environment and the cell membrane. Major energy generating biochemical pathways. Photosynthesis and control of cellular activities

23105+23107 (General Chemistry & Lab):

A lecture course that involves basic concepts of chemistry. Atomic and molecular structures are covered with periodic table, chemical bonds, and stoichiometry. Aqueous solutions, gas laws and other topics are also covered. In the lab, a set of experiments are conducted which involves acid radical characterizations. Gas laws, Stoichiometry empirical formula and other topics related to general chemistry.

150140 (Introduction to Nursing):

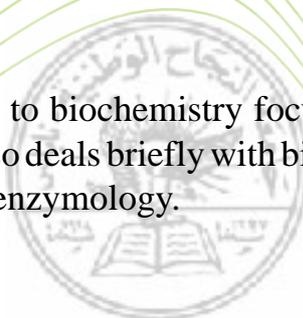
The course provides an introduction to nursing in which students will be introduced to the history & development of nursing locally & internationally. It also covers ethical issues in nursing. The course also provides an overview of the health care delivery system. Topics covered include the relationship between society and health, health manpower in general and the allied health professions in particular. The primary, secondary and tertiary health care services are covered and the modalities of service provision are discussed. Students are provided with an overview of each of different allied health professions, the distinctive role of each of the professions within the health care team; significant aspects of the work of each of the professions, and the skills and competencies required. Employment and continuing education opportunities are also discussed.

150110+150111 (Human Anatomy & Physiology 1+II) :

These courses provide an introduction to human morphology & function at the cell, tissue, and organ system levels of organization. The human body is also dealt with as separate systems with understanding of the morphology & mechanisms governing the function of different human organ systems such as the cardiovascular, immunological, musculoskeletal, neurological, gastrointestinal, hematological, urinary, & genital. The courses are taught through theoretical lectures and practical demonstrations.

150115 (Medical Biochemistry) :

The course provides nursing students an introduction to biochemistry focusing on carbohydrates, proteins, fats, vitamins and minerals. It also deals briefly with biological compounds and their metabolism and major aspects of enzymology.



150119 (Pharmacology):

Introduces the basic concepts of the body's reaction to drugs including absorption, metabolism and excretion of the drugs. Knowledge provided will ensure the safe practice of nurses and provide a foundation for teaching the relevant pharmacology to clients. The course provides also methods of action, uses and side effects of each medication

25202 (Biostatistics):

Relevance and principles of Biostatistics with application in Medicine and Biology. Descriptive statistics, sampling and sampling distributions. Estimation of parameters, probability and probability distribution with emphasis on the normal. Tests of hypotheses for one or two means and one or two proportions. Measures of association between two continuous variables (correlation and regression) and two discrete variables (chi-square). Non-parametric tests commonly used in medicine

150125 (Medical Microbiology):

Introduction to the microbial world; place of organism in the living world; origin and classification of microbes; applied areas of Medical Microbiology, morphology and fine structure; cultivation; reproduction; growth; cultural characteristics; introduction to yeasts, algae, moulds, protozoa, viruses.

150127 (Pathophysiology):

It deals with the basic knowledge in pathophysiological processes of different diseases and their effects on the different organs and systems of the human body.

150129 (Applied Nutrition):

This course includes normal and therapeutic nutrition. The role of nutrition in promoting wellness and regaining wellness will be emphasized. Nutritional care of clients with abnormal reactions due to a single or multiple problems will be covered. Furthermore, common nutritional problems in Arab World as well as nutritional education to individuals, families, and communities will be emphasized.

71412 (Medical Psychology):

This course provides an overview of psychology as the basic science concerned with individual human behavior and mental processes. The course introduces the body-mind relationship in health and illness and various emotional and somatic manifestations of this relationship. It focuses on the development of the human personality according to various psychological theories, empirical studies and theoretical models of basic processes such as learning, memory and perception are introduced. Factors that motivate behavior are considered, as well as contemporary models that describe and seek to explain the major dimensions of temperament and personality variation. This helps nurses understand patients' compliance and satisfaction with the medical care they receive. Psychological factors which influence the behavior and expectations of health professionals and the efficacy of the care they provide are also considered. The special needs of certain patients are highlighted such as children, the aged, the dying, and the physically handicapped and mentally retarded. Current theories linking stress and illness, methods for reducing stress, and research into pain and pain management is presented. The relationship between sociodemographic variables and health will also be considered

35374 (Sociology):

The course focuses on various sociological systems and their impact on health practices, economic development and modes of life in various societies. The course will stress on the scope of sociology, advantages and disadvantages of various sociological systems, social groups, effect of the various systems on: health practices, economic development, modes of life, roles, families, the socialization process and health professionals.

27120 (Computer Science):

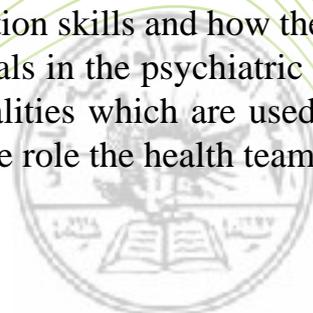
The course focuses on the use of computers for the development of care, management education and research purposes.

150201 (Communication and Health Education):

The course explores the basic principles and concepts of health education. Focuses on the methods used for healthy or sick individuals and/or group(s) in the community or in health care institutions. The course is organized around the elements of the teaching learning process. Emphasis will be on assessment of learning needs, instructional objectives, teaching modalities, educational resources, and evaluation of the teaching/learning process. Theories and/or models that explain and influence health behavior will be explored. Opportunity for microteaching will also be arranged. The course focuses on the methods used in counselling of healthy individuals of all ages and patients with problems interfering with their normal daily lives. Theories of communication and group processes are studied. The course also centres on communication approaches and techniques relevant to the provision of nursing care to individuals and groups. In order to explain man's interaction with the environment, social, psychology theories focusing on social communication, social networks, roles, social influences and attitude changes are studied. Theories concerning learning, giving information and evaluation are also studied.

150303 (Psychiatric & Mental Health Nursing):

This course incorporates the concept of nursing process in explaining mental health issues, mental disorders, major theories in mental health, Psychopathology of mental health disorders, impact of various psychiatric and personality disorders and how can students utilize different steps in nursing process to help individuals with psychiatric and mental health disorders and their families to retain and maintain the optimal level of mental health. This course also explains different theories and modalities which can help individuals to deal with various types of life stressors in a healthy and constructive ways. This course gives great emphasis on communication skills and how they affect the interaction with clients and other health professionals in the psychiatric settings. In this course, students learn different treatment modalities which are used to treat individuals with emotional and mental disorders and the role the health team.



150304 (Psychiatric & Mental Health Nursing/ Clinical):

This course provides nursing students an opportunity to deal directly with clients who suffer from emotional and mental disorders and receiving care in psychiatric care settings (inpatient & outpatient) where students can assess these clients and the resulting behavior exhibited by them by utilizing nursing process in planning and providing nursing care for those individuals based on knowledge gained from biological, social, psychological sciences as well as humanities and nursing. Student's clinical experience will be provided in hospitals, community and day care centres, rendering services to patients with mental health and psychiatric problems and their families. Skills and attitudes of students will be enhanced in caring for patients receiving various therapeutic treatments. Students deal with clients by demonstrating high skills in therapeutic communication whether with individuals or in groups. Also, students help in maintaining therapeutic environment and work with clients in helping them to select the best coping methods to deal with life stressors as well as working with mental and social health team in helping those clients when using different modalities in psychiatric treatment and helping them and their families to retain and maintain optimal level of mental health to go back to community to live as normal as possible.

150411 (Community Health Nursing):

The course introduces the scope of community health nursing, with emphasis on nursing care rendered in homes and health agencies for the promotion of health and prevention of illness based on the concept of primary health care. Provides theory and practice essential to the assessment, planning, implementation and evaluation of the clients across the lifespan in the community individuals, families, groups. Emphasis is on the study and application of nursing role components inherent in community health for health promotion and as disease prevention based on the concepts of primary health care, self-care and home health care. Conceptual and scientific frameworks applied to community-oriented nursing practice including environmental health, epidemiology, evidence-based practice, community health education, theories, models and principles. Environmental health focuses on the types of health organizations in the community and the services rendered in the promotion of health and prevention of illness, as well as on the national programs dealing with the elements of primary health care. The course focuses on epidemiology, the patterns of occurrence of communicable and non-communicable diseases of significant importance in the community and its effect on national health status. It focuses also on the preventive and therapeutic approaches taken towards the major endemic parasitic diseases in the country.

150412 (Community Health Nursing/ Clinical):

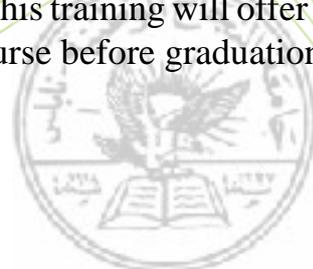
This course is designed to provide the student with the opportunity to observe, participate and function independently to explore nursing skills and techniques related to health promotion, health maintenance and health restoration and disease prevention among the target aggregates in primary health care settings (clinics, homes, youth centers, nursing homes, faculties & schools). Students are directed toward implementation of the nursing process through applying primary, secondary, and tertiary prevention of disease for clients in community setting.

150212(Nursing Ethics and Professionalism):

The course focuses on ethical considerations in the profession as well as professional issues relevant to the practice of nursing for the professional nurse and for the nursing profession. It deals with fundamental ethical principles underlying nursing practice. Ethical aspects of decision-making are discussed. Emphasis is placed on Code of Ethics for nurses. The course focuses on the regulatory mechanisms of the nursing profession and the rules and regulations controlling the practice of nursing. The course is a study of relationship and responsibilities of professional nursing that emphasizes on current issues and professional organizations, as well as the planning and discussing of career development. The nurse's professional responsibility is emphasized and analysed from different perspectives. Ethical questions concerning nursing and medical treatment are dealt with. The nurse's professional attitude is developed through reflection over and practice in communication and encounters with both patients and their families. The student's own ability to feel empathy and the student's own reactions in relationships with patients are analysed. Ethical issues and values are examined. The nurse's different functions are presented and considered, as are the organisation and legislation related to this sphere of activities. Students are provided with an overview of each of different allied health professions, the distinctive role of each of the professions within the health care team, significant aspects of the work of each of the professions, and the skills and competencies required. An overview of nursing as a special discipline that has a major impact on the health care delivery system. Autonomy, accountability, commitment, standards entry into, nursing theories and other will be discussed through debates, seminars, panel discussions, and critique papers that will lead to the development of critical thinking and evaluation skills.

150421 (Intensive Clinical Nursing):

This course offers a fourth year students the opportunity to be able to develop expertise and to implement problem solving and management principles in the nursing management of selected groups from the health-illness continuum and to practice nursing independently in three levels of prevention; primary, secondary, and tertiary at different clinical setting (hospital and community health centers). Students will apply theoretical knowledge to clinical settings with emphasis on leadership role, management and changing agent role, and taking full responsibility under the supervision of clinical instructors and nurse in charge of clinical setting as preceptors. The course also provide practice essential to the assessment, planning, implementation and evaluation of clients in different clinical setting as well as to apply nursing skills related to health promotion, health maintenance, health restoration and disease prevention and treatment among the target aggregates. This training will offer students the opportunity to take full responsibility as a charge nurse before graduation.



150131 (Fundamentals of Nursing I/ Clinical):

The concepts of health/ill health/disease, and the significance of the environment for health and health promotion as well as illness prevention at the living conditions of the individual at different ages are studied from physical, mental, sociocultural and spiritual points of view. This course is also designed to provide concepts basic to the practice of clinical nursing. The nursing process is presented as a frame of reference in meeting the human needs of people and on the delivery of health care in a variety of settings. The course provides the students with basic knowledge about human growth and development, which enhance their abilities to assess and understand the normal process of growth and development through the life cycle, as well as enable them to understand the normal problems and needs during different stages of human life. The course is also designed to provide concepts basic to the practice of clinical nursing. Emphasis on nursing concepts, procedures, and their applications in the nursing lab.

150132 (Fundamentals of Nursing II):

This course builds on the unifying concepts basic to nursing practice introduced in foundations of nursing (I). The students will build on the concepts of the nursing process in providing care to individual clients requiring primary and select secondary interventions. Emphasis will be placed on nursing intervention skills in non-acute and selected acute health care settings. This course provides calculating adult and children medication dosage. Continued emphasis on nursing concepts, procedures, and their applications.

150133 (Fundamentals of Nursing)/ clinical):

This course is the first step in exposing students to nursing as a field of practice. Students are expected to perform and master certain psychomotor skills with an integration of relevant cognitive components from foundation of nursing I & II 150241+150343 (Adult Health Nursing I+II) 3+3 credit hours: In these two courses of adult health nursing, students are introduced to the individual adult client with common alterations in health status. It is designed to give a broad general background in care of adults who have medical and surgical problems. Students are guided to examine terminology, pathophysiology of common causes, specific diagnostic procedures, and medical management for each specific alteration in health status. Nursing process is the framework used to deal with each health problem. Principles of holistic approach are emphasized during the care of nursing client. These courses focus on pre and postoperative care, fluid / electrolytes and acid base balance, oncology and the alterations in hematology, vascular, cardiac respiratory, dermatology and gastrointestinal systems. Principles of nursing assessment standardized nursing diagnoses amenable to nursing, nursing interventions, interventions, and criteria for evaluation are introduced with emphasis on holistic approach during the care for nursing clients. The course focuses also on the comprehensive delivery of care through the use of the nursing process to elderly and geriatric patients at home, in institutions or who have been hospitalised for complex, acute or chronic condition .

150242+ 15344 (Adult Health Nursing I + II/ Clinical):

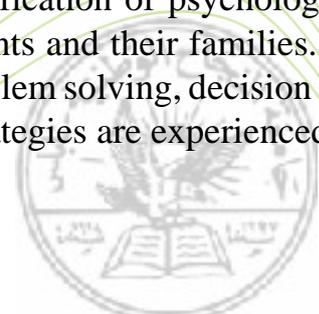
The clinical course for adult health nursing I+II is offered in two semesters. Students are introduced to the care of adult clients with common alterations in health status. The students are guided to use the nursing process to explore the role of the professional nurse in assisting clients attain and maintain wellness. Communication skills, critical thinking, decision making, psychomotor skills, teaching learning principles, keeping abreast with current literature, and moral principles are emphasized in dwelling with selected clients in clinical settings.

150351 (Critical Care Nursing):

The course focuses on the comprehensive delivery of nursing care to adult and geriatric patients hospitalized for complex, acute or chronic conditions in critical care units. It focuses on pathophysiological and psychological responses of adult clients experiencing critical health disruptions. Concepts from pathophysiology, nursing science, pharmacotherapeutics, and medical technology are integrated as a theoretical base for practicing critical care nursing and managing critical health disruptions. Approach of analytical thinking, decision making, hemodynamic monitoring, patient's education, analysis of research results, and nursing process are used to build a system to identify physiological and psychosocial responses to critical health disruption and synthesize appropriate intervention strategies. Legal and ethical issues related to critical care nursing will be discussed. The course is also designed to provide the students with the principles and skills necessary to help victims, accidents, emergency, and disaster situations. It includes measures to be taken to ensure personal safety, thus leading to accident prevention in the home and community. This is a practical part of which will be devoted to mastering first-aid skills, concepts and principles of emergency care.

150352 (Critical Care Nursing/ Clinical):

Students will be guided to apply theoretical knowledge received in clinical settings. Experience in using the nursing process in provision of nursing intervention with critically patients will be stressed. Through clinical days, this course focuses on application of principles and theories from nursing science, pathophysiology, pharmacology, health assessment, and medical technology to provide nursing care for adult clients experiencing critical health disruptions. The course addresses role components of a critical care nurse of monitoring, patient education, and utilization of medical technology to evaluate the health status of adult clients experiencing critical health disruptions with special focus on identification of psychological and physiological responses and learning needs of the clients and their families. Critical care nurses roles and emergency care nurses role of problem solving, decision making, and prioritising nursing diagnoses and intervention strategies are experienced.



150451 (Administration & Management in Nursing):

This course provides students with knowledge of management principles, theories and related functions needed by the nurse leader in order to organize effective client care in clinical settings. The course introduces the concept of health economics, health systems financing and cost effectiveness of services, while emphasizing the maintenance of the effectiveness of care to demonstrate social responsibility.

150452 (Administration & Management in Nursing / Clinical):

This course allows students to apply the knowledge of management principles; theories and related functions needed by the nurse leader in order to organize effective client care in clinical settings. Students will evaluate managerial conduct and plan and/or develop management approaches for improvement of the service rendered to healthy and/or sick individuals within the various health care settings in the community. The students get to experience the fundamental skills & concepts for a beginning leadership in nursing.

150135 Nursing Health Assessment 3:

This course provides students with, knowledge and skills necessary to assess individual health status during health and illness. Students are directed to use effective communication skills to collect data about health history and appropriate psychomotor skills to conduct comprehensive physical examination. Knowledge from medical sciences and critical thinking are used to determine health alterations of the individual. The clinical part of this course applies principles and skills learned in the nursing health assessment course on healthy and ill individuals. Opportunity is given to students to use effective communication and psychomotor skills to collect data about health history and to conduct comprehensive physical examination. Emphasis is placed on maintaining confidentiality and ethical principles in interacting with clients.

150361 (Maternal Health Nursing):

This theory course provides opportunities for the students to acquire adequate knowledge base in the area of reproductive health, and gynecologic and neonatal nursing utilizing knowledge from the biophysical sciences, humanities, growth and development, problem solving and the nursing process: to promote, and maintain, health of individual's families and groups with needs related to reproductive health, and safe motherhood. Common gynecological and neonatal problems are also introduced with an expanded knowledge related to women's health issues. The course includes the study of obstetrics and the nursing care of women during various phases of child-bearing.

150362 (Maternal Health Nursing / Clinical):

This course integrates knowledge from previous course and the basic sciences to attain high competency level of reproductive health and safe motherhood practices.

Students will apply the nursing process, the psychomotor skills, and the problem solving technique to determine and deal with the physical, emotional, social and ethical nursing problems in the areas of reproductive health, safe motherhood and gynecology. Experience will be provided in maternity hospitals, antenatal clinics, mother child clinics and women's health clinics. Students will be given opportunities to develop basic skills in the care of women during the various stages of the life cycle including phases such as menarche, menopause, etc.

150371 (Children & Adolescent Health Nursing):

This course introduces the students to appropriate scientific knowledge, which enables them to develop their own unique clinical and educational approach to care for children, infants and their families. It will stress the health problems of the infant and child and the nursing care that necessary in restoring health to the child . The course moves from simple to complex issues; starting with concepts of normal growth and development, health promotion and maintenance, and the prevention of illnesses and accidents and then to select health problems (chronic and common health problems, and communicable diseases). This is achieved through utilizing the nursing process, developmental theories, new trends and the latest approaches in the management and caring of children. The course encourages students to utilize knowledge synthesis; problem solving techniques, critical thinking, and family centered approached in the provision of empowered care.

150372 (Children & Adolescent Health Nursing/ Clinical):

This course integrates knowledge from previous course, Nutrition and Pharmacology in providing competent level of care to children and their families. Students will apply concepts related to Growth and Development, research, leadership and Nursing Process in restoring health for children and their families. This course will introduce students to different clinical setting as MCH, Hospital and rehabilitation centers which enable student to achieve a holistic approach to nursing care through primary prevention, health promotion, health maintenance and rehabilitation care. Student will effectively engage in identification of ethical and legal problems, which help in participation in decision making and problem solving.

150453 (Nursing Research):

This course addresses basic research concept and the relationship of research to theory and practice. It develops the ability to function as a competent consumer of research in nursing and related fields. In addition to the skills of research analysis, the student will consider the ethical concerns related to the development and application of research in nursing . Students engage in discussions, reading, analysis, writing, synthesis of lecture and other presentations and serve a brief period as a research assistant as they develop an appreciation for the utilization of research in practice and the skills to analyze research critically as a prelude to applying findings . Basic principle of biostatistics will be introduced to the students.

150454 (Nursing Project):

The student will be able to utilize the steps of the research process in the proposal and/or conduct of circumscribed nursing research project. In this course a relevant nursing problem is identified. Systematic observations of events should be carried out using relevant quantitative or qualitative methods. The validity and reliability of the methods should be discussed. The results should be presented, interpreted, discussed and related to a theoretical level. The work is to be documented in the form of a paper organised in a conventional scientific way... Included in the course are presenting a defence of the work and acting as an opponent of another project. Students will select a small research project of actual interest . Faculty members will assist as supervisors for the area of the study. The finding of a written research paper will be present to the seminar group. It is required and restricted to last semester senior nursing students.

150457 Gerontology:

The course focuses on the comprehensive delivery of care through the use of the nursing process to elders and geriatric clients at home, in institutions or who have been hospitalised for complex, acute or chronic condition. Gerontology, the study of aging, is a multidisciplinary field that examines the biological, economic, psychological, and social and health/fitness aspects of the aging process. The unprecedented growth of the older population has created a growing demand for professionals in a variety of fields who understand issues related to the aging process. This course will give students an opportunity to expand their knowledge and skill related to the promotion, maintenance, and restoration of health of the elderly client and family in institutional and community settings. Assessment of the physical and psychological well-being of elderly clients, their families and plans of care based on nursing theory will be presented. Current research findings in nursing and related fields will be presented and discussed.

150458 English for Nursing:

This course is designed to enhance and improve nursing students, English language reading, writing, speaking and listening proficiency so that they can function effectively in their academic study of nursing courses and in the world of work after graduation. The course will focus on nursing vocabulary expansion, improvement of reading academic texts in the field of nursing, practice in writing and familiarization with the basics of language structure and grammar. In addition, the course will also emphasize speaking and listening skills in way that enables students to express themselves clearly and without difficulty and understand what is said to them.

150455 The Comprehensive Exam for Nursing:

The comprehensive exam is one of the basic requirements which must College of nursing student going through at the end of the study to obtain a certificate of Bachelor of Nursing. The comprehensive exam is a requirement for graduation from the College of Nursing at An-Najah National University.

The articles adopted in the comprehensive exam (7 courses):

1. Adult Health Nursing.
2. Maternal Health Nursing.
3. Nursing Ethics & Professionalism.
4. Children and Adolescents Health Nursing.
5. Administration & Management in Nursing.
6. Mental Health Nursing.
7. Community Health Nursing.

OBS: All the students have to take library science



MIDWIFERY

Credits needed for the Degree

A student needs to earn a total of 154 credits distributed as follows :

Category	Credit hours
University Requirements Mandatory	20
Major in Nursing Mandatory	28
Major in Midwifery Mandatory	64
Faculty Requirements Mandatory	36
University Elective (epidemiology + first aid+ Health Promotion)	6
Total	154

University Requirements Mandatory (20 Credit hours)

Course No	Course Name	C.H	Pre-Requisites
10101	Islamic Culture	3	-
10102	Arabic Language	3	-
10103	English Language (1)	3	-
10323	English Language (2)	3	-
10105	Palestinian Studies	3	-
10117	Communication and leadership skills	1	-
10108	Community Service	1	-
10100	Computer Science	3	
Total		20	

Faculty Requirements (36 Credit hours)

Course number	Course Nme	Pre-Requisites	Credit hours
24121	Biology for Pharmacy		3
23105	Chemistry for Pharmacy		3
23107	Chemistry for Pharmacy lab		1
150110	Anatomy & physiology (I)	241010 or co-requisites	3
150111	Anatomy & Physiology (II)	15110	3
150115	Medical biochemistry	24101,23101	3
150119	Pharmacology		3
25202	Biostatistics		3
150125	Medical Microbiology	24101	3
150127	Path physiology	150111	3
150129	Applied Nutrition		2
71412	Clinical Psychology		3
35374	Medical Sociology		3
Total			36

University Requirements Elective (6 Credit hours)

Course number	Course Name	Credit hours
10119	Epidemiology-	2
10120	First Aid	2
10118	Health Promotion	2
Total		6

Major in Nursing Mandatory Courses (34Credit Hours)

Course number	Course Name	Weekly Theory	Hours Clinical	Pre-Requisites	Number of credits
150131	Fundamentals of nursing (I)	3	6 (lab)		5
150132	Fundamentals of nursing (II)	2	3 (lab)	150131 or co-requisites	3
150133	Fundamentals of nursing (II) / Clinical	-	9		3
150371	Children & Adolescent Health Nursing	3			3
150372	Children & Adolescent Health Nursing /Clinical		9		3
150453	Introduction to Nursing Research	3			3
150135	Health Assessment	2	3 (lab)		3
150451	Administration & Management	3	-		3
150452	Administration & Management / Clinical	-	6		2
	Total	21	15	-	28



Midwifery Compulsory Courses (64 Credit hours)

Course number	Course Name	Weekly Theory	Hours Clinical	Pre-Requisites	Number of credits
152373	Ethics and Professional Aspects of Midwifery	2	-	152425	2
152363	Midwifery I	2	9	152425	5
152364	Midwifery I /Clinical			152363 or co-requisites	
152365	Midwifery II	3	12	152363	7
152366	Midwifery II /Clinical			1523650 or co-requisites	
152367	Midwifery III	2	6	152365	4
152368	Midwifery III/Clinical			152367 or co-requisites	
152369	Advance Midwifery	5	12	152367	9
152370	Advance Midwifery / Clinical			152369 or co-requisites	
152374	Neonatology	2	6	152379 or co-requisites	4
152375	Neonatology/Clinical				
152376	Embryology	1	-	-	1
152377	Community Midwifery	2	-	-	2
152378	Community Midwifery/ Clinical	-	3	152377 or co-requisites	1
152379	Gynecology	2	3	152379 or co-requisites	3
152380	Gynecology/Clinical				
152429	Women Health Issues	2	-	-	2
152413	Family planning and contraception	2	3	152413	3
152414	Family planning and contraception/ clinical				
152418	Midwifery Project	2	-	150453	2
152484	Intensive Clinical Midwifery (internship)	-	18	-	6
152425	Introduction to Midwifery	2	-	-	2
152430	Mental Health in Midwifery	2	-	71412,35374 or co-requisites	2
152428	Transition	1	-	-	1
152483	Communication and Health Education for Midwifery	2	-	-	2
152481	Adult Health Nursing for Midwifery	4	-	10103	4
152482	Adult Health Nursing for Midwifery / Clinical	-	6	152481 or co-requisites	2
	Total	31	24		64

Students can study the University Requirements Mandatory & Elective in the summer course

Course Description/ midwifery

24121 (Biology for Pharmacy)

A discussion of biology activity at the level of the single cell. Cell structure. Chemical constituents, material exchanges with the environment and the cell membrane. Major energy generating biochemical pathways. Photosynthesis and control of cellular activities.

13105+23107 (Chemistry for Pharmacy & Lab)

A lecture course that involves basic concepts of chemistry. Atomic and molecular structures are covered with periodic table, chemical bonds, and stoichiometry. Aqueous solutions, gas laws and other topics are also covered.

In the lab, a set of experiments is conducted which involves acid radical characterizations. Gas laws, Stoichiometry empirical formula and other topics related to general chemistry.

151425 (Introduction to midwifery)

The main purpose of the course is to introduce students into midwifery as a profession that has roles, regulations and scope of practice. It also provides students with basic knowledge, which will prepare them to be able to communicate with women about their Study of different medical terms in basic and clinical sciences, the pharmacological and drug terms, and the Latin origin of all medical terminology will be discussed.

150110+150111 (Human Anatomy & phsicology 1+II)

These courses provide an introduction to human morphology & function at the cell, tissue, and organ system levels of organization. The human body is also dealt with as separate systems with understanding of the morphology & mechanisms governing the function of different human organ systems such as the cardiovascular, immunological, musculoskeletal, neurological, gastrointestinal, hematological, urinary, & genital.

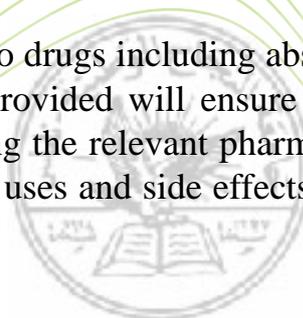
The courses are taught through theoretical lectures and practical demonstrations.

150115 (Medical Biochemestry)

The course provides nursing students an introduction to biochemistry focusing on carbohydrates, proteins, fats; vitamins and minerals .It also deals briefly with biological compounds and their metabolism and major aspects of enzymology.

150119 (Pharmacology)

Introduces the basic concepts of the body's reaction to drugs including absorption, metabolism and excretion of the drugs. Knowledge provided will ensure the safe practice of nurses and provide a foundation for teaching the relevant pharmacology to clients. The course provides also methods of action, uses and side effects of each medication.



25202 (Biostatistics)

Relevance and principles of Bio statistics with application in Medicine and Biology. Descriptive statistics, sampling and sampling distributions. Estimation of parameters, probability and probability distribution with emphasis on the normal. Tests of hypotheses for one or two means and one or two proportions. Measures of association between two continuous variables (correlation and regression) and two discrete variables (chi-square). Non-parametric tests commonly used in medicine

150125 (Medical Microbiology)

Introduction to the microbial world; place of organism in the living world; origin and classification of microbes; applied areas of Medical Microbiology, morphology and fine structure; cultivation; reproduction; growth; cultural characteristics; introduction to yeasts, algae, moulds, protozoa, viruses.

150127 (Pathophysiology)

It deals with the basic knowledge in pathophysiological processes of different diseases and their effects on the different organs and systems of the human body.

150129 (Applied Nutrition)

This course includes normal and therapeutic nutrition. The role of nutrition in promoting wellness and regaining wellness will be emphasized. Nutritional care of clients with abnormal reactions due to a single or multiple problems will be covered. Furthermore, common nutritional problems in Arab World as well as nutritional education to individuals, families, and communities will be emphasized.

71412 (Clinical Psychology)

This course provides an overview of psychology as the basic science concerned with individual human behavior and mental processes. The course introduces the body-mind relationship in health and illness and various emotional and somatic manifestations of this relationship.

It focuses on the development of the human personality according to various psychological theories, empirical studies and theoretical models of basic processes such as learning, memory and perception are introduced. Factors that motivate behavior are considered, as well as contemporary models that describe and seek to explain the major dimensions of temperament and personality variation. This helps nurses understand patients' compliance and satisfaction with the medical care they receive. Psychological factors, which influence the behavior and expectations of health professionals and the efficacy of the care they provide, are also considered. The special needs of certain patients are highlighted such as children, the aged, the dying, and the physically handicapped and mentally retarded. Current theories linking stress and illness, methods for reducing stress, and research into pain and pain management is presented. The relationship between sociodemographic variables and health will also be considered.

35374 (Medical Sociology)

The course focuses on various sociological systems and their impact on health practices, economic development and modes of life in various societies. The course will stress on the scope of sociology, advantages and disadvantages of various sociological systems, social groups, effect of the various systems on: health practices, economic development, modes of life, roles, families, the socialization process and health professionals.

Today's society is multicultural which poses new challenges for the nurse in carrying out their work. They have to support individuals based on their own concept of health, disease, and care requirements. The course analyses our own culture and compares it with other cultures, and how one's perception of reality and outlook on humanity affect the concept of health and disease. Concepts such as culture, identity, and the individual as a cultural entity are examined. Anthropological points of view are studied during the course, together with intercultural communication and how trans-cultural messages are received. Stress and trauma associated with immigration and refugee status are analysed. Trans-cultural differences in the experience of symptoms and of pain are described. Living conditions for mankind as a social being are studied during the course, together with the significance of social support and social contacts. The course also covers group processes, group conflicts, bullying and conflict management. Power, hierarchies of power and different roles within the organization are studied in preparation for a leading role as a nurse.

10100(Computer Science)

The course focuses on the use of computers for the development of care, management education and research purposes.

152483 (Communication and Health Education for Midwifery)

The course explores the basic principles and concepts of health education. Focuses on the methods used for healthy or sick individuals and/or group(s) in the community or in health care institutions. The course is organized around the elements of the teaching learning process. Emphasis will be on assessment of learning needs, instructional objectives, teaching modalities, educational resources, and evaluation of the teaching/ learning process. Theories and/or models that explain and influence health behavior will be explored. Opportunity for microteaching will also be arranged.

The course focuses on the methods used in counseling of healthy individuals of all ages and patients with problems interfering with their normal daily lives.

Theories of communication and group processes are studied. The course also centres on communication approaches and techniques relevant to the provision of nursing care to individuals and groups. In order to explain man's interaction with the environment, social, psychology theories focusing on social communication, social networks, roles, social influences and attitude changes are studied. Theories concerning learning, giving information and evaluation are also studied.

152430 (Mental Health in Midwifery)

This course is designed to enable the midwifery students to understand the normal and abnormal behavior, psychological and social crisis and mechanisms for coping and adaptation to crisis especially women her different life stages. This course incorporates the concept of nursing process in explaining mental health issues, mental disorders, Major theories in mental health, Psychopathology of mental health disorders, This course also explains different theories and modalities, which can help individuals to deal with various types of life stressors in a healthy and constructive ways. In this course, students learn different treatment modalities, which are used to treat individuals with emotional and mental disorders and the role the health team.

152377/152378 (Community Midwifery)

This course addresses some concepts of community-based midwifery care. It guides the student midwife to utilize the tools to understand some important facts in their local communities that may have an effect on health through compiling a community profile. There will be special focus on woman role, job description, health and mortality pathways that might exist in the community

150131 (Fundamentals of Nursing I)

The concepts of health/ill health/disease, and the significance of the environment for health and health promotion as well as illness prevention at the living conditions of the individual at different ages are studied from physical, mental, sociocultural and spiritual points of view.

This course is also designed to provide concepts basic to the practice of clinical nursing. The nursing process is presented as a frame of reference in meeting the human needs of people and on the delivery of health care in a variety of settings

The course provides the students with basic knowledge about human growth and development, which enhance their abilities to assess and understand the normal process of growth and development through the life cycle, as well as enable them to understand the normal problems and needs during different stages of human life.

The course is also designed to provide concepts basic to the practice of clinical nursing. Emphasis on nursing concepts, procedures, and their applications in the nursing lab.

150132 (Fundamentals Of Nursing II)

This course builds on the unifying concepts basic to nursing practice introduced in foundations of nursing (I). The students will build on the concepts of the nursing process in providing care to individual clients requiring primary and select secondary interventions. Emphasis will be placed on nursing intervention skills in non-acute and selected acute health care settings. This course provides calculating adult and children medication dosage. Continued emphasis on nursing concepts, procedures, and their applications.

150132/150133 (Fundamentals Of Nursing)/Clinical)

This course is the first step in exposing students to nursing as a field of practice. Students are expected to perform and master certain psychomotor skills with an integration of relevant cognitive components from foundation of nursing II & I

152481 (Adult Health Nursing for Midwifery)

In this course of adult health nursing, students are introduced to the individual adult client with common alterations in health status. It is designed to give a broad general background in care of adults who have medical and surgical problems. Students are guided to examine terminology, pathophysiology of common causes, specific diagnostic procedures, and medical management for each specific alteration in health status. Nursing process is the framework used to deal with each health problem. Principles of holistic approach are emphasized during the care of nursing client. These courses focus on pre and postoperative care, fluid / electrolytes and acid base balance, oncology and the alterations in haematology, vascular, cardiac respiratory, dermatology and gastrointestinal systems. Principles of nursing assessment standardized nursing diagnoses amenable to nursing, nursing interventions, interventions, and criteria for evaluation are introduced with emphasis on holistic approach during the care for nursing clients. The course focuses also on the comprehensive delivery of care through the use of the nursing process to elderly and geriatric patients at home, in institutions or who have been hospitalised for complex, acute or chronic condition

152482 (Adult Health Nursing for Midwifery/ Clinical)

The clinical course for adult health nursing I is offered in one semester. Students are introduced to the care of adult clients with common alterations in health status. The students are guided to use the nursing process to explore the role of the professional nurse in assisting clients attain and maintain wellness. Communication skills, critical thinking, decision making, psychomotor skills, teaching learning principles, keeping abreast with current literature, and moral principles are emphasized in dwelling with selected clients in clinical settings.

150451 (Administration & Management)

This course provides students with knowledge of management principles, theories and related functions needed by the nurse leader in order to organize effective client care in clinical settings. The course introduces the concept of health economics, health systems financing and cost effectiveness of services, while emphasizing the maintenance of the effectiveness of care to demonstrate social responsibility.

150452 (Administration & Management / Clinical)

This course allows students to apply the knowledge of management principles; theories and related functions needed by the nurse leader in order to organize effective client care in clinical settings.

Students will evaluate managerial conduct and plan and/or develop management

approaches for improvement of the service rendered to healthy and/or sick individuals within the various health care settings in the community

The students get to experience the fundamental skills & concepts for a beginning leadership in nursing

150135 Health Assessment 3

This course provides students with, knowledge and skills necessary to assess individual health status during health and illness. Students are directed to use effective communication skills to collect data about health history and appropriate psychomotor skills to conduct comprehensive physical examination. Knowledge from medical sciences and critical thinking are used to determine health alterations of the individual.

The clinical part of this course applies principles and skills learned in the nursing health assessment course on healthy and ill individuals. Opportunity is given to students to use effective communication and psychomotor skills to collect data about health history and to conduct comprehensive physical examination. Emphasis is placed on maintaining confidentiality and ethical principles in interacting with clients

150371 (Children & Adolescent Health Nursing)

This course introduces the students to appropriate scientific knowledge, which enables them to develop their own unique clinical and educational approach to care for children, infants and their families. It will stress the health problems of the infant and child and the nursing care that necessary in restoring health to the child The course moves from simple to complex issues; starting with concepts of normal growth and development, health promotion and maintenance, and the prevention of illnesses and accidents and then to select health problems (chronic and common health problems, and communicable diseases). This is achieved through utilizing the nursing process, developmental theories, new trends and the latest approaches in the management and caring of children.

The course encourages students to utilize knowledge synthesis; problem solving techniques, critical thinking, and family centred approached in the provision of empowered care.

150372 (Children & Adolescent Health Nursing/ Clinical)

This course integrates knowledge from previous course, Nutrition and Pharmacology in providing competent level of care to children and their families. Students will apply concepts related to Growth and Development, research, leadership and Nursing Process in restoring health for children and their families. This course will introduce students to different clinical setting as MCH, Hospital and rehabilitation centres which enable student to achieve a holistic approach to nursing care through primary prevention, health promotion, health maintenance and rehabilitation care. Student will effectively engage in identification of ethical and legal problems, which help in participation in decision-making and problem solving.

150453 (Introduction to Nursing Research)

This course addresses basic research concept and the relationship of research to theory and practice. It develops the ability to function as a competent consumer of research in nursing and related fields. In addition to the skills of research analysis, the student will consider the ethical concerns related to the development and application of research in nursing. Students engage in discussions, reading, analysis, writing, synthesis of lecture and other presentations and serve a brief period as a research assistant as they develop an appreciation for the utilization of research in practice and the skills to analyse research critically as a prelude to applying findings. Conduct Utilization. Basic principle of biostatistics will be introduced to the students.

152373 Ethics and Professional aspects of midwifery

The course teaches philosophy, roles, responsibilities, professional boundaries, scope of practice, models of midwifery practice, individualized care, collaboration, midwifery business, finance, marketing, starting an independent practice, midwifery associations, midwifery and politics, midwifery in health system, record keeping midwifery audit, peer review, midwifery vs maternity care, midwifery and reproductive health.

This course focusing on ethical issues related to midwifery and nursing practices. It addresses how midwives and nurses are represented with conflicts and dilemmas in a wide range of issues relating to the care of the mother and child. They need to be able to identify the ethical issues, consider the possible actions, which could be taken, then select and implement the appropriate course of action. Ethics in midwifery explains basic ethical theory, providing an understanding of how dilemmas occur and the basis on which ethical decisions can be made and conflicts resolved, it applies ethical principles to particular situation which occur in midwifery, or which influence a midwife's sphere of practice. Case studies will be used to illustrate dilemma in midwifery and to show how they could be resolved screening for fetal abnormality, maternal vs. fetal rights, and resource allocation and infertility. Care of the grieving parent, with special reference to stillbirth.

103111 Health promotion

The aim of this course is to highlight the scope of health promotion within midwifery practice and emphasize the unique opportunity midwives have to influence the health and lifestyles of women and their families.

The philosophy of health promotion reflected throughout the course is concerned with empowering people to make healthy lifestyle choices, within the context of their cultural and socio-economic backgrounds.

Midwives are in a unique position to contribute to the future health of society. The benefits of health promotion in midwifery can be gained only if commitment, time and resource allocation are provided. Need for collaboration and partnership between the national health service, local authorities and local communities, with the ultimate aim of reducing inequalities in health by increasing the health of disadvantaged groups.

Health promotion in midwifery practice explore the key issues and boundaries of

health promotion role of midwives today. It offers practical guidelines while integrating health promotion theory into midwifery practice. It is encouraged to explore current health advice and to appraise critically the available information on health promotion and the midwives role in this area: Exercise during pregnancy, offering useful advice for midwives and exploring safety parameters, alcohol, and whether there is a safe measure, challenging present health advice, pre-conception care-and whether an improved service is part of the midwife's role, smoking-showing how cessation during pregnancy can be built upon for long-term health gain., mental health promotion- a challenge for midwives includes postnatal depression, prevention strategies and the importance of debriefing and screening, as well as post-traumatic stress disorder.

150119 (Pharmacology)

Introduces the basic concepts of the body's reaction to drugs including absorption, metabolism and excretion of the drugs. Knowledge provided will ensure the safe practice of nurses and provide a foundation for teaching the relevant pharmacology to clients. The course provides also methods of action, uses and side effects of each medication.

152363+152364 (Midwifery 1)

The Midwifery management process is introduced as the organizing element of clinical practice. Students integrate history taking and health assessment with beginning Midwifery management skills. Clinical experiences focus on the use of the Midwifery management process as it pertains to the health care of women. The concept of primary care is introduced. The organisation of the midwifery care, the antenatal booking interview, perception care-the embryo of health promotion, antenatal preparation of the breast for breastfeeding,, Antenatal education, ultrasound- the midwife's role, the psychology of pregnancy and parents anxieties and the realities. The counselling process, the methods used in counselling and planning a counselling session will be emphasized.

Practicum Antenatal Care: Provide the student Nurse Midwife with the opportunity to apply the theories learned by conducting antenatal examinations in various situations. Practical setting: MCH centres and out patient clinics.

152365+152366 (Midwifery II)

Student continues to build on primary care and management skills acquired in Midwifery I, and begins to care for the family in the perinatal period. Newborn assessment is added. The Midwifery management process continues to be the organizing framework for clinical practice. Normal Midwifery is a major focus along with the behavioural and sociological aspects of pregnancy, childbirth, motherhood and parenting.

The course describes the normal pregnancy, labor and puerperium and it includes the role of midwives during these stages. It also covers health education and preparation for parenthood, Intrapartum and post-partum care by midwives is explored in depth,

and includes concepts related to the well woman, health education, health promotion and family spacing.

Midwifery care in the first stage of labor, artificial rupture of the membranes, nutrition and hydration in labor, pain relief in midwifery, the midwife's management of the third stage of labor, HIV infection- a midwifery perspective.

Postnatal care includes postnatal perineal care, postnatal care of breast feeding mother, emotional problems following childbirth, parental-infant attachment, care of the umbilical cord, transitional care, teenagers mothers and the quality assurance in postnatal care shall be taken in consideration.

Practicum: Post Partum Care: Provide the student Nurse- Midwife with the knowledge that has been learned and the management of normal labors and deliveries as well as complicated ones

Practicum Labor and Delivery I

This period of the practicum in normal labor and delivery will provide the student Midwife with an opportunity to apply the theories and skills that are learned in midwifery Normal Childbearing. The main concern is on management of normal labor and delivery. Each student is evaluated by the program objectives.

Practicum Labor and Delivery II

This period of the practicum in normal labor and delivery provides the student Nurse midwife with the opportunity to apply the knowledge and the skills that are learned in Midwifery.

Abnormal Labor and Delivery. Emphasis is placed on the management of normal labor and delivery as well as complicated

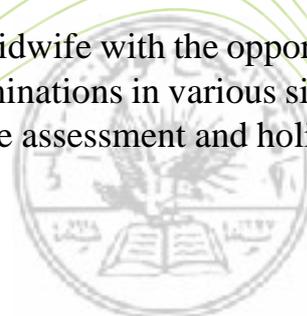
Practicum Neonatal

To provide the opportunity for the students to apply the knowledge and the skills that are learned in Midwifery, Neonatology and Child Health Care. The focus is on working with healthy neonates as well as with high risk neonatal situations, through spending a period of time in normal nurseries and Neonatal Intensive Care Units.

152367+152368 (Midwifery III /Clinical)

This course focuses on the midwife role during puerperium. It focuses on breast feeding issues and management immediately after birth and during puerperium. It is also concerned with immediate physiological and psychological care of the newborn. It discusses normal puerperium. Actions and management as well as abnormal puerperium. and emergencies

Practicum Postnatal Care: Provide the student Midwife with the opportunity to apply the theories learned by conducting postnatal examinations in various situations. The student midwife will be able to provide appropriate assessment and holistic care of the mother and her baby during puerperium



152369/152370 (Advance Midwifery)

The focus of this course is on the collaborative management between the Midwife and other health care providers in complex clinical situations. It focuses on identification, diagnosis, evaluation and follow up of women with obstetric and medical complications. Emphasis is on midwife's in dealing with high risk woman during pregnancy, labor and postpartum cases. The student collaboratively manages the care of women who have or develop medical, obstetrical, or gynaecological complications. Bleeding in pregnancy and termination of pregnancy will be emphasized. Newborn complications are considered. Primary care of women and newborns is also addressed. The course is dealing with obstetric emergencies i.e. shoulder dystocia, postpartum hemorrhage, hemorrhagic shock, cord prolapse, eclampsia convulsion.

Extended Practicum

The purpose of the extended practicum is to provide the student with an opportunity to practice autonomy in labor and delivery care in the base hospital. To ensure competence and autonomy in practice when making judgments and decisions, the student will keep a journal of critical incidents in practice from the outset of the program. The personal journal is an important aspect of the program evaluation strategy.

152379 (Gynecology)

This course is designed to enable the students to understand the role of the midwife in dealing with gynaecological disorders. At the completion of this course the student will be able to discuss cancer related to female reproductive system focusing on breast cancer, recognition of proper way of self breast examination for early detection,, describe certain uterine ovarian, cervical and vaginal anomalies and diseases, identify certain diagnostic procedures related gynaecological disorders, and identify the causes and treatment of infertility on Palestinian couples life.

The course enables student to cite basic definition of sexuality, outlines the psychological, physiological implications of sex and sexuality, during pregnancy, child birth and afterwards and lists some of the factors that may impact on sex and sexuality for women who are breastfeeding. Explore female sexuality and discuss deviations or needs which may arise through her life span. Discuss sexuality problems in the Palestinian society, techniques, response and special needs, and counselling methods and approach. Discuss the sexual transmitted disease and preventive measures (bacterial vaginosis, candida, trichomans, syphilis, gonorrhoea, herpes genitalis, and HIV and AIDS.

152380 Gynaecology/ Clinical

Clinical practice prepare the students to practice in the gynaecological wards to qualify the students nurse at communicate effectively with women to perform the gynaecological procedures and care in a scientific and skilful way. It focuses on the importance of assessing and caring for women with gynaecological problems and undergoing surgery such as malignant diseases of the vulva, cervix, uterus, ovarian tubes, infertility and sexual transmitted disease.

152429 Women Health Issues

The course enables students to identify the health needs of well women through the span of their life cycle. The course promotes them to develop skills to assess the physical, social, physiological and cultural needs of the Palestinian well women. Cultural, social and psychological influences on a adolescent health as early marriage education.

Highlighting on her promotion and development towards a positive change within society. The course will focus upon the health needs of the Palestinian well woman where the students being professionals act as change advocates to promote health of women in their own community.

The course focuses on the nutritional needs of women through their life span, reflect on social, cultural, gender, and political issues affecting the health of women in Palestine and highlight the health needs of the adolescents, primenopause, menopause, also during the span of old age and disability. The course describes the womens´mental health (postpartum emotional changes, depression and psychosomatic disorder.

151374/150375 Neonatology/Clinical

This course will prepare the student to work with healthy and sick neonatal babies and other neonatal complications. The major focus is the healthy neonate, development, care and nutrition. Concepts explored are: child health promotion strategies, and high-risk situations, which include the common neonatal disorders. The care of pre-term babies and the problems associated with pre-term birth are also a focus. The student will be able to assess the newborn babies based on apgar score and other physical assessment measures, identify newborn babies who are in need for resuscitation, to recognize some abnormalities such as spinal bifida, cleft lip, hydrocephalus ..etc and to differentiate between physiological and pathological jaundice.

152376 Embryology

This course will prepare the student to recognize the basic embryology and foetal development on the first , second, third and fourth Week. Describe the process involved in embryo formation, understand the development of key organ systems during foetal life as: peripheral nervous system, embryonic folding, lungs, heart, vasculature, gastrointestinal tract, limbs, head and neck, integument, central nervous system, foetal development and understand the critical importance of the foetal hypothalamic-pituitary- and adrenal axis.

152413+ 152414 Family planning and contraception

This course will prepare the student to recognize the different aspects of family planning methods appropriate for her and her beliefs. Focus on issues and concepts in family planning include strategies of the national health plan, philosophy, principles and social aspects. Methods of birth control, sterilization, therapeutic abortion, and counselling services are offered. It Introduces issues and programmatic strategies related to the development, organization, and management of family planning

programs. Topics include social, economic, health, and human rights rationale for family planning; identifying and measuring populations in need of family planning services; social, cultural, political, and ethical barriers; contraceptive methods and their programmatic requirements; strategic alternatives, including integrated and vertical programs and public and private sector services; information, education, and communication strategies; management information systems; and the use of computer models for program design.

Practicum family planning and contraception: Provide the student Midwife with the opportunity to apply the theories learned by conducting family planning and contraception. Practical setting: MCH centres and out patient clinics.

152418 (Midwifery Project)

The student will be able to utilize the steps of the research process in the proposal and/or conduct of circumscribed midwifery research project. In this course a relevant midwifery problem is identified. Systematic observations of events should be carried out using relevant quantitative or qualitative methods. The validity and reliability of the methods should be discussed. The results should be presented, interpreted, discussed and related to a theoretical level. The work is to be documented in the form of a paper organised in a conventional scientific way. Included in the course are presenting a defence of the work and acting as an opponent of another project. Students will select a small research project of actual interest. Faculty members will assist as supervisors for the area of the study. The finding of a written research paper will be present to the seminar group. It is required and restricted to last semester senior nursing students.

This course is designed to emphasize one of the important roles of the midwife, which is a researcher's role. Through this course the students increase their knowledge about research design and the steps that should be followed in order to conduct research, and being aware of the particular research evidence that relates to practice.

Epidemiology

This course is designed to enable the students to understand the scientific study of epidemics and epidemic diseases, especially the factors that influence the incidence, distribution, and control of infectious diseases; the study of disease occurrence in human populations. It focuses on the patterns of occurrence of communicable and noncommunicable diseases of significant importance in the community and its effect on national health. It focuses also on the preventive and therapeutic approaches taken towards the major endemic parasitic diseases in the country.

At the end of the course the students have an understanding of how and why statistical information is collected, be able to discuss the impact of social and environmental factors upon maternal and neonatal mortality and morbidity, be critically aware of evidence-based measures which when implemented have been shown to reduce maternal and neonatal morbidity and mortality, and appreciate how good midwife practice play a positive role in further reducing maternal and neonatal mortality and mortality.

It focuses also on the preventive and therapeutic approaches taken towards the major endemic parasitic diseases in the country.

152484 Intensive Clinical Midwifery (Internship)

This course offers a fourth year students the opportunity to be able to develop expertise and to implement problem solving and management principles in the midwifery management of selected groups from the health-illness continuum and to practice midwifery independently in three levels of prevention; primary, secondary, and tertiary at different clinical setting in the hospital and community (Antenatal care, labor and delivery unit, gynecology and postnatal). Students will apply theoretical knowledge to clinical settings with emphasis on leadership role, management and changing agent role, and taking full responsibility under the supervision of clinical instructors and nurse in charge of clinical setting as preceptors. The course also provide practice essential to the assessment, planning, implementation and evaluation of clients in different clinical setting as well as to apply Midwifery skills related to health promotion, health maintenance, health restoration and disease prevention and treatment among the target aggregates. This training will offer students the opportunity to take full responsibility as a charge midwife before graduation.

0502123 First Aid

Designed to provide the student with the principles of first aid and skills necessary to help victims, accidents, emergencies and disaster situations. It includes measures to be taken to ensure personal safety, thus leading to accident prevention in the home and community. This is a practical course, part of which will be devoted to mastering first-aid skills in the case of trauma, bleeding, wounds, fractures, dislocations, burns, bites, stings, poisonings, loss of consciousness, suffocation and safety procedures appropriate to adopt control of the particular case and rules in the modern ways.

152428 Transitions

This course prepares students physically, sychologically and socially to be looking forward to their new roles as “professional midwives”. It should deal with empowering skills, reflections, expressing themselves, testing and undertanding their own believes, to start formulating their own individualized philosophies, curriculum vitus, searching for jobs opportunities, introducing them to the current health systems and hosting different midwives as guests to talk to them about their experiences. Whether it is chosen or thrust upon you, change brings both opportunities and turmoil. takes students step by step through the three stages of any transition: The Ending, The Neutral Zone, and, in time, The New Beginning. Bridges explains how each stage can be understood and embraced, leading to meaningful and productive movement into a hopeful future. Transitions will remain the essential guide for coping with the one constant in life: change is about the personal and emotional changes that come with pregnancy and new parenthood. Based upon extensive interviews with expecting couples, new parents, and related professionals, the course highlights nine areas where people

experience challenge. Each area contains tools, resources, and assessments focused on guiding readers to clarify what they want, eliminate self-imposed limitations, and gain insightful perspectives on their current challenge.

152485 The Comprehensive Exam For Midwifery

The comprehensive exam for midwifery is one of the basic requirements which must midwifery students going through at the end of the study to obtain a certificate of bachelor of midwifery.

The courses adopted in the comprehensive exam (11 courses) :

1. Midwifery I.
2. Midwifery II.
3. Midwifery III.
4. Introduction to Midwifery.
5. Advance Midwifery.
6. Neonatology.
7. Ethics and Professional Aspects of Midwifery.
8. Family Planning and contraception.
9. Women Health Issues.
10. Gynecology.
11. Neonatology.

OBS: All the students have to take library science

ACADEMIC STAFF

Dr.Adnan Sarhan	PhD in Psychiatric Nursing -University of Athens Master in Mental Health- Al-Quds University
Aidah Alkaissi	PHD Doctor in Anaesthesiology Master Degree Nursing Bachelor of science in the intensive care nursing Bachelor of science in the anesthetic nursing
Najwa subuh	High Diploma in Community Health Nursing Master in Pediatric Nursing (Al-Quds University)
Shrouq Ghaleb Qadose	Maternal Child Health (Al-Quds University)
Fatima Hirz Allah	master critical care nursing - Jordan university Ibn Sina nursing Collage
Mohammad Marie	Master in Community Mental Health. Al-Quds university
Mahdiah Shaker	Master In Critical Care nursing- Jordan University. Ibn Sina Nursing Collage
Rahegeh Awni	High Diploma in Midwifery – Makassed Hospital Master in maternal and child health Jordan University
Samah Ishtaeiah	Master in nursing management Al-Quds University
Mohammad Hayek	Nursing An-Najah university



FACULTY OF

OPTOMETRY



FACULTY OF OPTOMETRY

An-Najah National University added the Faculty of Optometry to its 19 existing Faculties in 2004. Today the Faculty has a total of 90 students and we are proud of the quality of instruction and the training experience that we offer to our students despite the insurmountable difficulties that we have been facing.

Since its establishment, the Faculty has been growing in its expectations and learning opportunities and we have made every possible effort to secure the most up-to-date equipment and labs for enriching the practical aspects of the learning experience so that they match the theoretical ones. The Faculty at An-Najah National University. It is the only Faculty of Optometry in Palestine and is a Full member at the World Council of Optometry.

The WCO Concept of Optometry is:

“Optometry is a healthcare profession that is autonomous, educated, and regulated (licensed / registered), and Optometrists are the primary healthcare practitioners of the eye and visual system who provide comprehensive eye and vision care, which includes refraction and dispensing, detection / diagnosis and management of disease in the eye, and the rehabilitation of conditions of the visual system.”

Doctors of Optometry are independent primary health care providers who examine, diagnose, treat and manage diseases and disorders of the visual system, the eye and associated structures as well as diagnose related systemic conditions, trained to prescribe medications to treat eye diseases and also provide pre-and post-surgical care and encourage preventative measures.

Today, the profession of Optometry involves much more than just prescribing and fitting glasses and contact lenses. Doctors of Optometry are trained to evaluate any patient’s visual condition and to determine the best treatment for that condition. They are viewed more and more as primary care providers for patients seeking ocular or visual care. Optometry is the nation’s third largest independent healthcare profession. Optometrists provide the majority of primary vision care.

Differences Between Ophthalmologist, Optometrist, and Optician? Ophthalmologist

An ophthalmologist is a physician (doctor of medicine, MD, or doctor of osteopathy, DO) who specializes in the medical and surgical care of the eyes and visual system and in the prevention of eye disease and injury. An ophthalmologist is a medically trained specialist who can deliver total eye care: primary, secondary and tertiary (i.e., vision services, contact lenses, eye examinations, medical eye care and surgical eye care), diagnose general diseases of the body and treat ocular manifestations of systemic diseases.

Optometrist

Doctors of optometry are independent primary health care providers who examine, diagnose, treat and manage diseases and disorders of the visual system, the eye and associated structures as well as diagnose related systemic conditions

Optician

Opticians adjust and fit optical products such as glasses. Some employers hire individuals with no background in opticianry. Training may be informal, on-the-job or formal apprenticeship. Others seek people with college level training in opticianry.



Graduation requirements for the B.S. degree in Optometry

The student has to complete 159 credit hours distributed as follows:

17 credit hours University compulsory courses.

6 credit hours University elective courses.

136 credit hours Faculty requirements.

First Year :

First Semester			
Course #	Course title	Credit hours	Prerequisite
21104	Mathematics	3	-
22103	General physics	3	-
22113	Gen. phys. Lab	1	-
23105	General chemistry	3	-
24121	General biology	3	-
161110	History & Orientation of Optometry	1	-
10103	English language(1)	3	-
Total	17		

Second Semester			
Course #	Course title	Credit hours	Prerequisite
161111	Human Physiology	2+1	24121
161112	Human Anatomy (Head, Neck, Thorax)	2+1	24121
161115	Medical Biochemistry	3	24121
105342	Medical Microbiology	3	-
161210	General & Theoretical Optics	3	22113+22103
25202	Biostatistics	3	-
Total	18		

Summer Semester			
Course #	Course title	Credit hours	Prerequisite
10322	English Language(2)	3	-
10102	Arabic Language	3	-
105343	Medical Microbiology Lab	1	105342
161211	Optics Lab	1	161210
Total	8		

Second Year :

First Semester			
Course #	Course title	Credit hours	Prerequisite
162112	Ocular Anatomy	2+1	161112
162111	Ocular Physiology	2+1	161111
162210	Theoretical & Physical Optics	3	161210
162115	General Pharmacology	3	161115
162510	General Pathology	3	161111+105342
162221	Physiological Optics 1	3	161210
Total	18		

Second Semester			
Course #	Course title	Credit hours	Prerequisite
10100	Introduction to computer sciences	3	-
10101	Islamic studies	3	-
162116	Ocular Pharmacology	2	162111+162112+162115
161113	Medical terms for optometry	1	
162113	Genetics	2	
162511	Ocular Diseases 1	3	162510
	Univ. elective	2	
Total	16		

Summer Semester			
Course #	Course title	Credit hours	Prerequisite
162211	Optics Lab 2	1	162210
10105	Pal studies	3	-
-	Univ. elective	2	-
Total	6		



Third Year:

First Semester			
Course #	Course title	Credit hours	Prerequisite
162512	Ocular Diseases 2	3	162511
163111	Neurophysiology of Vision	3	161111+105342
163211	Clinical Medicine	3	162510
163311	Clinical Optometry 1	2	-
163411	Contact Lenses 1	3+1	162510
163514	Public Health & Occupational Optometry	3	105342
Total	18		

Second Semester			
Course #	Course title	Credit hours	Prerequisite
163312	Clinical Optometry 2	2	163311
164411	Contact Lenses 2	3+1	163411
163315	Pediatric Optometry	3	162512
163328	Binocular Vision & Ocular Motility	3+1	162512
163325	Gerontology & Low Vision	3	162512
-	Univ. elective	2	-
Total	18		

Summer Semester			
Course #	Course title	Credit hours	Prerequisite
163412	Optometry Clinic A	3	163411
163414	Optometry Clinic B	3	163411
162113	Genetics for Optometrists	2	163111 + 162512
Total	8		

Fourth Year:

First Semester			
Course #	Course title	Credit hours	Prerequisite
164412	Case Analysis 1	1	163414+163412
164510	Environmental Optometry	1	-
164110	Professional Ethics & Communication Skills	2	-
10108	Community Service	1	-
164416	Specialty Clinical Procedures	1	163311
164413	externship	3	
164328	Binocular Anomalies & Therapy	3+1	163328
164420	Advanced Optometry Clinic 1	3	163312
Total	16		

Second Semester			
Course #	Course title	Credit hours	Prerequisite
164414	Case Analysis 2	1	164412
163410	Clinical Optometry 3	3+1	163312
164415	Clinical Dispensing	2	164412
164422	Advance topics in Optometry	3	164411
164421	Advance Optometry Clinic 2	2	164420
161121	Practice Management	3	-
164511	Graduation Project	1	163412+163414
Total	16		



Course Contents

Human Anatomy (2+1):

Anatomy of the brain and brain structures, blood and nervous supply to the brain, neck and thorax. Brain cells. Anatomy of the systems: skeletal, digestive, respiratory, central nervous system (CNS), peripheral nervous system (PNS), Histology of the brain cells and organs. Practical: includes viewing slides of the human body

General Physics (3):

Classical mechanics (general laws of motion), Electricity, Thermodynamics, Fluid Mechanics, vibrations and wave motion, electromagnetic waves, sound and light. Light and Lasers, Optical spectra, dual nature of light, absorption, excitation and relaxation, ionization, molecular dissociation and lasers. Microscopes, optical microscopes, electron microscope, scanning tunneling microscope and atomic force microscope.

General Physics Lab (1):

The course covers experiments in relation to topics covered by course 22103

Mathematics (3):

Functions, limits and continuity, derivatives and applications, integration and applications, elementary differential equations, linear second order differential equations with constant coefficients.

General Chemistry (3):

A lecture course that involves basic concepts of chemistry. Atomic and molecular structures are covered with periodic table, chemical bonds and stoichiometry. Aqueous solutions, gas laws and other topics are also covered.

History & orientation of Optometry (1):

A brief history of the profession & the development of visual sciences, a consideration of legal & organizational development of Optometry, the role of professional associations, the role & scope of Optometry & its relationship to other professions & the community.

Human Physiology (2+1):

A detailed general physiology of the human body along with physiology of major organ systems. Course content will be presented in a modular format. Areas of discussion will include functions of the cardiovascular, respiratory, endocrine, digestive, reproductive, integument, and peripheral and autonomic nervous systems. The laboratory will emphasize and augment important concepts introduced in the classroom environment.

Medical Biochemistry (3):

Basic concepts of general and cellular biochemistry. Study of nomenclature structure, and reactions of organic molecules. Some emphasis on visual system, tears, intraocular fluids, lens and photochemistry.

Medical Microbiology (3):

Nature of microorganisms, sterilization and disinfection, gram-positive and gram-negative pathogens, spirochetes Chlamydia and rickettsiae viruses, fungi & parasites. Basic concepts of microbial genetics, structure and metabolism of microorganisms. Principles of immunity and immunobiology, with emphasis on diseases caused by microorganisms.

Medical Microbiology Lab (1):

General techniques in media preparation, isolation, staining, culture and identification of bacteria and antibiotics susceptibility testing. Principles of sterilization & disinfection and quantitative measurement of bacterial growth

General Biology (2):

Origin of life, molecular evolution, development of life forms, Darwin evolution, molecular make up of cell monomers and polymers, cell structure, energy cycles, photosynthesis, symbiosis, chloroplasts, mitochondria, ATP, NADH, food cycle, aerobic and anaerobic process of energy production, structure and activity of DNA and RNA.

Genetics for Optometry (2):

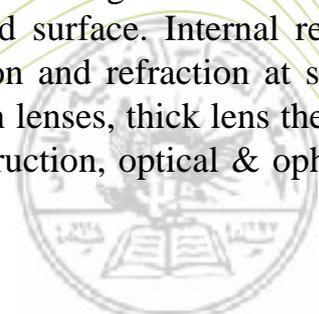
Mendelian genetics. Chromosomal mechanisms in mitosis and meiosis. The origin, inheritance and adaptive significance of chromosomal changes. Nucleic acids as the carriers of genetic information, genetic aspects of the eye disease, defects of ocular/ adnexal development .

Biostatistics (3):

Statistical methods involving relationships between populations and samples, collection, organization and analysis of data and techniques in testing hypotheses with an introduction and analysis of variance. Emphasis will also be given to nonparametric methods.

Geometrical & Theoretical Optics (3):

The propagation of light, the behavior of light on reaching a new medium, ray tracing, reflection and refraction at a plane & curved surface. Internal refraction at plane surfaces, prisms and optical fibers. Reflection and refraction at spherical surfaces, cylindrical and spherocylindrical lenses. Thin lenses, thick lens theory and lens system. Aberration and image quality. Ray construction, optical & ophthalmic instruments.



General Pathology (3):

Basic disease processes, including inflammation, degeneration, neoplasia, pathogenic microbiology & related diseases, immunity & hypersensitivity, diseases caused by physical & chemical agents, diseases of the organ systems.

Ocular Anatomy (2):

The gross microscopic & ultra structure of ocular tissues, the embryology and comparative anatomy of the eye will be emphasized; the relationship of the eye to the vascular supply of the head & the resources system will be studied.

Ocular Physiology (2):

The physiology of the smooth muscles of the eye, the extra ocular striated muscles, conjunctiva, the lacrimal apparatus, the cornea, the iris, the lens, the ciliary body & the vitreous body, production and drainage of aqueous humour & its effect on intraocular pressure.

General Pharmacology (3):

Introduction to Pharmacology, basic terminology, pharmacokinetics and bioavailability, parameters of drug description original and generic drugs, prescription drugs, OTC drugs, basic drug activity mechanisms, classification of drugs, drugs affecting the nervous system, antimicrobials, drugs affecting the coronary and vascular systems, drugs affecting the digestive system, drugs affecting the endocrine system, anti-allergic drugs and immunosuppressant, coagulants and anticoagulants, anti-inflammatory drugs, dermatologic drugs, ENT drugs, topical and systemic ocular medications, chemotherapy, side effects, contraindications, special precautions, considerations in drug selection.

Ocular Pharmacology (2):

Coverage of the principles of pharmacology, drug classification & mechanism of action, medication use by the population, coverage of medications used to manage most major diseases & consideration of the effects of these medications on the eye & vision. Principles of ophthalmic pharmaceutical preparation & pharmacokinetics selection & use of all ophthalmic diagnostic & pharmaceutical agents, including dyes, stains, topical & ocular anesthetics, mydriatics, cycloplegics, miotics, palliative therapeutic agents (artificial tears, etc.) & ophthalmic therapeutic agents. Coverage will include product details & recommended guidelines for their use & follow up procedures.

Optics Lab I (1):

Experiments in application to topics covered in course #151210

Ocular Disease I (3):

The etiology, epidemiology, symptoms, signs and course sequelae of ocular disease and anomalies. Disease and anomalies of lids, orbit, conjunctiva, cornea, sclera, iris, ciliary body, lens, vitreous, retina, choroids and optic nerve.

Physiological Optics (3):

Optical elements of the eye. The eye as an optical instrument. Schematic eye. Gullstrand's eye, the normal eye. Refractive errors, myopia, hyperopia, astigmatism, refractive ametropia, axial ametropia. Planes and angles of the eye. Axes of the eye. The refractive correction: spectacles and contact lenses. Optical aberrations. Accommodation. Units of measurement of angles: prism, degree, meter, radian and centric angle.

Practice management (3):

Practice management, financial management, office design; inter professional relations with optometric assistants & professional associations

Public Health & occupational Optometry (3):

Introduction to the foundation & basic sciences of public health Optometry with an emphasis on the epidemiology of vision problems.

Introduction to Computer Sciences (3):

Computer components: hardware and software; PC use, D.O.S., and Windows; introduction to programming in Basic; on-line information resources, CD-Rom databases, programs and multimedia systems that can be used by pharmacists in their practices.

Optics Lab II (1):

Experiments in application to topics covered in course # 52210

Neurophysiology of vision (3)

The neural processing of colour, brightness, movement and form by the retina, lateral geniculate, cortex, superior colliculus and other brain centers, neural mechanisms underlying binocular depth perception, the accommodative response & eye movement, pupils reactions, innervation to pupils.

Clinical Optometry I (2):

Selected tests for ocular assessment including case history, visual acuity and ophthalmoscopy.

Clinical Medicine (3):

Diagnostic principles and medical management. Comprehensive health history, physical examination and neurological screening with particular association to ocular health conditions. Clinical chemistry and interpretation of clinical laboratory tests, criteria for referral to other providers and emergency office procedures. Co management practice with other primary care physicians will be emphasized.

Ocular Disease II (3):

The etiology, epidemiology, systems, signs, course sequelae and management of posterior segment ocular disease and the anomalies and ocular manifestations of systemic diseases. Disease, abnormalities and management of neurological conditions which affect the lids, pupils, extra ocular muscles, optic nerve and visual system.

Binocular Anomalies and Therapy (3+1):

Detection and evaluation of sensory and motor characteristics of vision in aniseikonic, strabismic and nonstrabismic patients. Classifications, diagnosis, prognosis and modes of therapy for aniseikonic, nonstrabismic and strabismic patients. Nystagmus, accommodation anomalies, management of vergence anomalies, management of accommodative anomalies.

Gerontology & Low Vision (3):

An introduction to epidemiology of aging & the clinical effects of aging on the visual system. The Optometric assessment and management of the aging patient. An introduction to low vision care with emphasis on assessment & management of visual impairment & disability, including optical & non-optical therapies, the epidemiology of vision impairment, multidisciplinary management & associated rehabilitative services will be discussed.

Clinical Optometry II (2):

Continuation of clinical Optometry. Patient care in the areas of refraction, binocular integration, perimetry and biomicroscopy.

Binocular vision & Ocular Motility (3):

Physical space & visual space fundamental perceptual processes, binocular vision, stereopsis, binocular space perception. Systems of analyzing binocular vision. Theory of aniseikonia. Perceptual aspects of aniseikonia. Ocular motility, kinematics of eye movements, muscle actions, measurements of eye movements, types of eye movements, innervational systems sub serving eye movements, clinical applications.

Pediatric Optometry (3):

Special examination and management considerations of the pediatric patient. Psychological, physiological, social and demographic aspects of early visual development. Discussion of the Optometric considerations of children with learning and reading disabilities.

Environmental Optometry (I):

Vision in different environmental conditions, lighting requirements under different conditions, the computer screen and vision, eye safety and accident prevention, visual screening at work place, screening for drivers.

Contact lenses I (3+1):

Patient examination & consultation, indications & contra-indications for contact lens wear. Factors influencing lens selection & design. Principles of fitting & evaluating rigid & hydro gel soft contact lenses. Physico-chemical & mechanical properties of contact lens materials, optical & mathematical concepts. The ocular physiological response to contact lens wear, care & maintenance of contact lenses.

Optometry Clinics A & B (3+3):

Students are assigned to various areas within the clinic where, under direct clinical faculty supervision, they participate in the provision of Optometric services to clinic patients. In addition to primary case, they are exposed to the provision of contact lens, ocular health & optical services.

Case Analysis I (1):

The clinical application of the visual sciences. Emphasis is placed on the differential diagnosis method of analyzing clinical data with consideration given to appropriate clinical techniques, effective record keeping, recommended Optometric therapies and prognosis.

Contact Lenses II (3+1):

Detection & management of chronic & acute complications induced by contact lenses. Contact lens management options for special conditions such as dry eye, aphakia, & Keratoconus (and other corneal irregularities). Disposable lenses & replacement regimens. Extended wear options. Alternative management of refractive errors such as orthokeratology & refractive surgery, contact lenses and Presbyopia.

Professional Ethics & Optometric communication (2):

A survey of alternative philosophical perspectives involved in resolution of sample ethical & moral issues confronting Optometrists. Awareness of the explicit contents of written & vocal communications. An exploration of Optometric communication issues related to letter & report writing, patient counseling, patient referral, fee presentation & complaint management.

Specialty Clinical Procedures (1):

Visual Field assessment and analysis of data of visual field, common visual field defects, other ocular diagnostic techniques such as ultrasound, image studies, retinal images, funduscopy, visual field equipment (Humphreys, Goldman Perimeters, etc)

Advanced Optometry Clinic 1+2 (3+2):

Students are assigned to various areas within the clinic where, under direct clinical faculty supervision, they participate in the provision of Optometric services to clinic patients. It is a continuation of clinic A and B

Graduation Project (1):

Projects may be laboratory, library, or clinically based research in any area of vision science. All projects must be undertaken under the supervision of members of faculty committee.

Case Analysis II (1):

Building on analytical principles developed in case analysis I, this course involves student, case-based presentations in a grand rounds format. Each student chooses one, different, interesting case from his/her previous clinical experience. The student presents the case and answers questions related to the case and the patient's conditions. Faculty

discussants will direct the students in assessing the basic and clinical science features of the cases. Patient cases may be chosen from any aspect of Optometric practice.

Clinical Optometry III(3+1):

Correlation and analysis of Optometric data. Emphasis on diagnosis, prognosis, and therapy of visual problems.

Clinical Dispensing (2):

Clinical experience in verification and dispensing of ophthalmic materials, lensectomy, frame selection, shape of human face, dispensing of spectacle wear, fitting and adjusting of spectacle correction. Prescription writing, dispensing of eye protectors, patient counseling and management of dispensing problems. Prescribing for high myopia and aphakia spectacle accessories.

Advanced Topics in Optometry (3):

Intensive study of a specialty Optometric topic. Course formats may involve lectures, clinical workshops, literature reviews or research projects.

Medical terms for optometry :

The course starts with the word's roots and the initial and final sections of words, parts of the human body in the event of sickness and health, the course focuses on the words and terms related to the eye, the construction of the eye and medical terminology related to eye and body.

Externship :

Consists of internal training in the eye clinic in the university and external training in hospitals and in different centers supervised by qualified Ophthalmologists and Optometrists.

In responding to the needs of the Palestinian people, An-Najah National University added the Faculty of Optometry to its 19 existing Faculties in 2004. Today the Faculty has a total of 90 students and we are proud of the quality of instruction and the training experience that we offer to our students despite the insurmountable difficulties that we have been facing.

Since its establishment, the Faculty has been growing in its expectations and learning opportunities and we have made every possible effort to secure the most up-to-date equipment and labs for enriching the practical aspects of the learning experience so that they match the theoretical ones. We have succeeded so far in offering this unique and much needed sort of learning to our students who were not given such opportunities prior to the establishment of the Faculty at An-Najah National University. It is the only Faculty of Optometry in Palestine and is a Full member at the World Council of Optometry.

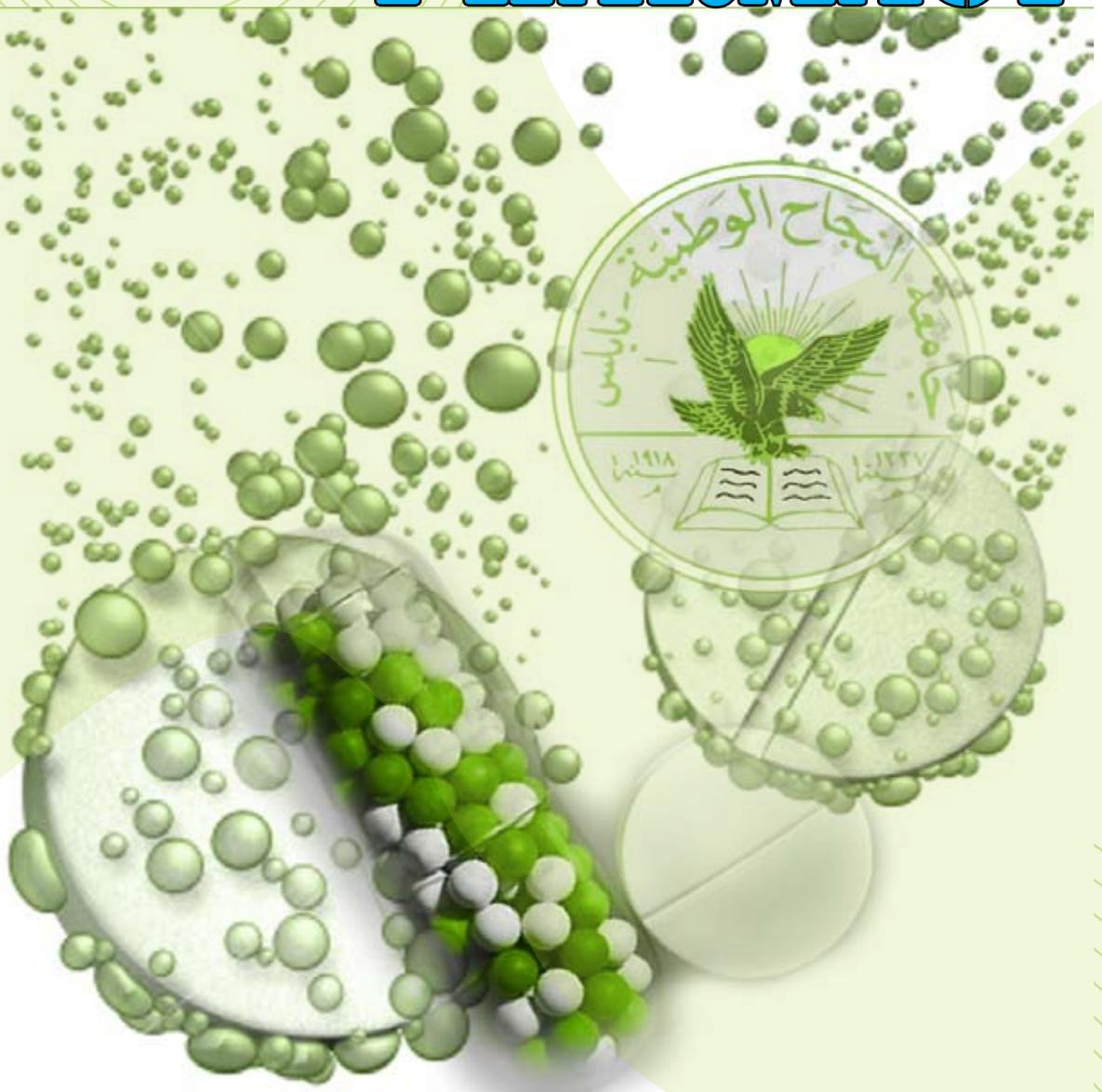
Aims:

- Offer a professional scientific education in Optometry for the students of Palestine.
- Offer a scientific and educational environment for researchers in Optometry.
- Offer a base to develop academic and professional experiences in Optometry.
- Offer medical treatment to patients in Palestine.
- Improve a professional and academic level of workers in the field of Optometry.



COLLEGE OF

PHARMACY



COLLEGE OF PHARMACY

Background & Mission:

An-Najah University College of Pharmacy is well recognized for its impact on pharmacy practice and on the health care needs of approximately 3 million Palestinians through its contributions in education, training, scholarship, service and research. The College will serve an integral role within the University by providing a culturally diverse and intellectually stimulated community of scholars engaged in the collective creation and dissemination of knowledge.

The mission of An-Najah College of Pharmacy is the development of student and faculty scholars who will impact the health care needs of people in Palestine. The College will provide a strong foundation in the knowledge, integration and application of the biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences resulting in practitioners who are committed to humanistic service, capable of providing patient-centered care and leaders in advancing the pharmacy profession. The College embraces the mission of the University to educate individuals from economically or educationally disadvantaged backgrounds to strengthen the simultaneous provision of culturally competent care and reduction of health care disparities.

An-Najah National University College of Pharmacy awards a B.Sc. degree in pharmaceutical sciences, after successful completion of 164 credit hours that include:

- (20) credits of compulsory university courses
- (6) credits of university electives
- (123) credits of college compulsory courses
- (15) credits of college electives

University Compulsory Courses (20 credits):

Course #	Course title	Credit hrs	Pre-requisite
10103	English Language 1	3	
10322	English Language 2	3	
10101	Islamic culture	3	
10102	Arabic Language	3	
10105	Palestinian studies	3	
10100	Introduction to computer science	3	
10117	Communication skills	1	
10108	Community Service	1	

B. University elective courses (6 credits)

C. College Compulsory courses (123 credits)

Course #	Course title	Credit hrs	Pre- requisite
21104	Mathematics for Pharmacy	3	_____
23105	General Chemistry I	3	_____
23106	General Chemistry II	2	23101
23109	General Chemistry I (Lab)	1	_____
24121	General Biology	3	_____
24122	General Biology I (Lab)	1	_____
25202	Biostatistics	3	21104
101321	Medicinal Chemistry I	3	_____
101421	Medicinal Chemistry II	3	_____
101481	Nutrition	2	_____
102211	Organic chemistry for Pharmacy I	3	23102, 23101
102219	Organic chemistry for Pharmacy I (Lab)	1	23108
102213	Organic chemistry for Pharmacy II	3	102211
102215	Analytical Chemistry for Pharmacy	3	23108, 23102
102216	Analytical Chemistry for Pharmacy (Lab)	1	23108
102217	Physical Pharmacy	3	23102
102218	Physical Pharmacy (Lab)	1	23108
102311	Pharmaceutics I	3	102217
102312	Pharmaceutics I (Lab)	1	_____
102313	Pharmacy Legislations & Practices	1	102321
102320	Pharmacy Practice & OTC	1	102321
102315	Pharmacology I	3	105311
102317	Instrumental Analysis	2	102215, 102214
102321	Pharmaceutics II	3	102311
102411	Industrial Pharmacy	3	102321
102413	Pharmacology II	3	102315
102416	Biopharmaceutics and Pharmacokinetics	3	102321
102511	Clinical Pharmacy	3	_____
103331	Pharmacognosy	3	102213, 102214

Course #	Course title	Credit hrs	Pre- requisite
103332	Pharmacognosy (Lab)	1	102214
103431	Phytochemistry	3	_____
105201	Public Health and First Aid	3	_____
105261	Human Anatomy	3	24108, 24102
105311	Biochemistry I	3	102214, 2213
105312	Biochemistry I (Lab)	1	102219
105313	Biochemistry II	3	105311
105342	Medical Microbiology	3	24108, 24102
105343	Medical Microbiology (Lab)	1	24108
105345	Immunology	2	105343
105346	Drug Information and Dispensing	2	_____
105362	Human Physiology I	3	105311
105363	Human Physiology I (Lab)	1	105312
105364	Human Physiology II	2	105362
105413	Clinical Biochemistry	2	102414
105423	Pathology	3	105362
105447	Toxicology	2	102315
105999	Pharmacy Training	3	102511 or 101423 or 106323
102415	Pharmacology III	2	102314
102322	Pharmaceutics III	2	102311
101423	Medicinal Chemistry III	2	101321
102319	Instrumental Analysis Lab	1	102216
105225	Pharmacy research	3	25202 + 102415
102325	Quality Control	1	102216
105990	Pharmacy Research Project	3	-

D. College elective courses: (15 credit hours)

Course #	Course title	Credit hrs	Pre-requisite
22103	General Physics for Pharmacy	3	-
52121	Accounting	3	-
102412	Industrial Pharmacy (Lab)	1	102411
102414	Pharmacology (Lab)	1	102413
105210	History of Pharmacy & Medicine	1	College approval
105211	Ethics of Medical Professions	2	College approval
105214	Clinical Pharmacy II	3	102511
105213	Pharmaceutical Technology	2	102411
105217	Cosmetics	2	College approval
105220	Pharmaceutical Care	3	
102323	Pharmaceutical Excipients	2	102321
102316	Marketing & medical Promotion	1	
105448	Toxicology lab	1	105447
102420	Drug Metabolism	2	102315
105449	Environmental Toxicology	2	
105424	Infectious Diseases	3	102413 + 105342
103435	Green Pharmacy	2	103331
105314	Biotherapy	2	102413 + 105313
105424	Hematology	2	105423
105450	Vet. Medical products	2	102415
103440	Alternative Medicine	2	
102418	Drugs in Pregnancy & Lactation	3	102413
102326	Pharmaceutical Sterilization	2	105342
102221	Chemical functional group	3	102213
105266	Parasitology	2	24121



Course Description

MTH25202 Biostatistics

Topics covered in this course include classification of statistical data and methods of presentation; collection, organization and analysis of data; sampling; techniques in hypothesis; correlation and analysis of variance; simple linear regression, medical and biological applications on all of the above.

PHA101321 Medicinal Chemistry I

Concerned with the study of the physiochemical properties of drugs, their absorption, distribution, metabolism and elimination, this course also covers preservatives, disinfectants, anti-fungal drugs and antibiotics.

PHA101421 Medicinal Chemistry II

It is basic medicinal chemistry; the course covers topics in autonomic drugs, central nervous system, drugs and hormones.

PHA101423 Medicinal Chemistry III

This course is an investigation into the structure/activity relationship and chemical aspects in all major groups of drugs. Introduction to new methods of drug synthesis and evaluation will also be taught.

PHA101481 Nutrition

Concerned with the relationship between nutrition and other sciences; food nutrition, and food analysis; sources of food and consumption; human body and digestive system, water metabolism; food energy; soluble and insoluble carbohydrates; fats and fat metabolism; proteins metabolism, vitamins, minerals, nutrient requirements in special conditions and disease situations.

PHA102211 Organic Chemistry for Pharmacy I

A study of chemical properties and reaction mechanisms of non-cyclic compounds, with an explanation of the nature of correlations in molecules.

PHA102219 Organic Chemistry for Pharmacy I (Lab)

This is a laboratory course designed to cover theoretical biochemical concepts. Students will learn practical techniques used in lab experiments. Experiments on separation techniques, identification of organic compounds of interest will be conducted.

PH2A102213 Organic Chemistry for Pharmacy II

This course includes the study of cyclic, non-aromatic and aromatic compounds and their chemical reactions, types of displacement, reaction mechanisms and analytical methods of different types; identification of compounds, binary structure; the course is also a study of functional groups such as acids, and their derivatives, heterocyclic compounds, amines, carboxylic acid reactions; phenols, alkenes and reaction mechanisms of the aforementioned.

PHA102215 Analytical Chemistry for Pharmacy

This course covers some basic concepts in chemical analysis and their application in the pharmaceutical field; errors in chemical analysis; evaluation of analytical data in terms of accuracy and consistency; the course also covers gravimetric and titrimetric methods of analysis; theory of neutralization; titrations; precipitation titrimetry; complex-formation titrations; theory of molecular absorption spectroscopy; analytical separation by solvent extraction and an introduction to chromatographic methods.

PHA102216 Analytical Chemistry for Pharmacy (Lab)

An application of Chemistry 102215 with students conducting experiments in analytical chemistry labs. These experiments include treatment of analytical data, determination of acid content of vinegar, determination of purity of soda ash, determination of water hardness by using EDTA, determination of iron ore content of a razor blade; determination of vitamin C in dehydrated juice or in tablets; determination of sulphate by using absorption indicator; gravimetric determination of sulphate separation by paper chromatography, spectrophotometric methods of analysis: analysis of commercial hypochlorite solution.

PHA102217 Physical Pharmacy

This course covers six major topics: states of matter; thermodynamics; solutions of non-electrolytes; solutions of electrolytes; kinetics, and solubility and distribution phenomena. The course includes a considerable number of subtopics related to each of the six major topics.

PHA102218 Physical Pharmacy (Lab)

Experiments cover a number of topics: solubility and activity coefficient heat of solution; three component phase diagram; phase diagram of a binary liquid vapor system; Kinetics of the persulphate iodide reaction (effect of ionic strength or reaction rate); Kinetics of the hydrolysis of methyl acetate (first order reaction); Kinetics of the hydrolysis of hydrazones (specific acid catalysis); stability of aspirin; viscosity; absorption isotherms; electrolytic conduction; Clarius-claypron equation; partition coefficient, and determination of formation constant of I₂ complex.

PHA102311 Pharmaceutics I

This course covers several topics: different pharmaceutical calculations (including calculation of concentration, reductions and quantities) pharmaceutical solutions (isoosmosis ...); ways of calculating children's dosages; Latin abbreviations; methods of drug storage; introduction to pharmaceutical forms; ways of calculating date of expiry; ways of drug decomposition; drug stability; introduction to movement of drug in human body; methods of taking drugs.

PHA102321 Pharmaceutics II

Students are introduced to a number of topics: Pharmaceutical compounding principles of various dosage forms: solid, semi-solid and liquid dosage forms; selection of ingredients, mechanisms of action; packaging, storage, closures and tests.

PHA102312 Pharmaceutics I (Lab)

This practical course aims at introducing students to basic pharmaceutical dosage forms: liquid, semi-solid, and solid types. The lab sessions involve the basic principles of compounding, preparation skills, and basics underlying the selection of formulating ingredients, packaging, labeling and storage conditions for final selection of finished products.

PHA102313 Pharmacy Legislation and Practices

This course is a study of laws and regulations related to all aspects of the profession of pharmacy, namely legal and ethical principles. Emphasis is placed on the evaluation of non-prescription medications and appliances.

PHA102320 Pharmacy Practice & OTC

This lab aims at introducing students to medications that can be dispensed to patients without prescription. These drugs include antacids, anthelmintics, antidiarrhea, laxative products, emetic and anti-emetic drugs; hemorrhoid products; cold, cough and allergy products; asthma products; analgesics and NSAIDS; vitamins and minerals; infant formula products; weight control products; menstrual products, dental products, insect sting and bite products; burns and sunburn products, skin products, infant products, foot care products. This will be in addition to answering questions raised by patients seeking self-treatment concerning symptoms, aspects of patient counseling in the safe and effective use of products dispensed to him/her and side effects of this class of drugs.

PHA102315 Pharmacology I

This course investigates into the pharmacokinetic properties. The course is also a study of all drugs affecting the human being's nervous system. Sedatives and hypnotics; anti-convulsants and migraine drugs will be discussed.

PHA102413 Pharmacology II

This course is a study of some drugs and their working mechanism. Drugs to be studied include anti-hypertensive drugs, asthma medication, rheumatoid arthritis treatments, NSAID'S and salicylates, autacoids, histamines and antihistamines, steroids, thyroid and antithyroid drugs, diabetes, insulin; estrogens and progestins; agents affecting calcification and bone fragility.

PHA102414 Pharmacology (Lab) (E)

This course is an application of pharmacological knowledge taken in Pharmacology 102413. Students will conduct selected experiments in a practical setting. They will also do presentation of commonly encountered groups of medications. Emphasis is placed on site and mechanism of action.

PHA102318 Instrumental Analysis

This course focuses on several modern methods used in chemical analysis by using advanced equipment that helps in making pharmaceutical analysis in quality control

labs as well as in research. Both identification and quantitative methods are described. Methods used include principles of UV-Visible spectrometry, IR, fluorescence, atomic absorption, flow injection, electrochemistry, in addition to different types of chromatographic separative methods of high performance gases and liquids. Other examples are GLC, HPLC and SFC.

PHA102411 Industrial Pharmacy

This course aims at introducing students to the world of pharmaceutical industry; principles and basis of good manufacturing in addition to unit operations preparation techniques that affect the manufacturing of various pharmaceutical dosage forms. Students also learn about preformulation tests, stability protocols and quality control and GMP regulations to be followed in pharmaceutical plants in order to produce products with satisfactory if not good quality and deliver these products in the required form and manner.

PHA102412 Industrial Pharmacy (Lab) (E)

This is a laboratory course and it aims at introducing students to the world of pharmaceutical industry in all its aspects. Students will work in an environment similar to that in a pharmaceutical plant, particularly in the research and development department. Experiments, in different topics, are designed to study many factors involved in the processing of products throughout their lifetime until production stages by using small scale equipment available in the lab. Of the experiments, students will conduct mixing, milling, granulation, tableting, capsule filling and quality control tests.

PHA102416 Biopharmaceutics and Pharmacokinetics

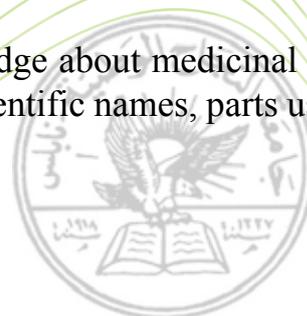
This course is a description of the bases of therapeutic drug monitoring by discussing the pharmacokinetics of drugs following intravenous administration, intravenous infusion, oral and/or extra vascular administration of drugs that undergo first-order and zero-order elimination kinetics, emphasizing one-compartment and two-compartment models. The basis of bioavailability and bioequivalence studies will be emphasized. This science is considered the basis of therapeutic drug monitoring.

PHA102511 Clinical Pharmacy

This course covers the concepts of clinical and therapeutic effects, the role of pharmacist using clinical care modules on the following: cardiovascular system; respiratory system; infectious diseases; nervous system; endocrinological disorders, and gastrointestinal diseases.

PHA103331 Pharmacognosy

This course provides the students with basic knowledge about medicinal plants in terms of their types, ways of collection and storage, scientific names, parts used, uses of each plant, active constituents, and mode of action.



PHA103332 Pharmacognosy (Lab)

This course is an application of theoretical knowledge in lab. Practical lab sessions will be conducted which involve microscopic, macroscopic and chemical tests used in the identification of crude drugs.

PHA103431 Phytochemistry

This course focuses on classification of medicinal plants, ways of identifying their chemical constituents, methods of separation. The course is also a study of physico-chemical properties; methods of structure determination (MS, NMR, IR, UV).

PHA105201 Public Health and First Aid

This course investigates principles of preventive medicine, and public safety; vulnerability to emergency situations; first aid procedures; mother and child health care. The course also examines communicable diseases and social medicine.

PHA105261 Human Anatomy

This course covers general anatomy (terminology, body organization and body tissues). This is in addition to skeletal, muscular, and cardiovascular, nervous, gastrointestinal, urinary, and genital systems.

PHA105311 Biochemistry I

This is an introductory biochemistry course and it deals briefly with the biological compounds (carbohydrates, proteins and fats) in human body and their metabolism reactions, and the way the body gets energy. The course also covers enzymes, ways of controlling enzyme reactions and enzyme supporters.

PHA105312 Biochemistry I (Lab)

This course includes comprehensive range of basic experiments in various topics in biochemistry. These experiments include identification of carbohydrates, proteins, fats, vitamins. Different methods, namely chromatography (paper and thin layer) and enzyme assay, will be used. There will be also a study of the effect of different conditions on the activity of enzymes.

PHA105313 Biochemistry II

This course is a study of all pathological changes that occur in human being's biological operations. The course also includes interpretation of clinical laboratory results and their relationship with the state of illness. There is also a study of changes in pH and its different influences.

PHA105342 Medical Microbiology

This course is a study of basic aspects of microbial genetics, structure, and metabolism of microorganisms; principle of immunology, with emphasis on diseases caused by microorganisms.

PHA105343 Medical Microbiology (Lab)

This lab course covers several topics: preparation of microbial growth culture; staining, metabolism, identification and anti-microbial susceptibility of microorganisms. There is also a study of principles of sterilization and disinfections and quantitative measurement of bacterial growth.

PHA105345 Immunology

This course focuses on immunology terminology and basic principles of immunology. Emphasis is placed on biological and biochemistry aspects of host resistance, immunity types of hypersensitivity and suggested treatment; body resistance to different types of diseases.

PHA105346 Drug and Information Dispensing

This course examines medical prescriptions, their types and how to deal with them; common pharmaceutical forms. The course also studies modern medications & their mechanism of work. Students also learn about retrieval and dissemination of drug information and common drug interactions.

PHA105362 Human Physiology I

This introductory course deals with the human body as separate systems. The students get an understanding of the mechanisms governing the function of different human organs. The following systems are studied in this course: central nervous system, cardiovascular system, skeletal system, respiratory system and renal system.

PHA105364 Human Physiology II

This course completes the study of function of different organs as separate systems. The following systems are studied: gastrointestinal tract, endocrine system, genital system and special senses.

PHA105363 Human Physiology (Lab)

This lab course is concerned with designed practical experiments to cover the theoretical course of the human physiology to guide students to reality of cell functions and organs of the body.

PHA105412 Clinical Biochemistry

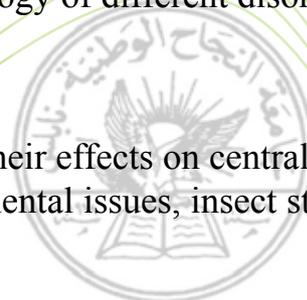
This course teaches clinical application of biochemical aspects in the form of different lab interpretations and applications.

PHA105423 Pathology

This course deals with the basic knowledge in pathology of different disorders and their effects on body organs and systems.

PHA105447 Toxicology

This course involves teaching toxicity of drugs and their effects on central nervous system and cardiovascular system. Important environmental issues, insect stings and general and specific antidotes are also studied.



PHA105210 History of Pharmacy and Medicine (€)

This is a historical study of medicine and pharmacy throughout the ages. The course highlights the Muslim Arab scientists' contributions to these two fields.

PHA105211 Ethics of Medical Professions (€)

This course, as the title suggests, emphasizes the ethical principles upon which the medical professions and pharmacy in particular rest. The course looks at the nature and place of pharmaceutical services in society, and the moral standards and professionalism expected from a pharmacist.

PHA105214 Advanced Clinical Pharmacy (€)

This course is an in-depth clinical study of significant drug categories used in treatment at the primary care level. Emphasis is placed on adverse effects and drug-drug interactions and the task of selecting an appropriate medication for specific patients.

PHA105213 Pharmaceuticals Technology (€)

This course covers a number of special topics in the pharmaceutical field: new drug development; approval and registration processes of new drugs, and new drug delivery systems (transdermal, ophthalmic, aerosoles, ...). The course also surveys principles underlying drug design, mechanism of action, problems, and attempts of enhancement of delivery.

PHA105217 Cosmetics (€)

Students in this course get acquainted with the basics of cosmetics preparation. They also study required specifications for cosmetic materials, mechanism of their effectiveness and influence. Students will get training on how to prepare some of these cosmetic materials according to standard specifications.

PHA105266 Parasitology

The main purpose of this course is to provide the students with up-dated information in clinical Parasitology with emphases on parasites of medical importance in the Middle East, particularly, in Palestine . The course covers subjects that include classification of parasites, morphology and life cycle, pathogenesis, clinical symptoms, treatment and prevention.

PHA105314 Biotherapy:

This course discusses the various methods for obtaining complex drugs from biological origins and the different therapeutic and medical applications for these bio-products.

PHA102415 Pharmacology III (2 credits)

This pharmacology course will cover the following main topics:

Drugs used to treat infectious diseases, including: antibiotics, antifungal agents, antiviral agents, antiprotozoal drugs, antiparasitic drugs, anthelmintic drugs.

Cancer chemotherapy

Immunopharmacology

Dermatological drugs

Drugs used in gastrointestinal disorders

New drugs.

PHA105424 Infectious diseases (3 credits) (€)

This course is designed to explore the proper use of antimicrobials to treat infectious diseases. Infections of different organ systems will be covered including: respiratory, gastrointestinal, genitourinary, CNS, skin, wound infections, fungal infections, tuberculosis, sepsis and AIDS.

PHA102418 Medications during pregnancy and lactation (3 credits) (€)

this course covers several aspects including the physiological changes during pregnancy, the pharmacokinetics of medications in pregnancy, medications secreted in breast milk, utilization of medications during pregnancy for several diseases such as upper respiratory tract infection, urinary tract infection, gastrointestinal disease, pain, infections, diabetes, hypertension, acne, dental problems. It also covers the use of complementary and alternative medicine in pregnancy.

PHA105449 The Effect of Poisons on the environment: (2 credits) (€)

This course focuses mainly of the effect produced by poisons on the environment (humans, animals, plants, soil, water,...etc). It includes detailed studying of the groups of environmental pollutants, the need to further research and investigation in this area, bioaccumulation, the effect of poisons on all levels of the universe, and the methods and pathways leading to contamination and the methods of calculating or estimating them.

PHA102319 : Practical Instrumental Analysis for Pharmacy

(1 credit hour, 3 hours duration in lab.)

This course is composed of 12-14 experiments, covering the main subjects studied in the theoretical instrumental analysis:102318. This laboratory begins with one experiment in spectrometrical determination of a mixture in the visible region, and ion-exchange chromatography of a salt. This practical course was designed to enhance the practical background of students with respect to instrumental analysis. The first two experiments are done by all students in pairs. The remaining experiments are periodical, one experiment for each two students, covering mainly electrochemical analysis. The course consists of 14 weeks: first week is for necessary preparations and regulations, while the last week is for a visit to the Quality Control laboratory for drugs in the university.

PHA102221: Spectral and chemical elucidation of functional groups (€) (2 theoretical & 1 practical)

This course aims to sort out organic compounds due to their functional groups, using many methods for analysis as: solubility, tests for halogens, nitrogen and sulfur, chemical reactions and acceptance of substitution in addition reactions.

PHA102325: Quality Control (1 hour)

In this course, quality of the pharmaceutical products is defined and the plans for improving this quality by the quality assurance and the quality control departments are discussed. The tests are carried on raw materials, bulk products and finished products. The course defines also the methods of work in the laboratories referring to BP or USP or other pharmacopoeas.

PHA105405 Veterinary drugs (2 hours) (€)

The course covers the mechanism of action of veterinary drugs and their kinetic, drugs withdrawal time, toxicity and their adverse effects on human. The dosage form and doses of these drugs is also be covered.

PHA102323 Pharmaceutical excipients (2 hours) (€)

The aim of this course is to improve the knowledge of students about the pharmaceutical excipients that are involved in the manufacturing of dosage forms, cosmetics and food. The adverse effects, toxicity and daily intake of these excipients is also discussed.

PHA102322 Pharmaceutics III. (2 hours) (€)

The aim of this course is to teach pharmacy students the basic principles of manufacturing, quality control, stability and bioavailability of capsules, sterilized products and inhalers. The packaging material of these preparation should be discussed.

PHA102326 Pharmaceutical sterilization (2 hours) (€)

This course clarifies the different methods of sterilization and focuses on the new steps that must be followed in order to prepare sterile products according to the new international standards.

PHA105448 Toxicology Lab (1 hour) (€)

In this course, practical information are given to the students in the form of cases. Students are expected to solve the cases and write up a report in this regard. Several cases are discussed in this laboratory especially those that has to do with the most common conditions.

PHA105225 Research methods (3 hours)

In this course the students will be trained on research methods including data analysis, types of research, graphic presentations and research ethics. the course will be designed such that faculty members will participate in supervising the students while doing there research projects. Emphasis will be made on the use of computer in data analysis and statistical methods and their interpretation using computerized statistical software.

PHA105220 Pharmaceutical Care (3 hours) (€)

This course emphasizes on drug therapy assessment, creating a pharmacy care plan, monitoring the care plan, communicating recommendations in an inpatient setting. Introductory clinical experience and patient case presentations utilize the drug information and patient monitoring skills learned earlier. Three hour classes a week.

PHA102322 Pharmaceutics III. (2 hours)

The aim of this course is to teach pharmacy students the basic principles of manufacturing, quality control, stability and bioavailability of capsules, sterilized products and inhalers. The packaging material of these preparation should be discussed.

PHA103440 Alternative Medicine (2 hours)

Studies some aspects of alternative medicine; such as acupuncture, traditional homeopathy, herbalism, yoga, biogeddback, meditation and others.

PHA102316 Marketing & medical Promotion (1 hour)

To have a full understanding of the meanings of commonly used terms in the world of marketing and promotion, and to have a basic knowledge of marketing strategies and to understand the basics of pharmaceutical promotion and selling skills.

PHA 105990 Pharmacy Research Project (3 hours)

Students in this course are to do a scientific project about different branches of pharmaceutical studies such as:

Pharmacology, poisoning, medicinal chemistry, pharmacognosy, pharmaceuticals, biochemistry, analatical chemistry or pharmaceutical practice.

Where the pharmacy college staff control all of these projects and make sure that everything is done according to fine scientific research methods.



PHARM. D PROGRAM

Graduation Requirements for Pharm. D Program:

Required University Courses (20 + 6) credits.

Required College Courses (172) credits.

Specialty	Course number	Course name	Crd.	No. of hrs per week		Pre-Req.	Y: S
				Theory	Practical		
Sc.	24121	Biology for ph st.	3	3	---		1: 1
Sc.	23105	Chemistry for ph st.	3	3	---		1: 1
Sc.	23109	Chemistry lab for ph st	1	---	3		1: 1
Pharm.	105210	History of Pharmacy and Medicine	1	1			1: 1
Pharm.D	106111	Pharmacy Ethics and Professionalism	1	1			1: 1
Pharm.	105261	Human Anatomy	3	3	----		1: 1
Sc.	25202	Bio-Statistics	3	3	---		1: 2
Pharm.D	106211	Pharmaceutical Organic Chemistry	3	3	---	23105	1: 2
Pharm.D	106225	Molecular Medical Genetics	2	2	---	24121	1: 2
Pharm.	105311	Biochemistry I	3	3	---	24121	2: 1
Pharm. D	106342	Medical Microbiology I	3	3	---	24121	2: 1
Pharm. D	106222	Med. Chem. Pharmacology I	3	3	---	10322	2: 1
Pharm. D	106362	Human Physiology I	3	3	---	24121	2: 1
Pharm.	105345	Immunology	2	2		24121	2: 1
Pharm.	105313	Biochemistry II	3	3	---	105311	2: 2
Pharm. D	106343	Medical Microbiology II	3	2	3	106342	2: 2
Pharm.D	106363	Human Physiology II	3	3	---	106362	2: 2
Pharm. D	106223	Med. Chem. Pharmacology II	3	3	---	106222	2: 2
Pharm.	101481	Nutrition	2	2		105311	2: 2
Pharm. D	106215	Analytical Chemistry and Instrumental Analysis	3	2	3	23105	3: 1
Pharm. D	106322	Med. Chem. Pharmacology III	3	3	---	10622	3: 1
Pharm. D	106423	Pathophysiology I	3	3	---	106423	3: 1
Pharm.	102217	Physical Pharmacy	3	3	---	23105	3: 1
Pharm.	103331	Pharmacognosy	3	3	---		3: 1
Pharm. D	106310	Pharmaceutical Calculation	2	2	---		3: 1
Pharm.	102311	Pharmaceutics I	3	3	---	102217	3: 2
Pharm.	105314	Biotechnology and Biotherapy	2	2	---	105311	3: 2
Pharm. D	106424	Pathophysiology II	3	3	---	106424	3: 2
Pharm. D	106431	Herbal Therapeutics	2	2	---	103331	3: 2
Pharm. D	106440	Complementary and Alternative Medicine	1	1			3: 2
Pharm. D	106323	Med. Chem. Pharmacology IV				106222	3: 2
Pharm.	105999	Community Pharmacy Clerkship	3		12 weeks		Sum
Pharm. D	106511	Pharmacotherapy I	3	3		106323	4: 1
Pharmacy	105220	Pharmaceutical Care					4: 1
Pharm. D	106410	Basic Clinical Skills	2	1	3		4: 1
Pharmacy	102321	Pharmaceutics II	3	3	---	102311	4: 1
Pharmacy	102416	Biopharmaceutics and Pharmacokinetics	3	3	---	106323	4: 1

Specialty	Course number	Course name	Crd.	No. of hrs per week		Pre-Req.	Y: S
				Theory	Practical		
Pharm. D	106520	Hospital Pharmacy I	2	1	3		4: 1
Pharm. D	106510	Patient Education and Counseling	1	1			4: 1
Pharm.	105221	Advanced Pharmaceutical Care	3	3			4: 2
Pharm.	105413	Clinical Biochemistry	2	2		105311	4: 2
Pharm. D	106320	Over-the-Counter Medications	3	3			4: 2
Pharm. D	106417	Clinical Pharmacokinetics and TDM	2	2		102416	4: 2
Pharm.	102322	Pharmaceutics III	2	2		102321	4: 2
Pharm. D	106512	Pharmacotherapy II	3	3		106511	4: 2
Pharm. D	106521	Hospital Pharmacy II	2	2		106520	4: 2
Pharm.	105225	Pharmacy Research	3	3			5: 1
Pharm. D	106513	Pharmacotherapy III	3	3		106512	5: 1
Pharm. D	106447	Clinical Toxicology	3	2	3	106323	5: 1
Pharm. D	105346	Drug Information and Evidence Based Therapy	2	2		106512	5: 1
Pharm.	102316	Pharmaceutical Marketing and Drug Promotion	1	1			5: 1
Pharm. D	106412	Compounding and Dispensing Lab.	1	1		102322	5: 2
Pharm. D	106447	Clinical Toxicology	3	2	3	106323	5: 2
Pharm. D	106514	Pharmacotherapy IV	3	3		106513	5: 2
Pharm.	102313	Pharmacy Law and Regulations.	1	1			5:2
Pharm. D	106515	Selected Cases in Clinical Chemistry and Pharmacotherapy	2	1	3	196514	5: 2
Pharm. D	106600	Pharm. D Project	1	To be completed at the end of 6th year			5: 2
Pharm. D	106601 - 106606	Clinical Pharmacy Training.					5th and 6th year



Pharm. D Curriculum

First Year

First year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
10202	Arabic language	3	3	---
24121	Biology for ph students.	3	3	---
106111	Pharmacy Ethics and Professionalism	1	1	---
23105	Chemistry for ph students	3	3	---
23109	Chemistry lab for ph students	1	---	3
105210	History of Pharmacy and Medicine	1	1	---
105261	General Anatomy	3	3	---
Total		15	14	3

First year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
106211	Pharmaceutical Organic Chemistry	3	3	---
106225	Molecular Medical Genetics	2	2	---
10103	English Language I	3	3	---
25202	Bio-Statistics	3	3	---
10105	Palestinian Studies	3	3	---
	University Elective	2	2	---
Total		16	16	

First year: Summer Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
	University Elective	2	2	---
10108	Social Service	1	1	---
10117	Communication and Leadership Skills	1		
10322	English Language II	3	3	---
Total		7		

Total (38)

Second Year Second Year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
105311	Biochemistry I	3	3	---
105342	Medical Microbiology I	3	3	---
106222	Med. Chem./ Pharmacology I	3	3	---
106362	Human Physiology	3	3	---
105345	Immunology	2	2	---
10101	Islamic Culture	3	3	---
Total		17	17	

Second Year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
105313	Biochemistry II	3	3	---
106363	Human Physiology II	3	3	---
106343	Medical Microbiology II	3	2	3
106223	Med. Chem / Pharmacology II	3	3	---
101481	Nutrition	2	2	---
	University Elective	2	2	---
Total		16	15	3

Total (33)



Third Year Third Year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
106215	Analytical & Instrumental Chemistry	3	2	3
102217	Physical Pharmacy	3	3	---
106322	Med. Chem. / Pharmacology III	3	3	---
106310	Pharmaceutical Calculation	2	2	---
103331	Pharmacognosy	3	3	---
106423	Pathophysiology I	3	3	---
Total		17	16	3

Third Year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
106431	Herbal Therapeutics	2	2	---
106323	Med. Chem. / Pharmacology IV	3	3	---
106424	Pathophysiology II	3	3	---
105314	Biotechnology and Biotherapy	2	2	---
106440	Complementary and Alternative Medicine	1	1	---
102311	Pharmaceutics I	3	3	---
10100	Computer Science	3	3	----
Total		17	17	

Third Year: Summer Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
105999	Community Pharmacy Training	3		12 weeks
Total		3		

Total (37)

Fourth Year Four Year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
105220	Pharmaceutical Care	3	2	3
106511	Pharmacotherapy I	3	2	3
106410	Basic Clinical skills	2	1	3
102321	Pharmaceutics II	3	3	---
106520	Hospital Pharmacy I	2	1	3
102416	Bio-pharmacokinetic	3	3	---
106510	Patient Education and Counseling	1	1	---
Total		17	13	12

Fourth Year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	Practical
106417	Clinical Pharmacokinetics & TDM	2	2	---
106521	Hospital Pharmacy II	2	1	3
106512	Pharmacotherapy II	3	3	---
105221	Advanced Pharmaceutical Care	3	2	3
106320	Over-the-Counter Medications	3	3	---
102322	Pharmaceutics III	2	2	---
105413	Clinical Biochemistry	2	2	---
Total		17	15	6

Four Year: Summer Semester

Course number	Course name	Credit hrs.	Number of hrs./per week	
			Theory	practical
105999	Hospital Pharmacy training	cont	12 weeks	
Total				

Total (34)



Fifth Year

Fifth Year: First Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	practical
102313	Pharmacy Law and Regulation	1	1	---
105225	Pharmacy Scientific Research	3	3	
106513	Pharmacotherapy III	3	2	3
105346	Drug Information and Evidence Based Med.	2	2	---
102316	Pharmaceutical Marketing and Promotion	1	1	---
106601	Clinical Clerkship I	6	24 hrs per wk for 14 wks	
Total		16	9	27

Fifth Year: Second Semester

Course number	Course name	Credit hrs.	Number of hrs per week	
			Theory	Practical
106412	Compounding and Dispensing lab	1	---	3
106514	Pharmacotherapy IV	3	2	3
106515	Clinical cases in Clinical Chemistry and Pharmacotherapy	2	1	3
102313	Pharmacy Law and Regulation	1	1	---
106447	Clinical Toxicology	3	2	3
106600	Pharm. D Project	1	To be completed at the end of 6th year	
106602	Clinical Clerkship II	6	24 hrs / wk for 14 wks	
Total		16	6	36

Total (32)

Sixth Year

First Semester:

12 credit hours 106603, 106604 (Clinical Clerkship III, IV)

48 hrs per week for 14 weeks

Second Semester:

12 credit hours 106605, 106606 (Clinical Clerkship V, VI)

48 hrs per week for 14 weeks

Course Description

Medicinal Chemistry / Pharmacology I. (Pharm. D 106222)

This course is concerned with the study of the physicochemical properties of drugs, their absorption, distribution, metabolism and elimination. This course also includes the principles of structure activity relationship of drugs. The course is also a study of all drugs affecting the Autonomic Nervous System.

Medicinal Chemistry / Pharmacology II. (Pharm. D 106223)

This course is a study of certain classes of drugs and their mechanism of action and their structure activity relationship. Drugs to be studied include cardio-vascular drugs, asthma medications, rheumatoid arthritis treatment, NSAID'S, autacoids, histamine and antihistamines, endocrine medicine & finally agents affecting calcium homeostasis

Medicinal Chemistry / Pharmacology III & IV. Pharm. D 106322, 106323

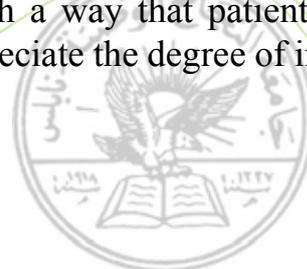
Continuation of drug classes, chemistry and therapeutic aspects. Anti-infective agents, Cancer and Immune modulating drugs, & central nervous system drugs are also discussed.

Analytical Chemistry and Instrumental Analysis. (Pharm. D 106215)

This course covers some basic concepts in chemical analysis and their application in the pharmaceutical field. The course also covers gravimetric and titrimetric methods of analysis; theory of neutralization; titrations; precipitation titrimetry; complex-formation titrations; theory of molecular absorption spectroscopy; analytical separation by solvent extraction and an introduction to chromatographic methods. Errors in chemical analysis; evaluation of analytical data in terms of accuracy and consistency

Clinical Pharmacokinetics & T. D. M. (Pharm. D 106417)

This course will discuss Principles of clinical Pharmacokinetics and their application to the therapy of various states of disease. Changes in pharmacokinetic parameters due to diseases and therapeutic drug monitoring are also discussed. The course will also provide the student with literature review of the pharmacokinetic parameters for many of the most commonly monitored drugs. The principles of Therapeutic Drug Monitoring (TDM) will be emphasized through effective use of class lectures, presentations and referring to patients' records to present it as case studies. Such presentations and case studies will be steered so that it will emphasize the need to obtain accurate plasma level measurements in such a way that patient-specific pharmacokinetic parameters can be derived and to appreciate the degree of inter- and intra-subject variability.



Pharmacotherapy I. (Pharm. D: 106511).

This course is designed to introduce the pharmacy student to the study of pharmacotherapy. It will provide introductory information designed to assist the student to begin understanding the rationale upon which many drug therapy decisions are based. Principles, concepts, processes, and skills in pharmacotherapy will be emphasized. Therapeutic topics and case studies will be used to provide students with the opportunity to apply these skills.

Pharmacotherapy II. (Pharm. D 106512)

The purpose of this course is to provide didactic framework for the therapeutic management of a number of common diseases, including cardiovascular diseases, renal diseases, and pulmonary diseases. With a thorough background established in pathophysiology, pharmacology, pharmacokinetics and other courses in the curriculum, the goal of this course is to prepare students to develop rational drug therapy plans for patients, identify conditions for monitoring pharmacotherapy in patients, and identify conditions associated with these common diseases that require referral. Therapeutics of gastrointestinal diseases will be covered in this part.

Pharmacotherapy III. (Pharm. D: 106513)

This is the third course in a sequence of 4 pharmacotherapy courses in the curriculum. The areas of therapeutic focus in this part include; Infectious Diseases. Hematology and Oncology, and Endocrine/Metabolic Disorders.

Pharmacotherapy IV . (Pharm. D: 106514)

The areas of therapeutic focus in this part include; Neurological and Psychiatric diseases; bone and joint diseases, women's health and dermatological conditions.

Clinical Cases in Clinical Chemistry and Pharmacotherapy. (Pharm. D. 106515)

In this course, various case reports in clinical chemistry and pharmacotherapy for patients admitted to the hospital or cases published in medical and pharmaceutical journals will be presented by the students as seminars.

Herbal Therapeutics: (Pharm. D. 106431)

This course focuses on diseases as treated by medicinal plants. Drug interactions, adverse effects of commonly utilized herbs are also covered.

Medical Microbiology I & II: (Pharm. D. 106342, 106343)

The first part is an introduction to the microbial world; place of organism in the living world; origin and classification of microbes; applied areas of Medical Microbiology, morphology and fine structure; cultivation; reproduction; growth; cultural characteristics; introduction to yeasts, algae, moulds, protozoa, viruses and parasites. In the second part. pathogenesis of diseases caused by microbes are discussed in details.

Pharmaceutical Organic Chemistry for Ph. St: (Pharm. D. 106211)

The course aims to present the fundamentals of certain topics in organic chemistry and applications in a brief and suitable manner in relation to the pharmaceutical field of study. It covers the pharmaceutical importance of functional groups: aliphatic & aromatic hydrocarbons, alkyl & aryl halides, alcohols, ethers and epoxides, phenols, amines, carboxylic acids and esters, and heterocyclic compounds. The course will emphasize the pharmaceutical importance of these functional groups, their molecular structures and properties, classification, conformations, nomenclature, physical properties, preparation and reactions

Complementary and Alternative Medicine: (Pharm. D. 106440)

This course is concerned with the different methods of therapy other than the classical modern medications. Focus will be made on acupuncture, homeotherapy, herbal medication fasting, aromatherapy, exercise, bold letting, and traditional Arabic medicine.

Pharmacy Ethics and Professionalism: (Pharm. D 106111)

This course, emphasizes the ethical principles upon which the medical professions and pharmacy in particular rest. The course looks at the nature and place of pharmaceutical services in society, and the moral standards and professionalism expected from a pharmacist.

Molecular Medical Genetics. (Pharm. D. 106225)

This course provides students with comprehensive view of the science of genetics. It covers the history and development of genetics, structure and function of genes, chromosomes and their anomalies, patterns of single gene inheritance, types and mechanisms of mutations and tools of human molecular genetics. Common inherited diseases are also discussed.

Hospital Pharmacy I and II. (Pharm. D. 106520, 106521)

Hospital pharmacy will discuss the development, functions, organization and administration of pharmaceutical services within the hospital. Methods of drug distribution are emphasized. In the first part, intravenous preparations are discussed regarding their therapeutic uses. In the second part, preparations of sterile medications, preparations of chemotherapy mixtures and total parenteral nutrition are discussed.

Patient Education and Counselling. (Pharm. D 106510)

The course explores the basic principles and concepts of medication education. It also focuses on the methods used for healthy or sick individuals and/or group(s) in the community or in health care institutions.

Compounding and Dispensing Lab. (Pharm. D 106412)

This course involves processing a prescription or medication order, the preparation and dispensing of pharmaceutical solution, emulsion, suspension, semi-solid and

solid dosage forms and the development and practice of the patient counseling skills necessary for proper use of the compounded product. During the laboratory session, emphasis will be placed on the selection of proper inactive materials, based on physico-chemical properties, for use in the extemporaneous compounding preparation. Acute and nephritic syndrome dose calculations and TPN patients.

Pharmaceutical Calculation: (Pharm. D 106310)

This course will discuss the most important aspects of pharmaceutical calculations required to perform better pharmaceutical services. These calculations include dose adjustment, dilution & concentration, isotonic solution, electrolyte solution, rate of flow of I.V solutions and mathematical conversions.

Over-the-Counter Medications. (Pharm. D. 106320)

The rational dispensing over the counter (OTC) drugs will be covered in this course. Emphasis will be given to the pharmacotherapy of simple medical conditions which can be handled by the clinical pharmacist.

Basic Clinical skills. (Pharm. D 106410)

This course introduces the concepts of history taking and physical diagnosis skills and techniques. The practicum includes simulated clinical experiences through the use of small group discussion, case studies, audio visual aids using fellow students, and simulated patient models. This course exposes students to the principles of clinical work and serves as a building block for osteopathic clinical skills which are used throughout a lifetime of practice.

Clinical Clerkship 1 6:

Clinical training in all departments will be carried out.

Community and Hospital Pharmacy Practice/Clerkship. (Pharmacy 105999)

In this course the student will spend 16 weeks (two summer sessions) of continuous practical training of 8 weeks in a community & 8 weeks in the hospital pharmacy during the regular working hours (8 hours a day). The student will be supervised by the pharmacist running the pharmacy and a faculty member. The student is will go through structured training where he/she has to cover different aspects of pharmacy organization and prescription handling as well as some administrative and financial affairs related to pharmacy practice. The major part of the practical training will require the student to know all the important classes of medications used in the treatment of various diseases. That will also involve the knowledge of trade names, manufacturers, suppliers and distributors of such medications and other related medical products. The student will not be allowed to register for other classes during the practical training session.

Advanced Pharmaceutical Care II. (Pharmacy 105221)

This course introduces the students to medical terminology, abbreviations, communication with patients, drug data collection in the clinical environment. Students will be given drug profiles and virtual prescriptions and will be trained on how to interpret and analyze the profile from all aspects.

Pathophysiology I and II. (Pharm. D 106423, 106424)

This two-course sequence is designed to prepare the student with an understanding of the functions of the human body at the molecular, cellular, organ, and organ system level. Additionally, the students are introduced to the major disease processes that disrupt normal body function. Emphasis is placed on the integration of all levels resulting in the health or disease of the individual. This knowledge base will serve as foundation for their study of pharmacology and therapeutics

Clinical Toxicology. (Pharm. D 106447).

This course includes the basic and clinical principles of toxicology. Absorption and mechanism of intoxication by all types of toxicants are studied. Poison management and proper clinical measures for treatment of poisoning is included. Analytical and clinical investigation of poisoning is also discussed.

Pharm. D Project. (Pharm. D. 106600)

The students will register for this course on the second semester of the fifth year. The work on the project will continue until the second semester of the sixth year. He student has to present his work in front of a committee and passing grade or a continue will be assigned to the project.

