معهد الجامعة
للعلوم الطبيـــة

برنامج دبلوم فني الصيدلة

فهرس المحتويات

نبذه عن المعهد:

معهد الجامعة للعلوم الطبية هو معهد طبي خاص تأسس في مدينة ذمار عام ٢٠٠٤م عُرف سابقاً باسم معهد الجامعة للعلوم الطبية والتقنية، بترخيص من وزارة الصحة العامة والسكان كأول مؤسسة تعليمية خاصة في المحافظات الوسطية، وقد ارتبط تأسيس المعهد في محافظ ذمار بالحاجة الملحّة لتغطية متطلبات المحافظة وما جاورها من الكوادر الطبية في المرافق الحكومية والخاصة. سعى المعهد ضمن خطته الاستراتيجية في توسيع نشاطه وخدماته في محافظات أخرى، ففي العام ٢٠٠٦م تم فتح فرع للمعهد بإماتة العاصمة – صنعاء، وفي العام ٢٠٠٨م فتح فرع للمعهد في محافظة تعز. ويسعى المعهد ضمن خطة الاستراتيجية إلى استحداث عدد من البرامج الجديدة خلال العام ٢٠٢٦م تلبي احتياجات سوق العمل وتسهم في تحقيق التنمية المستدامة.

يعتمد نظام الدراسة في معهد الجامعة على نظام الساعات المعتمدة الذي تُقسم السنة الدراسية بموجبه إلى فصلين دراسيين مدة كل منهما (١٦) أسبوعاً دراسياً. مدة الدراسة في أي قسم من أقسام معهد الجامعة كانت لمدة سنتين لأربع دُفع، وفي عام ٢٠٠٨ تحول فترة الدراسة بالدبلوم لـ ٣ سنوات دراسية، يُمنح بعدها الطالب الذي اجتاز جميع المقررات درجة الدبلوم العالي، كما يقدم المعهد حوالي ٢٤ منحة دراسية مجانية سنوياً إسهاماً لخدمة المجتمع.

تخرج من معهد الجامعة ٢٠ دفعة حتى نهاية العام ٢٠٢٥م أول دفعة تخرجت بنظام السنتين في العام ٢٠٠٥/٢٠٠٦م وأول دفعة بنظام الثلاث السنوات في العام ٢٠١٠م خريجي معهد الجامعة للعلوم الطبية يشغلون حالياً الكثير من المناصب المهنية والإدارية في القطاعين العام والخاص.

ولم يتوقف عطاء المعهد عند منح شهادة الدبلوم العالي بل استمر في التوسع والتطوير وكان اللبنة الأولى لإنشاء مؤسسة الحكمة التعليمية التي تتضمن (معهد الجامعة للعلوم الطبية – كلية الحكمة للعلوم الطبية والتقنية – جامعة الحكمة).

أقسام المعهد:

يوجد في معهد الجامعة للعلوم الطبية بمركزه الرئيس بمدينة ذمار وفرعيه في أمانة العاصمة صنعاء وتعز عدد (٥) أقسام، كما يوضحه الجدول التالي:

جدول: أقسام المعهد بالمركز الرئيس والفروع

القسم	المركز الرئيس محافظة ذمار	أمانة العاصمة صنعاء	محافظة تعز
فني الصيدلة	✓	✓	✓
فني مساعد طبي	✓	✓	✓
فني مختبرات	✓	✓	✓
فني أسنان	✓	✓	✓
مساعد طبيب أسنان	//////	///////	✓
فني القبالة	✓	✓	///////
فني التمريض	✓	✓	✓

نظام الدراسة في المعهد:

يدرس معهد الجامعة للعلوم الطبية المنهج الدراسي المعتمد من وزارة الصحة العامة والسكان والذي تم تعميمه على جميع المعاهد الصحية الخاصة في الجمهورية اليمنية، ويعتمد المعهد نظاماً تعليمياً على النحو الآتي:

- 📚 **نظام الدراسة**: الساعات المعتمدة.
- ⏱️ **عدد الساعات المعتمدة للبرنامج:** (١٠٩).
- 🗓️ **عدد الفصول:** فصلان دراسيان في السنة.
- ⏳ **مدة الفصل:** ١٦ أسبوعاً.
- 🎓 **مدة الدراسة:** ٣ سنوات (٦ فصول دراسية).
- 🏅 **الشهادة:** دبلوم عالي فني الصيدلة.

رؤية ورسالة وأهداف المعهد:

الرؤية:

الريادة محلياً والتميز إقليمياً في مجال التعليم الصحي.

الرسالة:

يسعى معهد الجامعة في اليمن إلى إعداد كوادر صحية متميزة علمياً ومهنياً تلبي احتياجات سوق العمل المحلي والإقليمي من خلال كادر أكاديمي وإداري كفء وتقديم خدمات تعليمية وبحثية ومجتمعية ذات جوده عالية تواكب تطورات العصر.

الأهداف:

١. تقديم تعليم نوعي متميز يواكب التطورات العملية الحديثة ومتطلبات العصر.
٢. إعداد خريج مؤهل علمياً ومهنياً يلبي احتياجات سوق العمل المحلي والإقليمي.
٣. التأهيل والتحسين المستمر للكادر الأكاديمي والإداري علمياً ومهنياً بما يحقق رسالة المعهد وأهدافه.
٤. الإسهام في دعم الجهود المبذولة من الدولة لتشجيع الاستثمار لمعايير الجودة المحلية والعالمية.
٥. التطوير المستمر للبنية التحتية والخدمات التعليمية في المعهد لضمان مخرجات نوعيه متميزة.
٦. تعزيز التعاون والشراكة مع المعاهد والمؤسسات ذات العلاقة محلياً وإقليمياً.
٧. تقديم خدمات تدريبية واستثمارية لتعزيز دور المعهد في المسئولية الاجتماعية وخدمه المجتمع.

رؤية ورسالة وأهداف قسم فني الصيدلة:

الرؤية:

الريادة والتميّز في مجال التعليم الفني الصيدلاني محلياً وإقليميا.

الرسالة:

إعداد كوادر فنية صيدلانية مؤهلة علمياً ومهنياً، قادرة على المنافسة في سوق العمل محلياً وإقليمياً، ملتزمين بأخلاقيات المهنة، من خلال توفير بيئة تعليمية وتدريبية وبحثية محفزة وشراكات فاعلة تسهم في خدمة المجتمع.

الأهداف:

١. إعداد كوادر فنية صيدلانية تمتلك معارف علمية ومهارات عملية متميزة وفق المعايير المهنية الحديثة.
٢. تأهيل الطلبة لاكتساب الكفاءات اللازمة التي تمكّنهم من المنافسة في سوق العمل محلياً وإقليمياً.
٣. ترسيخ أخلاقيات المهنة والمسؤولية المهنية في الممارسات الصيدلانية.
٤. تطوير مهارات التواصل والعمل الجماعي بما يعزز كفاءة الأداء في بيئات العمل الصحية.
٥. توفير بيئة تعليمية وتدريبية محفزة تعتمد على أساليب حديثة وشراكات فاعلة مع المؤسسات ذات العلاقة.
٦. تنمية مهارات البحث العلمي والتعلم المستمر بما يسهم في خدمة المجتمع ومواكبة التطورات في المجال الصيدلاني.

الأخلاقيات المهنية لفني الصيدلة:

يعتبر فني الصيدلة مكوناً هاماً في الفريق الطبي الذي يبذل كل الجهود الممكنة لخدمة المرضى وتخليصهم من معاناتهم وتحسين المستوى الصحي لديهم ولكون الصيادلة هم الأكثر دراية بالأدوية وهي أحد أهم الوسائل المستخدمة في المعالجة فإنهم يعملون وفق التشريعات والقوانين الخاصة بمهنة الصيدلة ويلتزمون بالأطر الأخلاقية للمهنة والتي تفرض على الصيدلي أن:

١. يقدم خدمات الرعاية الصيدلانية للمرضى بكفاءة ودون أي تمييز.
٢. يحترم قيم وقدرا ت زملائه من الصيادلة وغيرهم من الممارسين الصحيين.
٣. تقديم مصلحة المريض وجعلها فوق كل اعتبار.
٤. احترام القوانين الطبية النافذة والتصرف بنزاهة إزاء الاستخدام السلبي للدواء.
٥. احترام خصوصية وكرامة كل مريض.
٦. يعمل فني الصيدلة جنب إلى جنب مع الصيدلي في الصرف الآمن للدواء وتقديم الاستشارات لطالبي الرعاية الصحية.
٧. الأمانة المهنية والتواصل الفعال مع المرضى والأطباء والمؤسسات الصحية المختلفة.

Republic of Yemen
High Institute of Health Sciences
Academic Affairs
Medical Technology Dep.
Pharmacy Section

Pharmacy Technicians Diploma

Course Specification

منهج فني الصيدلة نظام ثلاث سنوات

مقدمه:

يسعى برنامج دبلوم فني الصيدلة لتأهيل كوادر وطنية على درجة عالية من الكفاءة العلمية والمهنية للعمل في المجال الفني للصيدلة تحت إشراف الصيدلي المختص للقيام بالأعمال الآتية:

- المساعدة في عمليات صرف الدواء وتأمينه وتحضيره تحت إشراف الصيدلي المسئول.
- المشاركة في تركيب الأدوية تحت إشراف صيدلي مختص.
- استعمال المراجع العلمية ووسائل المعلومات الدوائية والطبية وطرق الاتصال والمشاركة الفعالة مع الفريق الطبي.
- المشاركة في تحضير الأدوية والمحاليل الوريدية وكذلك التغذية الوريدية.

هذا المنهج تم إعداده وتصميمه لطلاب فنيي الصيدلة نظام ثلاث سنوات بعناية واهتمام كبير من اجل أن يزود الطلاب بتعليم وتدريب ذو جودة عالية لتغطية كافة الاحتياجات المعرفية ويكسبه المهارات الذهنية والعملية حتى يتمكن من العمل بكفاءة في أي حقل من حقول مهنة الصيدلة.

تم إعداد ومراجعة هذا المنهج في شهر أغسطس من عام ٢٠٠٧ في صنعاء لطلاب فنيي دبلوم الصيدلة لفروع المعهد العالي للعلوم الصحية نظام ثلاث سنوات موزعة على ستة فصول دراسية.

بإشراف الإخوة:

الأستاذ عبد الوهاب الكحلاني	عميد المعهد العالي للعلوم الصحية
الأستاذ عبد العزيز نجم الدين	نائب العميد للشئون الأكاديمية
د. طه المحبشي	مدير دائرة التقنيات الطبية

لجنة إعداد المنهج أعضاء:

د. صالح الثلايا	رئيس قسم الصيدلة.
د. منى الحجري	المسئول الأكاديمي قسم الصيدلة.
د. محمد الدعيس	مدرس مساعد جامعة العلوم والتكنولوجيا- صنعاء
د. رنا الربيدي	مدرس خارجي في قسم الصيدلة – صنعاء
د. عزكي احمد العز كي	مدرس خارجي في قسم الصيدلة – صنعاء
د. بشرى ساري	مدرس في قسم الصيدلة – ذ مار
د. محمد مجلي	مدرس في قسم الصيدلة – إب
د. محمد يوسف	مدرس في قسم الصيدلة – الحديدة
د. عبد الله العمودي	مدرس في قسم الصيدلة – معهد أمين ناشر- عدن
أ. فتوح فضل الذفيف	سكرتيرة اللجنة

Introduction:

The three years Pharmacy Technician programme is a basic Pharmacy education programme to provide the students with the thorough, high quality education and training required for professional pharmacy practice at different pharmacy profession services such as hospitals, polyclinics, primary health care centers, Medical Stores and other Pharmaceutical Services etc**.** The curriculum is therefore carefully planned and designed to provide a broad and sound foundation for the effective practice of Pharmacy in order to meet the health needs of the country. Therefore it is necessary to facilitate the students to learn throughout the three years programme to gain the required knowledge, skills and motivation for the job they will be expected to do.

PHILOSOPHY:

The Pharmacy section believes that man, from the onset of conception until death , is abio-physico-social and spiritual organism, who constantly uses his inanity and acquired potentials in interacting maturity, in]dependence and equilibrium.

We believe that learning is an inherent human characteristic and along life process through which the learner acquires knowledge ,skills, and attitudes through interaction with his perceptual field that leads to relatively permanent change of behavior and believe that dealing with learner is to be based on the fact that the learner is an active and positive participant in the educational process and not merely a negative recipient.

The section believes that training curriculum should satisfy the occupational needs of the trainee, taking into account the scientific development in theoretical and practical fields, the needs and demands of the society and depends on the scientific standards in setting, achieving and evaluating its goals in providing Pharmaceutical services at a variety of settings with increasing responsibility, accountability and independency as an expanding role played by the Pharmacy Technician as a member of the medical team.

The section believes that teaching is a process of facilitating learning which is leading to the desired change of the learner's behavior; and believes that teaching is best effective when organized in a away that provides suitable learning opportunities and experience, facilitates effective interaction of student, carter for individual differences among learners.

The Pharmacy section believes that the teachers attitudes being as an intensive behavioral sources of effect on students in their learning process. The role of teachers is of growing learning potentials which will be reflected on students learning and is scientific in thinking and work methodology.

HIGH INSTITUTE OF HEALTH SCIENCES
SECTION OF PHARMACY
Programme Specification:

A-Basic Information

1- **Programme Title: Three years Pharmacy Technicians Diploma**.
2- **Programme Type**: Single
3- **Departments**:

A- Departments affiliated to Pharmacy Section:

- Unit of Pharmacology
- Unit of Pharmaceutics
- Unit of Pharmacognosy
- Unit of Medicinal chemistry

B- Departments Affiliated To High Institute for Health Sciences

- Section of Essential Sciences
- Section of Nurses
- Section of Medical Assistants
- Section of Laboratory
- Section of General Health

4 –Programme Specification Coordinators:

1.	Dr. Taha Almahbashi	High Institute of Health Science- Sana'a
2.	Dr. Saleh Al Thulaia	High Institute of Health Sciences- Sana'a
3.	Dr. Mona Hamoud Al hajri	High Institute of Health Sciences- Sana'a
4.	Dr. Mohammad Ali Alduais	University of Science and Technology- Sana'a
5.	Dr. Rana Alrobidy	External Pharmacy Teacher
6.	Dr. Azaky Ahmed Al Azaky	External Pharmacy Teacher
7.	Dr. Bushra Sarri	High Institute of Health Sciences- Dhamar
8.	Dr. Abdullah Alamody	Dr. Amin Nacher Institute of Health Sciences
9.	Dr. Mohammad Mojaly	High Institute of Health Science-Ibb
10.	Dr. Mohammad yousof	High Institute of Health Science-Hodeida
11.	T. Fatooh Fathull Al Thafif	Secretary

5-External Evaluators: - Not existed
6-Last date of programme specifications approval: 1/ 9 / 2007

B- Professional Information:

I-Program Mission:

To prepare qualified pharmaceutical technicians, both scientifically and professionally, committed to professional ethics, capable of actively contributing to improving the quality of healthcare for the community and competing in the pharmaceutical field locally and regionally, through a stimulating educational, training and research environment.

I I- Programme Aims

1. To provide student with the detailed knowledge and understanding with education and training required for professional practice in pharmacy.
2. To provide student with fundamental knowledge to be able to run a pharmaceutica services in hospitals, polyclinics, health centre and other pharmaceutical establishments etc.
3. To provide student knowledge of the basic principles of management to develop an ability in planning, organization pharmaceutical services handling and keeping drugs, medical instruments and materials.
4. To provide student knowledge about the properties of drugs to help him to choose the suitable drug Formulation.

2-INTENDED LEARNING OUTCOMES (ILOS):

a-KNOWLEDGE AND UNDERSTANDING:

Having successfully completed this program the graduate should have knowledge about:

a1-Explain drugs and their sources concerning their identities, safety, optimum use in medication and contraindications and also their mechanism of action

a2-Discuss pharmacokinetics of the drug including absorption, distribution, metabolism and elimination.

a3-Mention the properties of natural and synthetic compounds of medicinal importance.

a4- Describe actions, clinical uses and side effects of drugs.

a5- Describe the characteristics of the major dosage forms and explain how these characteristics affect the action of the drug.

a6-Explain the principles of design and formulation of various pharmaceutical dosage forms.

a7-Discuss various methods for evavluation of pharmaceutical dosage forms.

a8-Enumarate factors affecting drug and dosage form stability.

a9-Explain manufacturing process involved in the preparation of pharmaceutical dosage forms.

a10-States the benefits and limitation of using profile for pharmacotherapy monitoring and drug distribution.

a11- Mention of the complete process of the drug distribution system, from the purchasing and reception of drugs by the hospital up to their administration to the patient.

a12- Explain hospital organization/committee functions, interpret and enter patient orders and prepare intravenous admixtures and drug therapy monitoring.

a13- Enumerate the different routes of drug delivery and the factors that influence the delivery of drugs to the body

a14- Explain theoretical and practical issues of assessment of drug bioavailability.

a15- Define the principles of professional behavior and how professionals are developed.

a16-To recognize ethical issues related to the development, promotion, sales, prescription and use of drugs

a17- Recognize the physicochemical properties of drugs and excipients that could affect drug performance

a18- The different processes for preparing the drugs of natural origin including cultivation, collection, drying and storage.

a19- Explain the morphological and histological characters of the medicinal and toxic plants and how to identify them in the entire and powdered forms and their medicinal uses.

a20- Mention the active constituents of the medicinal plants; how to isolate, test and assay them.

a21- Recognize Normal and abnormal body function: physiology, biochemistry, microbiology, immunology, infective processes and pathology.

a22 – Explore in detail the types of equipments &instruments used in the preparation, separation, extraction & sterilization in industrial pharmacy.

a23 – Current good manufacturing practice (cGMP) and regulations.

a24 – Define various regulation and ethics of pharmacy

a25 –Mention principles of Bio pharmaceutics and the effect pharmaceutical and physiological factors on drug absorption and bioavailability.

a26- To develop students' skills in problem solving, experimental design, evaluation and interpretation of experimental data, literature searches, scientific writing, oral presentations, poster presentations and team working.

a27- To provide the students with principle of pharmaceutical analytical methods.

b- INTELLECTUAL SKILLS:

b1-The student can classify groups of drugs and their mechanism of action, which can be used for treatment of certain ailments.

b2-Can differentiate between toxic and safe drugs in addition to the accompanying the use of natural and synthetic drugs.

b3- List precaution to be taken for each drug.

b4- Accept skills in the evaluation, interpretation and synthesis of chemical information and data, including the determination of molecular structure from spectroscopic data.

b5 -Recognize the instability of pharmaceutical dosage forms when occurred.

b6-Identify the drug manufacturing relating problems and solve it.

b7 -Calculate the medicine doses and dosage regimen.

b8-Interpret patient and clinical data, including patients records held within practice settings.

b9-Identify potential drug- related problems that could occur as result of the hospital's distribution system and identify ways to prevent their occurrence.

b10-Interpret the appropriateness of medication order before preparing or permitting dispensing the patient dose.

b11-Apply pharmacoeconomic and formulary management principles to achieve cost effective outcomes for patients of institutions or health-systems.

b12 -Design of bioavailability and bioequivalence studies

b13 – Demonstrate the knowledge and critical understanding of essential facts, principles and theories relating to subjects area identified in (a).

b14 – Apply in practice setting the knowledge and understanding required to meet the needs of patients and other health professionals.

b15- Ability to use empirical pharmacokinetic models to devise and optimize dosage regimens.

b16- Ability to estimate pharmacokinetic parameters used in clinical pharmacokinetics and Bio pharmaceutics using plasma and urine drug level data

c- PROFESSIONAL AND PRACTICAL SKILLS:

c1-. Acquire skills to detect adulteration of any supplied natural drugs

c2-. The ability to use a range of synthetic chemistry methods for the construction of target molecules

c3- Preparation of certain pharmaceutical dosage forms.

c4- Able to manufacture, quality control, packaging, storage, registration and marketing of all types of medicines.

c5- Design and evaluate therapeutic regimens to optimize drug use

c6- Interpret and process of medical orders.

c7- Dispense medicines, advice patients on correct and rational use of medicines and cosmetics.

c8- Interpret patient scientific data to help evaluate and optimizing prescribing in primary care.

c9- Experimental design and hypothesis testing, evaluation and interpretation of data.

c10- Apply their knowledge to advice patients and other health care professionals

c11 – Handle safety of chemicals and pharmaceutical materials, taking into account their physical and chemical properties, including any specific hazards associated with their use.

c12 – Experiences in equipments and machines how to operate in drug factories.

c13 – Give advises for patients and others on the rational use of the medicine.

c14- Estimation of half life of drugs

d- <u>GENERAL AND TRANSFERABLE SKILLS:</u>

d1-Apply principles of human needs

d2- Great a management plan for drugs administration

d3- Writing a report for criticizing pharmacological properties

d4-To communicate effectively in a variety of formats in order to present the results of research work

d 5-To work effectively as part of a team.

d6- Ability to work in pharmaceutical factories, labs and institutions.

d7- An appreciation of the relationships existing between drugs, medicines and patients

d8- Ability to work in health education centers.

d9- Interact effectively with patients, the public and health professionals.

d10- Reflect on the use of communication skills in counter prescribing.

d11- Critically analyze published literature.

d12-To develop the culture and ethics of pharmacy as it relates to the total health-care setting.

d13-Demonstrate appropriate communication skills.

3- ACADEMIC STANDARDS

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4-Curriculum Structure and Contents

a- Programme duration: 3 years (6 semesters)

b- Programme structure

b.i- No. of credit hours per 3 years:

Lectures:	69	hours/6 semesters
Laboratory:	28	hours/6 semesters
Field training	12	hours/6semesters
Total:	109	each semester is 16 weeks.
Actual hrs	1104 hrs (T)	
Practical	896 hrs (P)	
Field training	576 hrs	

b.iii- **No of credit hours of basic sciences courses: 22 (Anatomy – physiology – Analytical chemistry – First Aid – Botany – Biochemistry – Community health – pathology – psychology – Organic chemistry – Health Statistics)**

b.iv- No of credit hours of specialized courses: 64 (Pharmaceutics III – Pharmacognosy III – Pharmacology II – Physical Pharmacy – Microbiology & Parasitology – Field training – Medicinal Chemistry I – Medical equipments & materials – Toxicology – Quality control – Clinical pharmacy – Pharmaceutical Microbiology – Industrial pharmacy – Quality assurance – Community pharmacy – Drug management & supply – Research project)

b.v- No of credit hours of other courses: 11 (English Language & Medical terminology I – Islamic Ethics – Arabic Language – English Language & Medical terminology II – Computer – Research methodology)

b.vi- Practical Field Training: 12 hours

5- PROGRAMME COURSES

1- Level/year of Programme: 1 **Semester: 1**

Code No.	Course Title	No. of Units	No. of hr/week		Program ILOs Covered
			Lect.	Pract.	
1.	Anatomy		2	-	
2.	Physiology		2	-	
3.	Physical pharmacy		2	1	
4.	Analytical chemistry		2	1	
5.	English language and Medical Terminology		2	-	
6.	First Aid		1	1	
7.	Botany		2	1	
8.	Islamic ethics		1	-	
9.	Pharmaceutics I		2	1	
10.	Arabic language		1	-	
Total			17	5	
			22		

2- Level/year of Programme: 1 **Semester: 2**

Code No.	Course Title	No. of Units	No. of hr/week		Program ILOs Covered
			Lect.	Pract.	
1.	Pharmaceutics II		2	1	
2.	Community health		2	-	
3.	Pathology		2	-	
4.	Psychology		1	-	
5.	Organic chemistry		2	1	
6.	Pharmacology I		2	1	
7.	Pharmacognosy I		2	1	

8.	Computer		-	1	
9.	English language and Medical Terminology		2	-	
Total			15	5	
			20		

4- Level/year of Programme: 2 **Semester: 1**

Code No.	Course Title	No. of Units	No. of hr/week		Program ILOs Covered
			Lect.	Pract.	
1.	Biochemistry		2	1	
2.	Pharmaceutics III		2	1	
3.	Pharmacognosy II		2	1	
4.	Pharmacology II		2	1	
5.	Research Methodology		1	-	
	Microbiology and Parasitology		2	1	
6.	Field training		-	2	
Total			11	7	
			18		

4- Level/year of Programme: 2 **Semester: 2**

Code No.	Course Title	No. of Units	No. of hr/week		Program ILOs Covered
			Lect.	Pract.	
1.	Pharmaceutics IV		2	1	
2.	Pharmacology III		2	1	
3.	Medical equipments and materials		1	-	
4.	Health statistics		1	-	
5.	Medicinal chemistry I		2	1	
6.	Toxicology		2	1	
7.	Field training		-	3	
Total			10	7	
			17		

5- Level/year of Programme: 3 **Semester: 1**

Code No.	Course Title	No. of Units	No. of hr/week		Program ILOs Covered
			Lect.	Pract.	
1.	Medicinal chemistry II		2	1	
2.	Clinical pharmacy		1	1	
3.	Quality control		2	1	
4.	Pharmacology IV		2	1	
5.	Industrial pharmacy		2	1	
6.	Pharmaceutical microbiology		1	-	
7.	Field training		-	2	
Total			10	7	
			17		

6- Level/year of Programme: 3 **Semester: 2**

Code No.	Course Title	No. of Units	No. of hr/week		Program ILOs Covered
			Lect.	Pract.	
1.	Community pharmacy		1	1	
2.	Pharmacology V		2	1	
3.	Quality assurance		1	-	
4.	Drug management and supply		2	-	
5.	Graduation project		-	2	
6.	Field training		-	5	
Total			6	9	
			15		

6- Programme Admission Requirements

A- Admission criteria:

The High Institute for Health Sciences accepts the following:

1. The student should hold a general secondary Certificate (Scientific Section) not more than 4 years.
2. Not less than 18 years and not more than 25 years when admitted to the course.
3. The candidate must be medically fit.

4. Who fulfill the requirements and pass the written admission exam.

ASSESSMENT:

WRITTEN EXAMINATIONS

B- DEGREE CLASSIFICATION:

Evaluation of successful students will be according to the following standards:

- Excellent: from 90 -100 marks to over from total marks.
- Very good: from 80% to 89% from total marks.
- Good: from 70% to 79% from total marks.
- Fair: from 60% to 69% from total marks.
- Failed: less than 60% from total marks

7- Regulations for Progression and Programme Completion

- For the students to be transferred from one semester to the next semester, he is required to have successfully passed in all subjects in the semester or in the complementary exams in the same semester.

8: Regulations for Students

By laws, every student has only two opportunities (two years) for every semester to succeed, once the student exhausts the number of opportunities he will be excluded from the institute.

THREE YEARS PHARMACY TECHNICIANS DIPLOMA PROGRAMME

MASTER PLAN FOR DISTRIBUTING THE HOURS OF SUBECTS **Hours/ week**

No	Subject	First year				Second year				Third Year			
		1st semester		2nd semester		1st semester		2nd semester		1st semester		2nd semester	
		T	P	T	P	T	P	T	P	T	P	T	P
1	Anatomy	2											
2	Physiology	2											
3	Physical Pharmacy	2	1										
4	Analytical Chemistry	2	1										
5	English Language and Medical terminology	2		2									
6	First Aid	1	1										
7	Botany	2	1										

No	Subject	First year				Second year				Third Year			
		1st semester		2nd semester		1st semester		2nd semester		1st semester		2nd semester	
		T	P	T	P	T	P	T	P	T	P	T	P
8	Islamic Ethics	1											
10	Arabic Language	1											
11	Community health			2									
12	Pharmaceutics	2	1	2	1	2	1	2	1				
13	Pathology			2									
14	Psychology			1									
15	Organic Chemistry			2	1								
16	Pharmacology			2	1	2	1	2	1	2	1	2	1
17	Pharmacognosy			2	1	2	1						
18	Computer				1								
19	Biochemistry					2	1						
20	Research methodology					1							
21	Medical equipments & materials							1					
22	Microbiology & Parasitology					2	1						
23	Health Statistics							1					
24	Medicinal Chemistry							2	1	2	1		
25	Toxicology							2	1				
26	Quality control									2	1		
27	Clinical pharmacy									1	1		
28	Pharm. Microbiology									1			
29	Industrial pharmacy									2	1		
30	Quality Assurance											1	
31	Community pharmacy											1	1
33	Drug supply & management											2	
34	Graduation project												2
35	Field training						2		3		2		5
	Total	17	5	15	5	11	7	10	7	10	7	6	9
	Total theory & practical	22		20		18		17		17		15	
	Examination hours	30		24		18		18		18		12	
	Grand Total	52		44		36		35		36		27	

THREE YEARS PHARMACY TECHNICIAN DIPLOMA PROGRAMME
COURSE DISTRIBUTION

FIRST YEAR
FIRST SEMESTER
NO. OF HOURS:

No.	Course	Credit hr		Actual hours	
		Theory	Practical	Theory	Practical
1.	Anatomy	2	-	2	-
2.	Physiology	2	-	2	-
3.	Physical Pharmacy	2	1	2	2
4.	Analytical Chemistry	2	1	2	2
5.	English Language And Medical Terminology I	2	-	2	-
6.	First Aid	1	1	1	2
7.	Botany	2	1	2	2
8.	Islamic Ethics	1	-	1	-
9.	Pharmaceutics I	2	1	2	2
10.	Arabic Language	1	-	1	-
	Total	17	5	17	10
	Total Credit Hours	22		27	

Total theory: 17
Total practical: 5
Examination hours: 30
Grand total: 52

FIRST YEAR
SECOND SEMESTER
NO. OF HOURS:

No.	Course	Credit hr		Actual hours	
		Theory	Practical	Theory	Practical
1.	Community Health	2	-	2	-
2.	Pharmaceutics II	2	1	2	2
3.	English Language And Medical Terminology II	2	-	2	-
4.	Pathology	2	-	2	-
5.	Psychology	1	-	1	-
6.	Organic Chemistry	2	1	2	2
7.	Pharmacology I	2	1	2	2
8.	Pharmacognosy I	2	1	2	2
9.	Computer	-	1	-	2
	Total	15	5	15	10
		20		27	

Total theory: 15
Total practical: 5
Examination hours: 24
Grand total: 44

SECOND YEAR
FIRSTSEMESTER
NO. OF HOURS:

No.	Course	Credit hr		Actual hours	
		Theory	Practical	Theory	Practical
1.	Biochemistry	2	1	2	2
2.	Pharmaceutics III	2	1	2	2
3.	Pharmacognosy II	2	1	2	2
4.	Pharmacology II	2	1	2	2
5.	Research methodology	1	-	1	-
6.	Microbiology & Parasitology	2	1	2	2
7.	Field training	-	2	-	6
	Total	11	7	11	16
		18		27	

Total theory: 11
Total practical: 7
Examination hours: 18
Grand total: 36

SECOND YEAR
SECOND SEMESTER
NO. OF HOURS:

No.	Course	Credit hr		Actual hours	
		Theory	Practical	Theory	Practical
1.	Health Statistics	1	-	١	-
2.	Medicinal Chemistry I	2	1	٢	2
3.	Medicinal equipments and materials	1	-	1	-
4.	Pharmaceutics IV	2	1	2	2
5.	Pharmacology III	2	1	2	2
6.	Toxicology	2	1	2	2
7.	Field training	-	3		9
	Total	10	7	10	17
		17		27	

Total theory: 10
Total practical: 7
Examination hours: 18
Grand total: 35

THIRD YEAR
FIRST SEMESTER
NO. OF HOURS:

No.	Course	Credit hrs		Actual hours	
		Theory	Practical	Theory	Practical
1.	Medicinal Chemistry II	2	1	2	2
2.	Quality control	2	1	2	2
3.	Clinical pharmacy	1	1	1	2
4.	Pharmaceutical Microbiology	1	-	1	-
5.	Industrial pharmacy	2	1	2	2
6.	Pharmacology IV	2	1	2	2
7.	Field training	-	2	-	6
	Total	10	7	10	16
		17		26	

Total theory: 10
Total practical: 7
Examination hours: 18
Grand total: 35

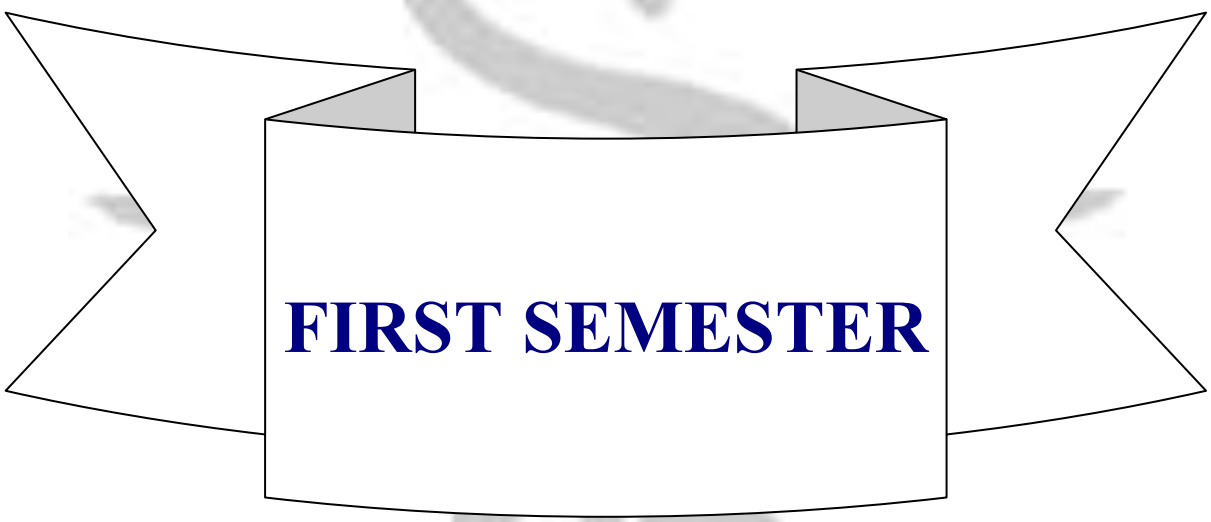
THIRD YEAR
SECOND SEMESTER
NO. OF HOURS:

No.	Course	Credit hrs		Actual hours	
		Theory	Practical	Theory	Practical
1.	Quality assurance	1	-	1	-
2.	Community pharmacy	1	1	1	2
3.	Drug management & supply	2	-	2	-
4.	Pharmacology V	2	1	2	2
5.	Research project	-	2	-	4
6.	Field training	-	5	-	15
7.	Total	6	9	6	23
		15		29	

Total theory: 6
Total practical: 9
Examination hours: 12
Grand total: 27

Course descriptions

FIRST YEAR
COURSE SPECIFICATION


FIRST SEMESTER

Course Specification of Islamic Ethics

الساعات النظري: ١٨

المقرر: الأخلاقيات الإسلامية المهنية

وصف المقرر: صمم هذا المقرر لتزود الطالب بالمعارف والمهارات والاتجاهات السلوكية اللازمة في مجال الأخلاقيات الإسلامية المهنية والتي تمكنه من التحلي بأخلاقيات الإسلام والصفات التي تميزه عن غيره من الناس في هذا المجال والابتعاد عن المفسدات ومحاوله تعزيز الثوابت وأزاله السلبيات.

الأهداف التعليمية:-

١. يكتسب المفاهيم العامة للأخلاقيات الجيدة وأثرها في حياة الفرد.
٢. يعدد مبادئ وتعاليم الإسلام ومصادرها وأسسها.
٣. يحدد الأخلاقيات التي يدعو الإسلام إليها ويتحلى بها.
٤. يشرح رأي الإسلام في القضايا المعاصرة ويقدم الحلول لها .
٥. يثقف المجتمع حول العادات الضارة التي ظهرت فيه.
٦. يلم بالقوانين الطبية واللوائح المنظمة للمهنة.
٧. يدرك أهميه تجنب الأخطاء في المهنة وعقوبتها وفق القانون والشرع.
٨. يتحلي بما يدعو إليه الإسلام من أخلاقيات وسلوك.
٩. يستشعر عظمه الله وشرعه في تنظيم الحياة للإنسان في هذه المعمورة.
١٠. يحفظ الصيغة الشرعية الرسمية لقسم التخرج.

المفردات:

الوحدة	المحتوى	الساعات		
		النظري	العملي	المجموع
الأولى	• أسس العقيدة الإسلامية وأثرها التربوي (أركان الإسلام، الإيمان، والإحسان) • مصادر التشريع الإسلامي ومقاصدها • أخلاق يدعو الإسلام إليها: - الصدق - الأمانة - الإخلاص في العمل والعبادة - السرية - الإتقان في العمل - الأخلاق الفاضلة • الإسلام والمرأة • الشورى في الإسلام • حقوق الإنسان في الإسلام - هدى الإسلام في الصحة والحفاظ عليها	٤	-	٤

الوحدة	المحتوى	الساعات		
		النظري	العملي	المجموع
	- اثأر الغزو الفكري			
	• مفهوم وأهمية ومصادر علم أخلاقيات المهنة - المفهوم - الأهمية - المصادر	١	-	١
الثانية	الأبعاد الجديدة لعلم ألأخلاقيات المهنية في نظر الإسلام: -أخلاقيات المهنة الصيدلانية - حكم الإسلام وأخلاقيات في: (الإجهاض، التجميل، نقل الدم والأعضاء، الاستنساخ، منع الحمل، تشريح الجثث، الموت الرحيم، الدواء والصوم، الأدوية والإدمان، التداوي بالأعشاب والرقي.)	٢	-	٢
الثالثة	• المبادئ الأخلاقية الأساسية في الممارسة الصيدلانية: - مبدأ الإخلاص والولاء لله لما يخدم المريض. - مبدأ عدم الإضرار بالمريض -مبدأ قول الحقيقة والمحافظة على أسرار المريض - إخلاص النية لله في كل عمل تقوم به للمريض حتى تنال الأجر من الله	١	-	١
الرابعة	• العوامل المؤثرة على العلاقة بين الصيدلي والمريض: - المرض والمعرفة -الخصائص الشخصية لكل من الصيدلي والمريض -الإطار الذي تم فيه هذه العلاقة -لعلاقة الإيجابية/السلبية -العلاقة التوجيهية/المتعاونة المشاركة/ المتبادلة	١	-	١
الخامسة	• الخطأ الصيدلي في الممارسة الصيدلانية: - المقصود بالخطأ الصيدلاني - طبيعة الأخطاء الصيدلانية - كيف يمكن تجنب حدوث الخطأ الصيدلاني - تقييم الخطأ الصيدلاني	٢	-	٢
السادسة	• الإهمال الصيدلاني: - كيف ينشأ الإهمال - وجهة نظر المريض وعامة الناس تجاه الإهمال الصيدلاني - وجهة نظر المشتغلين في المجال الصيدلي تجاه الإهمال الصيدلاني - وجهة نظر القانون تجاه الإهمال الصيدلاني - كيفية التجنب للإهمال الصيدلاني - عقوبة المخالف السماوية والوضعية وفق القانون.	٢	-	٢
السابعة	• بعض المشكلات المعاصرة وكيفية حلها في الإسلام: - سوء التغذية - انتشار الأمراض حكم واثر ممارسه العادات الضارة: (المخدرات – المهدئات – اللواط -العادة السرية.....الخ)	١	-	١
الثامنة	القانون اليمني للصيدلة: • الإحكام والقوانين ا لقوانين المنظمة لمهنه الطب والصيدلة. • شروط ممارسه المهنة في لشريعة والقانون.	٢	-	٢

الوحدة	المحتوى	الساعات		
		النظري	العملي	المجموع
	• نظره الشرع والقانون في:(مكانه المرأة في المجال الصيدلي ، تيسير التكاليف الشرعية للمريض) • النص الشرعي والقانوني لقسم التخرج			
	الإجمالي	١٦		١٦

طرق التدريس :-

- المحاضرات
- المناقشات الجماعية

الوسائل المستخدمة :-

- السبورة
- جهاز العاكس الرأسي
- الملصقات

طرق التقييم :-

- الاختبارات	٢٠٪
- التكاليف	١٠٪
- الامتحانات النهائية	٧٠٪
الإجمالي	١٠٠٪

المراجع :

- -الثقافة الإسلامية د/حسن الاهدل, د/ عبد الحكيم
- -الجريدة(المجلة) الرسمية المحلية للجمهورية اليمنية
- الموسوعة الفقهية الطبية د/ محمد احمد كنعان
- قانون الجرائم والعقوبات اليمنى د/ على حسن الشرفي
- قانون مهنه الطب والصيدلة وزاره الشئون القانونية

Course specification of Arabic Language

الساعات النظري: ١٨

برنامج: اللغة العربية.

التخصص فني صيدلة

وصف المقرر: صمم هذا المقرر ليزود الطالب بالمعارف والمهارات والاتجاهات السلوكية اللازمة في مجال اللغة العربية والتي تمكنه من تفادي الأخطاء في الكتابة حتى يتسنى له الكتابة الصحيحة عند تعلمه وكتابته للاختبارات والمحاضرات.

الأهداف التعليمية:-

عند نهاية المقرر سيكون الطالب قادراً على أن:-

- **يعدد أقسام الكلام والأخطاء الإملائية الشائعة**
- **يستخرج أسلوب الاستثناء والحال والتمييز**
- **يقوم بالبحث في المعاجم عن أصول الكلمات**
- **يستطيع رسم الهمزة وعلامة الترقيم.**
- **يفرق بين المبتدأ والخبر**
- **يحدد النواحي الأدبية في الجوانب الشعرية**
- **يستخرج التوابع اللغوية.**
- **يتمكن من كتابه وقراءة التقارير والرسائل العلمية بصوره بلاغيه ووضوح تام.**

كما أن الطالب سيكون قادراً على أن :-

- **يميز خصوصيات الابتهالات.**
- **يحدد خصوصيات الأدب المعاصر.**
- **يشرح معنى الأدب الجاهلي**
- **يذكر بعض أمثال العرب**
- **يستخرج أوجه البلاغة في خطبه حجه الوداع**
- **يذكر خصوصيات الشعر الحديث.**

المفردات:

الوحدة	المحتوي	الساعات		
		النظري	العملي	المجموع
الأولى	• أقسام الكلام والأخطاء اللغوية الإملائية الشائعة	١		١
	• من الأدب الجاهلي:	١	-	١
	- معلقه طرفه.			
	- شعر الصعاليك (تأبط شرا)	١		١
	• من أمثال العرب	١	-	١
	• خطبه حجه الوداع	١	-	١
	• علامة الإعراب علامات الترقيم			
الثانية	• المبتدأ والخبر			١
	• الشعر والأدب:	١	-	٣
	- المقامة العلمية	٣		
	- سحر الربيع			
	- رثاء الأندلس			
	- قافلة لضياع (بدر شاكر)			
الثالثة	• التوابع	١		١
	• الأدب المعاصر والابتهالات	٢		٢
	• أسلوب الاستثناء	١		١
	• الحال والتمييز	١		١
	• البحث في المعاجم	١	-	١
	• رسم الهمزة	١		١
	• نماذج من التقارير والرسائل العلمية.			
	الإجمالي	١٦		١٦

طرق التدريس :-

- المحاضرات
- المناقشات الجماعية

الوسائل المستخدمة :-

- السبورة
- جهاز العاكس الرأس

طرق التقييم :-

- الاختبارات	٢٠٪
- التكاليف	١٠٪
- الامتحانات النهائية	٧٠٪
الإجمالي	١٠٠٪

المراجع :-

١- اللغة العربية (نصوص أدبيه وتطبيقات نحويه-متطلبات الجامعه١٠١-١٠٢)
المؤلفون(د/الحميري,د/الحذيفي,د/الزمر,د/الخربي،د/العبيدي)
٢- قواعد اللغة العربية المؤلف: فواد نعمه

COURS SPECIFICATION OF PHYSICAL PHARMACY

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.

Major or Minor element of programmes: Table – page (34 - 35)

Department offering the programme: - Pharmacy Section.

Department offering the course: - Physical Pharmacy I.

Academic year / Level 1 st /1 st

Date of specification approval:- 8 - 2007

A- BASIC INFORMATION

Title: Physical pharmacy Code:
Credit Hours: 3 hr Lecture: 2hr
Tutorial: None Practical: 1hr Total: 3hr

B- PROFESSIONAL INFORMATION

1 – OVERALL AIMS OF COURSE

1. To make the students understand those physicochemical properties of drugs and excipients that could affect drug performance and the development of an efficacious dosage form.
2. To provide students with the ability to utilize these principles in the design of active drugs and pharmaceutical dosage forms.
3. To provide the students with the ability to analyze the relationship between the physicochemical principles, pharmaceutical formulations and biological activity of drugs.

2-INTENDED LEARNING OUTCOMES:-

a- KNOWLEDGE & UNDERSTANDING:

a1- Explain the significance of distribution phenomena in pharmaceutical systems and in the bioavailability of drugs

a2- Estimate the risk and importance of drug stability studies

a3- Discuss the different modes of drug decomposition

a4 -Describe the contribution of diffusional processes process of drug absorption

a5-Describe the origin and the consequences of the interfacial phenomenon

b- INTELLECTUAL SKILLS:-

b1 - Associate the extraction process variables with the theory of distribution to achieve an efficient extraction

b2- Predict possible complexation related problems in pharmaceutical systems based on chemical structures.

b3- Analyze pharmaceutical degradation data and relate it to drug stability

b4- Correlate permeability and diffusion properties of drug material to bioavailability

b5- Correlate the concepts of interfacial phenomena with the formulation and stability of colloidal preparations

c- PRACTICAL & PROFESSIONAL SKILLS

c1- Develop an extraction procedure

c2- Study and analyze drug complexes

c3- Estimate shelf lives and suitable storage conditions for a drug formulation

c4 -Specify the factors affecting the bioavailability of drug substances

c5- Relate the stability of colloidal dosage forms to the interfacial properties of its components.

d- GENERAL & TRANSFERABLE SKILLS:-

d1- Be able to do homework's and assignments

d2 - Work effectively in a team

d3- Handle experimental data and draw scientific conclusions

3- Contents

Unit	TOPIC	No. of hours	Lect	Pract.
Introduction	▪ Introduction & States of matter (gases, liquid, solid) ▪ Phase role	4	2	-
Units of measuring	▪ History of measuring ▪ Classification o Units of volume o Units of weight o Units of length o International units o Other units	2	1	

Unit	TOPIC	No. of hours	Lect	Pract.
Liquids	▪ Physical properties of liquids ▪ Types of solution ▪ Measuring methods in the rheology (viscosity, density)&important in pharmacy.	4		
Solids	▪ Particle size (change of particle size on drug flow and solubility) ▪ Measuring of powder flow(Angle of repose) ▪ Effect of lubricants on powder flow and compactability ▪ Solubility of solids o Determination of solubility ▪ Techniques of aqueous solubility determination of non-ionized, ionized and unstable drugs o Factors/ parameters affecting solubility o Enhancement of solubility and supersaturation	8	3	2
Gases	▪ Physical properties of gases ▪ Types of gases ▪ Liquefication of gases ▪ Pharmaceutical applications of gases	2	2	2
Surface tension	▪ Definition of Surface tension ▪ Surfactants (concepts and types) ▪ Critical micelle concentration(CMC) ▪ Pharmaceutical applications of surfactants	6	3	4
Adsorption	• Definition & Adsorption at solid surfaces • Application of adsorption (e.g. drug interaction)	2	1	1
Drug and formulation stability	▪ Degradation mechanisms. ▪ Pharmaceutical stability problems (hydrolysis, oxidation, photo degradation, …) • Determination of shelf life and recommended storage conditions.	4	2	4
	Total	32	16	16

4– Teaching and Learning Methods

4.1- Lectures
4.2- laboratory
4.3- Large or small group discussion
4.4- Small Group Projects
4.5- Independent Research

4.6- Workbook Assignments

5- Student Assessment Methods

5.1- Participation& semester work	to assess intellectual skills
5.2- Mid term exam	to assess the knowledge & understanding
5.3-Final term exam	to assess the knowledge & understanding
5.4- Practical exam	to assess the practical skills.
5.5- Quizzes	to assess the knowledge & understanding
5.5- Workbook Assignments	to assess the general and transferable skills.

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 practical	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

6- List of References

6.1- Course Notes

Handouts

6.2- Essential Books (Text Books)

1. Aulton ME *Pharmaceutics: The Science Of Dosage Form Design* Livingstone, 1988
2. Collett D M And Aulton M E *Pharmaceutical Practice* Churchill Livingstone, 1990
3. Winfield and Richards *Pharmaceutical Practice*, 3rd Edn, 2004.
4. Carstensen, J. T., 1998. Pharmaceutical Preformulation, CRC Press, Inc., Florida

5. Carstensen, J. T., Rhodes, C.T., 2000. Drug Stability: Principles and Practices, Drugs and Pharm. Sci. Series, Vol. 43, 3rd edn., Marcel Dekker Inc., New York.
6. Carstensen, J. T., 1980. Solid Pharmaceuticals: Mechanical properties and Rate Phenomenon, Academic Press, New York.
7. Remington's Pharmaceutical Sciences.
8. Bently's Textbook of Pharmaceutics, Rawlins, E. A., 8th Edition, 1984, ELBS, London.

7- Facilities Required for Teaching and Learning

- White board & marker
- Over head projector
- Data show
- Lab (pharmaceutical materials, glass wares, balances, etc….)

Course Specifications Of Pharmaceutics I

Course Specifications

Programme(s) on which the course is given : Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table – page (39 - 40 – 41)
Department offering the programme: - Pharmacy Section.
Department offering the course: - Pharmaceutics I

Academic year / Level 1st year /1st semester

Date of specification approval:- 8 - 2007

A- BASIC INFORMATION

Title: Pharmaceutics I	Code:	
Credit Hours: 3 hrs	Lecture: 2hrs	
Tutorial: None	Practical: 1hr	Total: 3hrs

B- PROFESSIONAL INFORMATION

1 – OVERALL AIMS OF COURSE

1. To provide student with a detailed knowledge and understanding concerning preparation and controlling of various pharmaceutical dosage forms like solution, suspension and emulsion.
2. To provide the student with the knowledge about the basic principles of pharmaceutical formulation, compounding and dispensing.
3. To provide the student with the knowledge and understanding concerning the weights, measures and calculations used in pharmacy practice; the principles of drug administration; the principles of dosage form design; the factors influencing drug stability; the containers used for pharmaceutical products.

2 – INTENDED LEARNING OUTCOMES OF COURSE (ILOS)

a- KNOWLEDGE AND UNDERSTANDING:

a1- Describe the methods of preparation of pharmaceutical solution, suspension and emulsion.

a2- Define and enumerate the types of pharmaceutical dosage forms.

a3- Describe the components and types of prescription..

a4- Explain the principles of design and formulation of pharmaceutical solution, suspension and emulsion.

a5- Describe various methods used for evaluation of pharmaceutical solution, suspension and emulsion.

a6- Enumerate the factors affecting drug and dosage form stability.

a7- Mention the manufacturing process involved in the preparation of pharmaceutical solution, suspension and emulsion.

b- INTELLECTUAL SKILLS

b1-Recognize the instability of pharmaceutical dosage forms when occurred.

b2-Identify the drug manufacturing relating problems and solve it.

b3- Correctly apply the formulas and calculations used in pharmaceutical preparation and administration

b4- Appreciate the need for accuracy and thoroughness in manufacture of pharmaceutical products.

b5- Recognize the common pharmaceutical Latin abbreviations.

c- PROFESSIONAL AND PRACTICAL SKILLS

c1- Prepare some of medicated pharmaceutical solution, suspension an emulsion.

c2- Perform quality control for pharmaceutical dosage form.

c3- Be able to formulate good and stable dosage form like suspension, emulsion and suspension.

c4- Perform pharmaceutical calculation for compounding or dispensing.

d- GENERAL AND TRANSFERABLE SKILLS

d1. Work separately or in a team to research and prepare a scientific topic.

d2. Present clearly and effectively scientific topic in a tutorial or a staff meeting.

3- Contents

Unit	TOPIC	No. of hours	Lect.	Pract.
Basic principles of compounding and dispensing	▪ Types of dosage forms • Definition of dosage forms • Routes of administration for systemic effects • Routes of administration for local effects • Types of dosage forms.	2	1	-
	▪ Weights and measures • Metric system • Imperial system • Apothecary system ▪ Calculation for compounding and dispensing • From master formula. • Dealing with percentage concentration • Concentration expressed as parts • Preparing dilutions	4	2	5
	▪ The prescription. • The model prescription • The legal requirements of a prescription • Types of prescriptions • Common pharmaceutical Latin abbreviations. ▪ Good practice in compounding and dispensing ▪ Dispensing procedure	4	1	-
	▪ Formulation of dispensed products • Study of physical properties of drug and its effect on formulation • Colour and flavor • Incompatibility ▪ Physical ▪ Chemical ▪ Storage and stability of dispensed products ▪ Containers used for pharmaceutical products • Glass, plastics, metals • Interactions between product and packaging • Influence of packaging on product stability.	4	2	-
Solutions	• Introduction • Formulation o Vehicles ▪ Types of water ▪ Solubility ▪ Other vehicles for solution o Other additives o Factors affecting solubility	6	3	3

Unit	TOPIC	No. of hours	Lect.	Pract.
	○ Stability of solution • Classification of pharmaceutical solution • Solution for oral use ▪ Elixirs ▪ Linctuses ▪ Mixtures • Solution instilled into body cavities ▪ Mouth washes and gargles ▪ Nasal drops and sprays ▪ Ear drops ▪ Enemas ▪ Douches • Solutions for external use ▪ Lotions ▪ Liniments ▪ Paints ▪ Collodions ▪ Antiseptics			
Suspensions	• Advantages and disadvantages • Pharmaceutical application of suspension • Types of suspensions ○ For oral use ○ For external use • Formulation of suspension ▪ Difference between Flocculation, deflocculation.	6	4	4
Emulsion	• Emulsion types • Emulsion uses • Identification of emulsion type • Emulsion formulation ▪ Choice of emulsion type, and oil phase ▪ Emulsion consistency ▪ Choice of emulsifying agent • Preparation of emulsion • Classification of emulsifying agents • HLB system • Stability of emulsion ▪ Stability testing of emulsion	6	3	4
	Total	**32**	**16**	**32**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Practical
4.3- Large or small group discussion
4.5- Small Group Projects
4.6- Independent Research
4.7- Workbook Assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills

5.2- Mid term exam to assess the knowledge & understanding

5.3-Final term exam to assess the knowledge & understanding

5.4- Practical exam to assess the practical skills.

5.5- Quizzes to assess the knowledge & understanding

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 practical	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

6- List of References

6.1- Course Notes Handouts

6.2- Essential Books (Text Books)

9. Pharmaceutical Calculations, Stoklosa, M. J. and Ansel, H. C., 1988, Lea and Febiger, USA.
10. Aulton ME *Pharmaceutics: The Science Of Dosage Form Design* Livingstone, 1988
11. Collett D M And Aulton M E *Pharmaceutical Practice* Churchill Livingstone, 1990
12. Winfield and Richards *Pharmaceutical Practice*, 3rd Edn, 2004.
13. S J Carter, *Cooper and Gunn's Dispensing for pharmaceutical students*, 12th Edn.
14. Martindale W *The Extra Pharmacopoeia* 30th Edn, Pharmaceutical Press, 1993
15. Pharmaceutical Press *The Pharmaceutical Codex* 12th Edn, Pharmaceutical Press, 1994
16. Remington's Pharmaceutical Sciences.

7- Facilities Required for Teaching and Learning

- White board & Marker
- Over head projector
- Data show
- Lab (pharmaceutical materials, glass wares, balances, etc….)

Course Specifications Of Analytical Chemistry

Course Specifications

Programme(s) on which the course is given : Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table – page (46)
Department offering the programme: - Pharmacy Section.
Department offering the course: - Analytical Chemistry
Academic year / Level : 1st year 1st semester
Date of specification approval : 8-2007

A- Basic Information

Title :analytical chemistry Code:
Credit Hours: 3 hrs Lecture: 2hrs
Tutorial: None Practical:1hr Total: 3hrs

B- Professional Information

1 – Overall Aims of Course

1. To provide students all principles and fundamental of analysis .
2. To provide students with a strong ability to understand the chemistry and analytical technology which involved in various manufacturing and processing industries.
3. To provide student with high ability to use different types of analytical methods
4. To ensure that students be able to apply their knowledge to solve common analytical problems

2 – Intended Learning Outcomes of Course (ILOs)

a Knowledge and Understanding:

a1- Explain all principles about fundamental of analysis and methods of analysis
a2- describe the factor effect on analysis
a3- describe the different types of analysis (qualitative and quantitative analysis)
a4- Discuss the samples for qualitative analysis.
a5- Explain types of quantitative analysis (gravimetric methods, volumetric methods) and titration

a6- Discuss the over view of types of spectrometry and qualitative and quantitative uses.

a- Intellectual Skills

b1- solve problem in lab as well in class

b- Professional and Practical Skills

c1- perform different chemical analysis precisely during work .
c2 Use all apparatus and instrument that used in analysis

c- General and Transferable Skills

d1- Work in group team
d2- Participate in group discussion

3- Contents

Unit	Topic	No. of hrs	Lect.	Pract.
• **Introduction**	• fundamental and principle of analysis • A brief over view of analytical chemistry • An over view of t]he steps in analysis • Strength and concentration of solution	2hrs	1	
• **Qualitative analysis**	**1-Analysis of anions:-** Carbonate, bicarbonate and mixtures sulphur salts ,halides salts, phosphoric acid and mixture, nitrate , nitrite salts **2- Analysis of cations:-** Silver groups, copper, arsenic group, iron group, zinc group, alkaline group, magnesium group.	14hrs	7	8
• **Quantitative analysis**	• Gravimetric methods of analysis • Volumetric methods of analysis • Percentage composition (by volume , by weight), morality , normality. • General consider of titration • Type of titration 1. Acid - base titration 2. Precipitation titration	16hrs	8	8

Unit	Topic	No. of hrs	Lect.	Pract.
	3. Complex titration 4. Oxidation reduction titration 5. Potentiometric titration • General overview for types of Spectrophotometry (UV,VIS, IR, NMR) , qualitative and quantitative use			
	Total	**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- lecture
4.2- discussion in groups
4.3 –researching in groups for topics course as assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.
5.5- Quizzes to assess the knowledge & understanding

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 practical	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

6- List of References

6.1- Course Notes Handouts
6.2- Essential Books (Text Books)

- Vogel's quantitative chemical analysis 6th edition by J. Mendham, R.C Denney.
- John H. kennedy. Analytical chemistry principles, Harcourt brace.

- Douglas A. Skoog. Donlad M. West. analytical chemistry 3rd edition Saunders.

7- Facilities Required for Teaching and Learning

- White board & Marker
- Over head projector
- Data show
- Lab (pharmaceutical materials, glass wares, balances, etc….)

Course Specification of Anatomy

Programme(s) on which the course is given : Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table – page (49 -50)
Department offering the programme: - Pharmacy Section.
Department offering the course: - Anatomy
Academic year \ level: - 1st year/1st semester
Date of specification approval: 8 - 2007

BASIC INFORMATION:

Title: Anatomy — Code:
Credit Hours: 2hrs — Lecture: 2hrs
Tutorial: None — Practical: None — Total: 2hrs

PROFESSIONAL INFORMATION

1-AIMS OF THE COURSE:

Provide the students with the knowledge and understanding about the general gross human anatomy and ability to identify the structures of commonly anatomical parts.

2-INTENDED LEARNING OUTCOMES:

a-KNOWLEDGE and UNDERSTANDING:

a1. Describe the anatomic parts of the human body.
a2. Describe the different parts of alimentary canal.
a3. Describe & explain the anatomy of nervous system, respiratory, urinary, reproductive, endocrine & cardiovascular system.
a4. Describe the anatomy of sense organs.

b-INTELLECTUAL SKILLS:

b1. Recognize the different anatomical parts of the body.

d-GENERAL SKILLS AND ATTITUDE

d1. Present clearly and effectively scientific topic .

3-COURSE CONTENTS:

Unit	Topic	No. of hours	Lecture	Practical
Cell	• Structure of cell, function of its components with special reference to mitochondria and microsomes. • Cancer cells	2	1	_
Tissues	• Elementary tissues of the body. o Epithelial tissue o Muscular tissue o Connective tissue o Nervous tissue_	4	2	
Skeleton	• Structure and classification • Bones of upper and lower limb • Joints	2	1	
Respiratory system	• Structure • The lungs and bronchioles	2	1	
Digestive system	• The mouth cavity • Esophagus • Stomach, liver spleen and pancreas • Intestine • Appendix • Rectum	4	2	
Nervous system	• Structure and Classification • Structure of spinal cord • Spinal nerves • The autonomic nervous system o Sympathetic • Parasympathetic	4	2	
Cardiovascular system	• The heart • Blood vessels	2	1	
Urinary system	• the kidney • ureter • urinary bladder •	2	1	_
Endocrine system	• **Anatomy of endocrine glands** o Thyroid o Pancreas o Pituitary o Adrenal glands o Gonads	2	1	_
Sense organs	• **Anatomy of** o Eye			_

Unit	Topic	No. of hours	Lecture	Practical
	○ Ear ○ Nose • Skin	4	2	
Reproductive system:	• **Female:** ▪ The uterus ▪ The vagina ▪ The ovary ▪ Anatomy of the breast • **Male :** ▪ The testis ▪ Scrotum • The penis	4	2	_
Total		**32hrs**	**16**	—

4– Teaching and Learning Methods

4.1- Lectures

4.2- Tutorials

4.4- Large or small group discussion

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.5- Quizzes to assess the knowledge & understanding
5.5- Workbook Assignments to assess the general and transferable skills.

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 Formative	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Semester work and reports	10 %
Mid-Term Examination	20 %
Final-term Examination	70 %
Total	100 %

6- List of References

6.1- Course Notes

Handout Texts

6.2- Essential Books (Text Books)

6.3- Recommended Books

1- Ross and Wilson anatomy and physiology in heath and illness by Anne wangh – Allison grant .

6.4- Periodicals, Web Sites … etc

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Data show.

Course Specification Of Physiology

COURSE SPECIFICATIONS:

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table – page (53 -54)
Department offering the programme: - Pharmacy Section.
Department offering the course: - Physiology
Academic year \ level: - First year/first semester
Date of specification approval: 8 - 2007

BASIC INFORMATION:

Title: Physiology Code:
Credit Hours: 2hrs Lecture: 2hrs
Tutorial: None Practicals: None Total: 2hrs

PROFESSIONAL INFORMATION

1-AIMS OF THE COURSE:

1. Acquire an appropriate functional background of cells, tissues, organs& systems.
2. Integrate physiological data & mechanisms with the ongoing basic sciences: anatomy, histology& biochemistry and clinical applications.
3. Explore in detail the functions of the autonomic, the neuromuscular, the respiratory and the cardiovascular systems as well as their integration to achieve homeostasis.

2-INTENDED LEARNING OUTCOMES:

a-KNOWLEDGE and UNDERSTANDING:

a1. Describe the cellular functions at the organelle and molecular level.
a2. Describe & explain the function of the nerve cell the nerve & muscle fiber grossly & the molecular level.
a3. Describe & explain function of the autonomic nervous system, different component of blood, the respiratory & cardiovascular system both grossly and molecular level.
a4. Describe some biophysical laws & their relation to physiology.

b-INTELLECTUAL SKILLS:

b1. Interpret the most important physiological laboratory results (blood, respiratory, neuromuscular), to distinguish a physiological from pathological condition.
b2. Comment, on some clinical parameters such as: ABP, ECG, nerve conduction velocity pulmonary functions for a normal individual.
b3. Integrate physiology with other basic and clinical sciences.

d-GENERAL SKILLS AND ATTITUDES:

d1. Work separately or in a team to research and prepare a scientific topic.
d2. Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day.
d3. Present physiological data in a graphical form.

3-COURSE CONTENTS:

Unit	Topic	No. of hours	Lecture	Practical
Cell	• Brief account on cell structure	2	1	—
Blood and lymph	• Composition and function of blood • Blood groups • Blood coagulation • Anemia's • White blood cells and immunity • Lymph formation and function • Lymph channels	4	2	
Cardiovascular system	• Heart and blood vessels:- • function of heart • Cardiac cycle (blood circulation) • Blood pressure and its regulation • ECG: methods of recording, normal record and common abnormalities.	4	2	
Respiratory system	• Physiology of respiration. • Control of respiration • Hypoxia, cyanosis and dyspnea • Pulmonary function tests	4	2	
Digestive system	• Function of digestive organs. • Movements of alimentary canal • Role of enzymes in digestive process	2	1	—
Nervous sys-	• Neurons and Neurotransmitters			

Unit	Topic	No. of hours	Lecture	Practical
tem	• Synapses • Ganglion • Membrane potential • Impulse generation and conduction • Reflex arc • Function of central nervous system. • Autonomic nervous system	2	1	
Muscular system	• Physiology of muscle contraction • Movement of muscles. • Muscular disorder	2	1	
Urinary system	-Function of urinary organs. • -Fluid & electrolytes balances.	2	1	
Endocrine system	• Physiology of endocrine glands ○ Thyroid ○ Pancreas ○ Pituitary ○ Adrenal glands • Gonads	2	1	
Physiology of special senses	• Function of: Skin, Eye, Ear, Nose, and Tongue. • Physiology smell, taste, vision, hearing and pain.	2	1	
Reproductive system:	• **Female** ▪ Function of Ovaries, Fallopian tube, Uterus, Vagina, menstrual cycle, menopause. ▪ Function of Breast. • **Male :** ▪ Functions of Epidielymis, prostate glands • Functions of Vas deference seminal vesicles.	6	3	
	Total	**32hrs**	**16**	**—**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Large or small group discussion
4.4- Independent Research
4.5- Workbook Assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.5- Quizzes to assess the knowledge & understanding
5.5- Workbook Assignments to assess the general and transferable skills.

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 formative	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Semester work and reports	10 %
Mid-Term Examination	20 %
Final-term Examination	70 %
Total	100 %

6- List of References

6.1- Course Notes

Handout Texts

6.2- Essential Books (Text Books)

1. Guyton: Textbook of Medical Physiology
2. Ganong: Review of Medical Physiology.

6.3- Recommended Books

- medical physiology by Vernon B. mountcastle 12th edition
- anatomy and physiology by anne wangh ,ross and Wilson allison grant

6.4- Periodicals, Web Sites … etc

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Data show

Course Specifications Of English & Medical Terminology

Course Specifications

Programme(s) on which the course is given : Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table – page (58)
Department offering the programme: - Pharmacy Section.
Department offering the course: - English language & medical terminology

Academic year / Level 1st year/ 1st semester

Date of specification approval8 - 2007

A- BASIC INFORMATION

Title: English I	Code:	
Credit Hours: 2 hr	Lecture: 2hr	
Tutorial: None	Practical: None	Total: 2hrs

B- PROFESSIONAL INFORMATION

1 – OVERALL AIMS OF COURSE

1. Provide the student with basic principles in English language including reading, writing, listening and grammar with some medical terms.
2. To improve the students for reading, extracting and handling the information from some short passages.

2 – INTENDED LEARNING OUTCOMES OF COURSE (ILOS)

a- **KNOWLEDGE AND UNDERSTANDING:**

a1- correct the mistakes in grammar in some passages.
a2- Extract the information from some short passages.
a3- Define some medical terms.

b- INTELLECTUAL SKILLS

b1- Use correct verbs and grammar in writing.

c-PROFESSIONAL AND PRACTICAL SKILLS

c1- Write reports and letters use good language and grammars.

d- GENERAL AND TRANSFERABLE SKILLS

d1 Interact effectively with patients, the public and health professionals.

d2- Reflect on the use of communication skills in counter prescribing.

3- CONTENTS

Unit	TOPIC	No. of hours	Lect.	Pract.
Reading	• Preventive medicine • Infectious diseases • How body fight infection • Nutrition • Malnutrition • Smoking • Tropical diseases	10	5	—
Grammar	• Verb tenses ▪ Simple present ▪ Simple past ▪ Present continuous ▪ Present perfect ▪ Past perfect ▪ Active and passive voice	8	4	—
Writing	▪ Report writing ▪ Letter Writing: • Applications / communications such as business correspondences • Official communications and acknowledgements.	6	3	—
listening	• Rabies • Heat stroke • Heat exhaustion • Harmful effect of sun on the skin.	8	4	—
Medical termi-nology	• **Introduction** o Definition o Composition of medical terms • **Pharmaceutical Terminology:** - Pharmaceutical dosage forms. - Drug administration. - Calculation of drug dosage forms. -Scientific terms dealing with drug dispens-ing, registration, storage and control of drugs.			—
Total		**32hrs**	**16**	**—**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Group discussion
4.4- Seminars
4.5- Reports

5- Student Assessment Methods

5.1- Participation& semester work	to assess intellectual skills
5.2- Mid term exam	to assess the knowledge & understanding
5.3-Final term exam	to assess the knowledge & understanding

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 Formative	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10	
Mid-Term Examination	20	%
Final-term Examination	70	%
Total	100	%

6- List of References

6.1- Course Notes
Handouts
6.2- Essential Books (Text Books)
Library Book
6.3- Recommended Books

7- Facilities Required for Teaching and Learning

- White board & Marker
- Over head projector
- Data show
- Lab (pharmaceutical materials, glass wares, balances, etc….)

Course Specifications Of Botany

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.

Major or Minor element of programmes: Table – page (61)

Department offering the programme: - Pharmacy Section.

Department offering the course: - Botany

Academic year / Level:-1st year / 1st semester

Date of specification approva:-8 - 2007

A- Basic Information

Title: Botany Code:
Credit Hours:3 hrs Lecture:2hrs
Tutorial: None Practical:1hr Total:3hrs

B- Professional Information

1 – Overall Aims of Course

Acquire background about different parts ,cells, sits of storage ,secretory system of the plants .
Identify the general taxonomy of plants

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Describe different parts of plant
a2- Identify different cells and secretory system
a3- Explain the taxonomy
a4-Defin different pathways and metabolism present in plant

b- Intellectual Skills

b1-Make taxonomy of plants and describe them
b2-List different physiological pathways in plant.
b3-Identify different cells and its functions.

c- Professional and Practical Skills

c1- Identify different types of cells and systems under microscope
c2- Differential between dicots and monocots
c3- Prepare slides contain different plant tissues

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
I	• **Morphology** o Diversity of plant life o Parts of flowering plants ▪ Seed ▪ Stem ▪ Fruit ▪ Flowers ▪ Leaves ▪ Root and rhizomes	12	6	2
II	• **Histology** o Cell and other cell content o Tissue system o Anatomy of root in di and monocoty-ledons o Anatomy of stem in di and monocoty-ledons o Anatomy of leaves in di and mono-cotyledons	6	3	4
III	• **Physiology of plants** o Nutrition o Respiration o Photosynthesis o Transpiration o Metabolism	6	3	4
VI	• **Taxonomy** o Division and general description o Alga o Bacteria o Fungi o Bryophyte o Betrediophytes o Gymnosperms o Angiosperms o Selected families of dicotyledons o Selected families of monocotyledons	8	4	6
Total		**32hrs**	**16hrs**	**16 hrs**

4– Teaching and Learning Methods

4.1-lectures

4.2-discussion group

4.3- practical lab

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.
5.5- Quizzes to assess the knowledge & understanding

Assessment Schedule

Assessment 1 mid term exam	Week 9
Assessment 2 practical	Week 16
Assessment 3 final exam	Week 17

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

6- List of References

6.1- Course Notes
Handouts ; General plant Books
6.2- Essential Books (Text Books)
Library Book :practical of Botany

النباتات الطبية والعطرية في اليمن
(محمد الدبعي)

- Periodicals, Web Sites … etc

7- Facilities Required for Teaching and Learning

- White board & Marker
- Over head projector
- Data show
- Lab materials , slide, etc….)

Course Specifications Of First Aids

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.

Major or Minor element of programmes: Table – page (64 - 65)

Department offering the programme: - Pharmacy Section.

Department offering the course: - First Aid

Academic year / Level:-1st year/ 1st semester

Date of specification approva:-8 - 2007

A- Basic Information

Title: First aid Code:
Credit Hours1 Lecture:1hr
Tutorial: None Practical:- None Total:1hr

B- Professional Information

1 – Overall Aims of Course

At the end of the course ,the student should be able to perform basic s of first aid in different emergency cases

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Explain the important basics of first aid (A,B,C,D)

a2- Identify important first aid steps for different important emergency cases

b- Intellectual Skills

b1- Differentiate between different cases and it's First Aid

c- Professional and Practical Skills

c1- Deal properly and rapidly with different (critical)emergency cases with needed precaution ……

d- General and Transferable Skills

d1- Deal with patient in polyclinic

d2- give advice in different cases

3- Contents

Units	Topic	No. of hours	Lecture	Practical
I	• **Introduction** o Concept of first aid o Objective of first aider o Responsibilities of fist aider	1	1	—
II	• **Hemorrhage and cut wounds** o External bleeding o Cuts wound	2	2	—
III	• **Shock** o Definition o Types o First aid treatment of shock • **Unconsciousness** o Definition o First aid treatment o Heart massage • **Epileptic fits** o -first aid treatment	2	2	—
IV	• **Splint and bandage** o Aims of bandaging in first aid o Aim of splinting o Methods of apply bandages	2	2	—
V	• **Fractures and dislocation** o A-definition of fractures o Types of fractures o Signs and symptoms o First aid treatment • **B-definition of dislocation** o The first aid treatment	4	4	—
VI	• **Burns and scalds** o Heat burns o Chemical scalds o first aid treatment	2	2	—
VII	• **Asphyxia** o Artificial respiration o P.R	1	1	—
VIII	• **Poisoning** o Types o Cause o Classification o Treatment	2	2	—
Total		**16hrs**	**16**	—

4– Teaching and Learning Methods

4.1-lectures

4.2-discussion group

5- Student Assessment Methods

1- Participation& semester work to assess intellectual skills

2- Mid term exam to assess the knowledge & understanding

3-Final term exam to assess the knowledge & understanding

Assessment schedule:

Assessment 1- Semester work	weak	4
Assessment 2- Mid term exam	weak	8
Assessment 3- Final term exam	weak	16

Weighting of Assessments

Semester Work	10	%
Mid-Term Examination	٢٠	%
Final-term Examination	٧٠	%
Total	100%	

Any formative only assessments

6- List of References

6.1- Course Notes

General First Aide.

6.2- Essential Books (Text Books)

Library book of First Aide.

- Periodicals, Web Sites … etc

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector

FIRST YEAR
SECOND SEMESTER

Course Specification of Psychology

COURSE SPECIFICATIONS:

Programme (s) on which the course is given : Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table – page (68 - 69)
Department offering the programme: - Pharmacy Section.
Department offering the course: - psychology
-Academic year \ level: 1st year / 2nd semester
Date of specification approval: 8 - 2007

BASIC INFORMATION:

Title: Psychology Code:
Credit Hours: 1hr Lectures:1hr
Tutorial: None Practical: None Total: 1hr

PROFESSIONAL INFORMATION

1-Overall AIMS OF THE COURSE:

Acquire an appropriate functional background of Personality, Psychological-Functions, Affective Emotional Processes ,Behavioral processes, Clinical Psychological

a-KNOWLEDGE &UNDERSTANDING

1. Describe & explain the Personality, Psychological- Functions, Affective Emotional Processes, Behavioral processes
2. Describe the normal state of psychology
   Discuss how diseases affect the drugs to normal state of psychology

b-INTELLECTUAL SKILLS:

1. Interpret the most important clinical psychology results .
2. Integrate psychology with other basic and clinical sciences.
3-Relate the signs and symptoms to the basis of diseases.

c-PRACTICAL SKILLS:

1. Perform different between normal & other state.
2. Present psychology scientific data in a graphical form.

d-GENERAL SKILLS AND ATTITUDES:

1. Work separately or in a team to research and prepare a scientific topic.
2. Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day.

3- Content:

UNIT	TOPIC	NO. OF HOURS	LEC	PRAC
Introduction to Psychology	- Definition - Subject of Psychology - Objectives and principles of Psychology - The five movements that formed Psychology - The four recent points of view of modern psychology.	2	2	—
Personality	- Definition - Characteristics - Factors affecting personality - Types of personality - Training session	2	2	—
Psycho-mental processes (Psychological-Functions)	- Cognitive processes - Sensation and recognition - Attention and concentration - Thinking - Memory - Training session	3	3	—
Clinical Psychological	- The concept of health and illness - Formation of illness idea - Patients reaction to drugs -Responsibilities of Pharmacy technician towards the patient. - Training session	4	4	—
Affective Emotional Processes :	**A. Affection:** - Nature and types - Affection and Psychological disorders - Anxiety and its effect on learning **B. Motivation:** -Types of motivations - Motivation disorders - The range of effect on psychological behavior	٤	٤	—
Behavioral processes (Psycho-motive)	- Definition of learning - Types and methods of learning	١	١	—
Total		**16hrs**	١٦	—

4– Teaching and Learning Methods

1- Lectures
2- Discussion
3- problem Solving.

5- Student Assessment Methods:

1- Participation& semester work to assess intellectual skills
2- Mid term exam to assess the knowledge & understanding
3-Final term exam to assess the knowledge & understanding

6- Assessment schedule:

Assessment 1- Semester work	weak	4
Assessment 2- Mid term exam	weak	8
Assessment 3- Final term exam	weak	16

7- Weighting of Assessments

- Semester work exam	10%
-Mid term exam	20%
-Final term exam	70%
Total	100%

List of References ٨-

.1- Course Notes

2- Essential Books (Text Books)

1. A.Rahman Adas and Muhyieddeen Tonq. (Introduction to Psychology 2nd edition.1986 - John Wiley & Sons inc. London.
2. Annie Altschul and Helensinclair ,psychology for Nurses, 6th edition,1986, Bailliere -Tindall London.

3- Periodicals, Web Sites … etc

9- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Data show

Course Specifications Pharmaceutics II

Course Specifications
Programme(s) on which the course is given : Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table – page (73 - 74 – 75)
Department offering the programme: - Pharmacy Section.
Department offering the course: - Pharmaceutics II
Academic year / Level :- 1st year /2nd semester
Date of specification approval :- 8 - 2007

A- Basic Information

Title: Pharmaceutics II Code:
Credit Hours: 3 hrs Lecture: 2hrs
Tutorial: None Practical: 1hr Total:3hrs

B- PROFESSIONAL INFORMATION

1 – OVERALL AIMS OF COURSE

4. To provide student with a detailed knowledge and understanding concerning preparation and controlling of various pharmaceutical parenteral preparation
5. To provide the student with the knowledge about the theoretical principles outlined in the syllabus in relation to design and formulation of a semisolid preparation like ointments, creams and pastes.
6. Ability in applying their theoretical knowledge to the formulation of proprietary dosage forms discussed in this syllabus and an understanding of the manufacturing processes involved in the preparation aerosols and suppositories.

2 – INTENDED LEARNING OUTCOMES OF COURSE (ILOS)

a- KNOWLEDGE AND UNDERSTANDING:

a1- Explain of pharmaceutical packaging, pre-formulation and the formulation of injectable products.
a2- Describe various methods for evaluation of Parenteral dosage forms.
a3- Describe the characteristics of the Parenteral and semisolid dosage forms and explain how these characteristics affect the action of the drug.
a4- Describe the principles of design and formulation of pharmaceutical semisolid dosage forms.
a5- Classify the bases used in suppository preparation.
a6- Describe the methods of preparation of suppositories.

a7- Define and describe different types of ophthalmic preparation.

b- INTELLECTUAL SKILLS

b1-Choose the best base in semisolid preparation.
b2-Identify the drug manufacturing relating problems and solve it.
b2-Calculate the displacement value in suppository preparation.

c- PROFESSIONAL AND PRACTICAL SKILLS

c1- Prepare of ointments, creams, pastes and suppositories.
c2- perform quality control for pharmaceutical dosage form.
c3- Be able to formulate good and stable dosage form like ointments, creams and suppositories**.**

d- GENERAL AND TRANSFERABLE SKILLS

d1. Work separately or in a team to research and prepare a scientific topic.
d2. Present clearly and effectively scientific topic in a tutorial, a staff meeting .

3- Contents

Unit	Topic	No. of hours	Lect.	Pract.
I	**Parenteral preparation** • Pre-formulation factors o Route of administration of injection o Water for injection o Pyrogenecity o Non-aqueous vehicles o Isotonicity and methods of adjustment • Formulation details o Formulation of injection (the vehicles, osmotic pressure, pH, specific gravity, suspension for injection, emulsion for injection) o Containers and closures selection • Prefilling treatment o Washing of containers and closures o Preparation of solution and suspension o Filling and closing ampoules and vials o Infusion fluids o Equipments for large scale manufacture and evaluation of particulate matter. • Aseptic techniques o Sources of contamination and methods of prevention o Design of aseptic area	8	4	2

Unit	Topic	No. of hours	Lect.	Pract.
	○ Laminar flow benches services and maintenance.			
II	**Ophthalmic preparation** • Principles of ocular drug absorption. • Ophthalmic solution. • Ophthalmic suspension. • Ophthalmic ointments. • Ocuserts (ophthalmic inserts) • Examples of drugs used to treat certain eye diseases.	4	2	2
III	**Therapeutic aerosols** • Definition and uses of therapeutic aerosols. • Instability of aerosols • Deposition of aerosols in the human respiratory tract. • Formulation and generation of aerosols ○ Pressurized packages ▪ Type of propellants ▪ Containers ▪ Formulation aspects ▪ Performance of pressurized packages as inhalation aerosol generators ○ Air-blast nebulizers ○ Dry powder generators • Methods of preparation • Evaluation methods ○ Leaking and pressure testing of containers. ○ Output, drug concentration and dose delivered ○ Size analysis	6	3	2
IV	**Semisolid dosage forms** • Skin anatomy and physiology • Percutaneous absorption and factors affecting it. • **Ointments** ▪ Classification of ointment bases ▪ Additives included in ointment bases ▪ Methods of Preparation of ointments and packaging. ▪ Some examples of medicated ointments • **Creams** ▪ definition ▪ Classification of creams ▪ Some examples of medicated creams • **Pastes** ▪ Definition ▪ Composition ▪ Examples of medicated pastes	10	5	6

Unit	Topic	No. of hours	Lect.	Pract.
	• **Gels** ▪ Composition and uses ▪ Evaluation of drug release from ointment and cream bases			
V	**Suppositories** • Introduction • Advantages and disadvantages • Anatomy and physiology of rectum • Factors affecting rectal drug absorption. • Shapes and size of suppositories. • Types of suppository bases. • Methods of Preparation of suppositories. • Displacement value • Calibration of suppository mould with bases.	4	2	4
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Practical
4.3- Large or small group discussion
4.4- Small Group Projects
4.5- Independent Research
4.6- Workbook Assignments

5- Student Assessment Methods

5.1- Participation& semester work — to assess intellectual skills
5.2- Mid term exam — to assess the knowledge & understanding
5.3-Final term exam — to assess the knowledge & understanding
5.4- Practical exam — to assess the practical skills.
5.5- Quizzes — to assess the knowledge & understanding
5.5- Workbook Assignments — to assess the general and transferable skills.

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 practical	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

6- List of References

6.1- Course Notes

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6.2- Essential Books (Text Books)

17. Aulton ME *Pharmaceutics: The Science Of Dosage Form Design* Livingstone, 1988
18. Collett D M And Aulton M E *Pharmaceutical Practice* Churchill Livingstone, 1990
19. Winfield and Richards *Pharmaceutical Practice*, 3rd Edn, 2004.
20. S J Carter, *Cooper and Gunn's Dispensing for pharmaceutical students*, 12th Edn.
21. Martindale W *The Extra Pharmacopoeia* 30th Edn, Pharmaceutical Press, 1993
22. Pharmaceutical Press *The Pharmaceutical Codex* 12th Edn, Pharmaceutical Press, 1994
23. Remington's Pharmaceutical Sciences.

7- Facilities Required for Teaching and Learning

- White board & Markers
- Over head projector
- Data show
- Lab (pharmaceutical materials, glass wares, balances, etc….)

Course Specifications for Community health.

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.

Major or Minor element of programmes: Table page- (78 - 79 – 80 – 81)

Department offering the programme:- Pharmacy Section.

Department offering the course:- Community health.

Academic year / Level: 1st year -2 nd semester.

Date of specification approval: 8/2007

A- Basic Information

Title: Community health Code:
Credit Hours: 2 hrs Lecture: 2hrs
Tutorial: None Practical: None Total: 2 hrs

B- Professional Information

1 – Overall Aims of Course

This course is designed to provide the student with knowledge, skills and attitudes in the field of environmental health & Nutrition. Also to help the student to acquire knowledge, skills and attitudes in the field of health education and Family planning, enable him/her to participate efficiently in solving some of health problems affecting the community. understand the constituents of the food for the daily requirements of the body in health and illness and their sources, functions and deficiencies. participate effectively in the health education process & Family planning .

2 – Intended Learning Outcomes of Course (ILOs):

a- Knowledge and Understanding:

a1- Identify health problems available in the environment that affect the community.
a2. Undertake the necessary steps for solving some of health problems affecting the environment and the community.
a3.Understand knowledge in proper Nutrition.
a4. Recognize the constituents of food, their sources, functions, deficiencies and daily requirements in health and illness.

b- Intellectual Skills

b1- Prepare simple Materials for the purpose of health education.

C- Professional and Practical Skills

c1- Accepts Attitude on health team working.
c2- Participate in health education activities in his field.

d- General and Transferable Skills

d1- Advice patients, workers….etc about the proper family planning method

d2- Communicate effectively with clients.

3- Contents

Unit	Topic	No.of hrs	Lec-ture	Practical
ENVIRONMENTAL HEALTH				
Health Conceptions and Personal Health:	A. **Health conception** of health. • Public health. • Environment. • Environmental health B. **Personal health** :- • Food and drink. • Clothing.- cleanliness. • Physical exercises. • Rest and sleep. - habits. • Personal protection against infectious diseases. • Periodic medical examination.	**2 hrs**	**1**	**—**
Water and Food Hygiene :	A. **Water ;** • Importance of water. • Composition of water. • Water requirement for man. • Sources of water. • Hard and soft water. • Contamination of water. • Diseases transmitted by water. • Steps for treating water. B. **Food hygiene :** • Definition of food • Definition of food hygiene. • Preservation of food. • General requirements relating to food premises. • Cleanliness of equipment. C. **Disposal of Human wastes** • Sanitary principles of waste disposal • Methods of disposal	**2hrs**	**1**	**—**
NUTRITION				
Introduction to Nutrition:	• Definitions and advantages of basic food groups.	**2 hrs**	**1**	**—**

Unit	Topic	No.of hrs	Lec-ture	Practical
	• Energy: basal metabolic rate, food energy. • Water: importance, functions.			
Nutrients (constituent of food) :-	**A) Carbohydrates** **B) Fats (lipid)** **C)Proteins** • Definitions, classifications, sources • Metabolism digestion, functions, • Recommended daily dietary allowance(RDDA) **D) <u>Vitamins</u>:** • Water soluble vitamins and C • Fat soluble vitamins: A.D.E.K • Source,function,RDDA,defeciency **E)<u>Minerals</u>:-** • Macro minerals: • Calcium, phosphorus, sodium Magnesium, sulfur, potassium • And chlorine. • <u>Microminerals</u>:iron, iodine, fluorine, manganese and zinc • Functions and sources	**6 hrs**	**3**	**—**
- Food composition table (Nutritive values).	• Food groups • Nutritional problems or diseases • Related to a specific Nutrient	**2 hrs**	**1**	**—**
HEALTH EDUCATION				
Introduction to health education:	**Definitions :** • Health Education and some related definitions to H.E. **Health Behaviour & H.E.** • Health, illness and behavior. • Changes in behavior. • Helping people to lead healthier Lives.	**2 hrs**	**1**	**—**
H.E. with Individuals & with Groups :	**<u>H.E. with Individuals</u>** : • The purpose of counseling • Rules for counseling • Different types of counseling • Facilitating decisions and follow • through. **Health Education with Groups** : • What is a group. • Formal groups and informal	**4hrs**	**2**	**—**

Unit	Topic	No.of hrs	Lec-ture	Practical
	• gatherings. • Behaviour informal groups. • The value of group education. • Education with informal group.			
Communicating the Health Mes-sage:	**- Methods and Media.** • Health talks. • Posters. • Radio. • Television etc.	**2 hrs**	**1**	**—**
FAMILY PLANNING				
Introduction to family plan-ning:	• Definitions **,**Goals ,Fundamentals**.** • Advantage of F.P in Society, Health, Economics. • Rules for counseling • Importance, Religions views	**2 hrs**	**1**	**—**
Maternal &Child Care:	- **Maternal care**: • pre natal, labor & post natal care. **-Child care**: • Safety Childhood.	**2 hrs**	**1**	**—**
Type of F.P. Tools:	- Definition ,Classifications , • Mode of action, Uses. • Advantage- Disadvantage of each tool.	**2 hrs**	**1**	**—**
Sexual Diseases:	- Types - Cure - how to prevent Some late stage diseases.	**2 hrs**	**1**	**—**
Total		**32 hrs**	**16**	**—**

4– Teaching and Learning Methods

4.1- Lectures, Discussion.

4.2- Role - Play.

5- Student Assessment Methods

Evaluation of the students will be done by:

5.1 Semester Work. to assess Intellectual ,General and Transferable Skills

5.2 Reports. to assess Intellectual , Professional and Practical Skills.

5.3 MCQs& Examination. to assess Knowledge, Understanding ,Professional Skills.

Assessment Schedule

Assessment 1 Semester Work	Week (4-6)
Assessment 2. Mid term Examination	Week (8)
Assessment 3. Formative exam	Week (12)
Assessment 4. Final Examination.	Week (16)

Weighting of Assessments

Semester Work.	10 %
Med term Examination	20%
Final Examination	70 %
Total	100%

Any formative only assessments.

6- List of References

6.1- Course Notes

Handout .

6.2- Essential Books (Text Books)

Library books

6.3- Recommended Books

1. Commuinity health Nursing (Promoting & protecting the puplic health) Allender , Judith.
2. Use of guidlines for making pregnancy safer and family planning, W.H.O
3. Evad.Wilson and others (Principles of Nutrition) 4th edition.
Wilcy & Sons - New York.
4. Kranse and Mahan (Food,Nutrition and Diet Therapt) 7th edition
W.B. Saundars Company - Philadelphia.
5- World Health Organization - Amanual on health education in primary health Care - W.H.O. Geneva - 1988.
6. John Gibson, Health Personal and Communal. 4th edition 1976.
Faber and Faber - London and Boston.

6.4- Periodicals, Web Sites … etc

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Books -handouts.
* Posters.
* Flannel graphs.

Course Specifications Of English Language & Medical Terminology II

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (85)
Department offering the programme:- Pharmacy Section.

Department offering the course:-English language & medical terminology II

Academic year / Level 1st year/2nd semester

Date of specification approval :- 8 - 2007

A- BASIC INFORMATION

Title: English II	Code:	
Credit Hours: 2 hrs	Lecture: 2hrs	
Tutorial: None	Practical: None	Total: 2hrs

B- PROFESSIONAL INFORMATION

1 – OVERALL AIMS OF COURSE

1. Provide the student with basic principles in English language including reading, writing, listening and grammar with some medical terms.
1. To improve the students for reading, extracting and handling the information from some short passages.

2 – INTENDED LEARNING OUTCOMES OF COURSE (ILOS)

a- KNOWLEDGE AND UNDERSTANDING:

a1- Correct the mistakes in grammar in some passages.
a2- Extract the information from some short passages.
a3- Define some medical terms.

b- INTELLECTUAL SKILLS

b1- Use correct verbs and grammar in writing.

c-PROFESSIONAL AND PRACTICAL SKILLS

c1- Write reports and letters Correctly empty of grammatical defects

4- GENERAL AND TRANSFERABLE SKILLS

d1- Interact effectively with patients, the public and health professionals.

D2- Reflect on the use of communication skills in counter prescribing.

3- CONTENTS

Unit	Topic	No. of hours	Lect.	Pract.
Reading	• Immunity and immunization • Foods for thought • Malaria • Cholera • Epidemic diseases	4	2	—
Grammar	▪ Punctuation ▪ Articles ▪ Phrases ▪ Conditionals ▪ Prepositions	6	3	—
Writing	▪ Report writing ▪ Letter Writing: • Applications / communications such as business correspondences • Official communications and acknowledgements.	6	3	—
listening	• Anemia • Losing weight • Safe water and foods	4	2	—
Medical Terminology	• **Pharmacological Terminology:** ▪ Classification of drug actions, pharmacokinetics, and systemic classification of drugs. ▪ Autonomic, CNS, cardiovascular, and renal system. ▪ Chemotherapy, locally acting, vitamins and hormones. **Pathology and Diagnosis:** - Infectious diseases. - Rheumatic diseases. - Peptic ulcers. - Surgical operations. - Skin diseases. - Gynecological diseases. - Laboratory investigational terms. Other familiar medical terms and abbreviations	12	6	—
Total		**32hrs**	**16**	**—**

4– Teaching and Learning Methods

4.1- Lectures

4.2- Group discussion
4.4- Seminars
4.5- Reports

5- Student Assessment Methods

5.1- Participation& semester work	to assess intellectual skills
5.2- Mid term exam	to assess the knowledge & understanding
5.3-Final term exam	to assess the knowledge & understanding

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 Formative	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10	
Mid-Term Examination	20	%
Final-term Examination	70	%
Total	100	%

6- List of References

6.1- Course Notes
Handouts.

6.2- Essential Books (Text Books)

6.3- Recommended Books

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Data show

Course Specification of Pharmacognosy and Phyto-chemistry

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (88 -89 – 90 – 91)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pharmacognosy and Phytochemistry
Academic year / Level:-1st year /2nd semester

Date of specification approval:-8 - 2007

A- Basic Information

Title: Pharmacognosy and Phytochemistry Code:
Credit Hours: 3 hrs Lecture:2hrs
Tutorial: None Practical:1hr Total:3hrs

B- Professional Information

1 – Overall Aims of Course

At the end of the course, the student will acquire scientific knowledge about Pharmacognosy in general and Phytochemistry specially , crude plants and there cultivation ,collection storage ,package and adulteration ,classification of plants according to active constituents and its latencies names and important therapeutic uses

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Define crude drugs and how to protect its active constituents
a2- Recognize latencies nomenclatures of medicinal plants
a3- Determine importance of medicinal and therapeutic activity of different active constituents in plants.
a4-Expline how plants used as drugs
a5- Identify different drugs containing active constituents from natural origin

b- Intellectual Skills

b1- Explain how to deal with crude drugs
b2- Different between Pharmacognosy and Phytochemistry

c- Professional and Practical Skills

c1- Integrate his knowledge in cultivation and collection of medicinal
c2- Recognize different natural herbal medicine in pharmacies
c3– Deal with different drugs and by its key elements and its adulteration under microscope

d- General and Transferable Skills

d1- Give advice about natural plant and its active constituents used as drugs
d2- Advice people to use different herbs as drugs for different disease

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
I	**Introduction** The scope of Pharmacognosy , and history the crude drugs , its collection , cultivation , storage package and adulteration	8	4	2
II	**Drugs of Animal origin** - Honey - Yellow bee wax , white Bee wax - Cod liver oil - Wool fat - Gelatin - Chalk - Liquorices - Senega - Horse chestnut - Ginseng **d) Cyanogenetic Glycoside** • Introduction • Chief drugs Containing Cyanogenetic Glycoside ((Origin, family , Active Constituents and uses)) • Cherry laurel • Bitter almond • Lin seed **e) Glucosinolate** • Introduction & definition • Chief drugs Containing Glucosinolate ((	4	2	2

Unit	Topic	No. of hours	Lecture	Practical
	Origin, family , Active Constituents and uses)) o Mustard seed o Black m.s o White m.s **f) Flavonoids** • Definition and Introduction • Chief drugs Containing Flavonoids ((Origin, family , Active Constituents and uses)) 1. Ruta 2. Citroflavonoids			
	Volatile oil :-Introduction and definition - Camphor - Turpentine - Funnel - Anise - Thyme - Eucalyptus - Juniper - Peppermint - Clove - Ammivisnaga	4	2	2
	Tannins • Introduction and definition • Galls • Hamamelis barks and leaves	4	2	2
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1-Lectures
4.2- Seminar
4.3- medicinal plant collection
4.4- practical

5- Student Assessment Methods

5.1- Participation& semester work — to assess intellectual skills
5.2- Mid term exam — to assess the knowledge & understanding

5.3-Final term exam	to assess the knowledge & understanding
5.4- Practical exam	to assess the practical skills.
5.5- Quizzes	to assess the knowledge & understanding

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 practical	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

6- List of References

6.1- Course Notes
Handouts

6.2- Essential Books (Text Books)

1. Pharmacognosy Trease and Evans
2. Pharmacognosy Varro E. Tyler

6.3- Recommended Books

النباتات الطبية والعطرية في اليمن
(محمد الدبعي)

7- Facilities Required for Teaching and Learning

- White board & Marker
- Over head projector
- Data show
- Lab materials , slide, etc….)

Course Specifications Of Computer

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (94 - 95)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Computer
Academic year / Level:-1st year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Computer Code:-
Credit Hours: 1 hr Practical: - 1hr Total: - 1hr

B. Professional Information:

1- Course Aims:

Acquiring essential skills for using application Programs as Word, Excel, Windows and internet.

2- Intended learning outcomes from the course:

a- Knowledge and understanding:

- Describe hardware and soft ware components
- Recognize software programs :

Word , Excel , Windows , Power point , Internet

b- Intellectual skills:

b1- Differentiate between making Table in word and in Excel
b2- Design power point slide

- Recognize software programs :
- Word , Excel , Windows , Power point , Internet

c- Professional skills:

- Apply different programs in very good ability

d-General and transferable skills:

- Use computer programs in different fields.

3- Course content:

Unit	Topic	No. of hours	Practical
I	**Introduction:** **Definition input, out put deices** • Memory • Gradations of computer Storage media **Windows (2000):** • How to use mouse ,fundamentals and rules • How to create directory , copy it , files or folders • How to create icons, short cut to any programs • Control panels and its components or icons	4 4	2 2
II	**Word (office xp):** **1-Definition of view page, application** • Title bar • Main new bar • Standard tool bar • Formatting tool bar • Write English paragraph , Arabic and convert from language to another **2-Creat table and its usage** **3-Save, Save as functions** **4-Exit from program**	4	2
III	**Excel** **Definition** • Title bar • Main new bar • Slandered tool bar • Formatting bar	8	4
IV	**Power point** :- how to make slide for presentation	6	3
V	**Internet and Communication**	6	3
Total		**32hrs**	**16hrs**

4. Teaching and learning methods:

- Practical

- Dissuasion

5- Student Assessment Methods:

1- Participation& semester work to assess intellectual skills
2- Mid term exam to assess the knowledge & understanding
3-Final term exam to assess the knowledge & understanding

Assessment schedule:

Assessment 1- Semester work weak (4 – 7)
Assessment 2- Mid term exam weak 8
Assessment 3- Final term exam weak 16

Weighting of Assessments

- Semester work exam 10%
-Mid term exam 20%
-Final term exam 70%
Total 100%

6. List of textbooks & references:

- Computer
- Lagrange and Nancy Lang
- Fowth edition , 2000 by hall, Inc, new jersey- Ust
- Windos 2000 for dummices
- Andy Rath bone – 1998 by ID6 books
- Won wide, Inc USA

7. Facilities required for teaching & learning:

- White board & marker
- Book hand out
- Data show
- Computer

Course Specification Template For Pathology

COURSE SPECIFICATIONS:

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (98 - 99)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pathology
Academic year / Level:-1st year /2nd semester

Date of specification approval:-8 – 2007

BASIC INFORMATION:

Title: psychology	Code:	
Credit Hours: 2hrs	Lectures: 2hrs	
Tutorial: None	Practical: None	Total: hrs

PROFESSIONAL INFORMATION

1-AIMS OF THE COURSE:

1. Acquire an appropriate background of pharmacology, microbiology……..ect.
2. Integrate pathological data &effect of diseases on the body.
3. Follow the rapidly changing deferent function by diseases.

2-INTENDED LEARNING OUTCOMES:

KNOWLEDGE and UNDERSTANDING:

At the end of the course the student is expected to be able to :

a1. Recognize abnormal changes in human body
a2. Identify the needs of drugs. To adjust the abnormality of human.
a3. Describe & explain the causes of diseases.
a4. Describe & explain the symptoms of diseases.
a5. Describe & explain the different between normal state & diseases state.
a6. Describe some pathological poses & their relation to diseases.
a7- Describe affect the drugs on diseases,

b-INTELLECTUAL SKILLS:

b1. Interpret the most important of pathology.

b3. Integrate pathology and clinical sciences.

b3-Relate the signs and symptoms to different diseases.

c-PRACTICAL SKILLS:

c1. Perform the indication of patient for diseases

c2. Perform solve problems of diseases

d-GENERAL SKILLS AND ATTITUDES:

d1. Work separately of different diseases by scientific topic

d2. Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day.

3-COURSE CONTENTS:

Unit	Topic	No. of hours	Lec.	Pract.
Introduction :	**Path physiology of immunity** • Infection process. • Transplantation of immunity. • Immunosuppression	2	1	—
Disorder of acid-base equilibrium:	• Metabolic acidosis with Alkalosis • Respirator acidosis with alkalosis • Dehydration and Hyper hydration • Edema and Ascites • Sodium and Calcium disorder • Depolarization and re-polarization of cell membrane.	4	2	—
Disorder of metabolism :	• Metabolic disorder protein • Metabolic disorder of saccharides • Metabolic disorder Lipids. • Metabolic disorder Vitamins	2	1	—
Pathophysiology of Thermoregulation Centre	• Pathophysiological effect of warmth. • Pathophysiological effect of cold	2	1	—
Pathophysiology of Blood :	• Plastic anemia • Granulocytopenia • Pathophysiology of Erythrocyte	4	2	—
Pathophysiology of Cardovascular System:	• Leucaemia • Disorder of homeostasis. • Pathophysiology of CHF.	4	2	—

Unit	Topic	No. of hours	Lec.	Pract.
	• Pathophysiology of Metabolism of myocardium. • Disorder of coronary circulation			
Breathing patho-physiology :	• Ventilation disorder • Diffusion disorder • Pulmonary circulation disorder • Bronchial asthma	2	1	—
Urinary System :	• Kidney disorder • Renal hypertension	2	1	—
Digestive System :	• GIT disorder: • Stomach	2	1	—
Liver, Biliary , System :	Liver disorder: • hepatitis. • Icterus • Biliary system disorder	2	1	—
Endocrine Sys-tem: Hormons	• Hypophysis / Adenohypohysis • Diabetes Mellitus • Pituitary and Thyroid gland	2	1	—
Disorders of Joints :	• Rickets • Tumors bones	2	1	—
Sexual transmit-ted disease	• AIDS • Gonorrhea • Syphilis	2	1	—
Total		**32hrs**	**16**	—

4- Teaching and Learning Methods:

1- Lectures
2- Discussion

5- Student Assessment Methods:

1- Participation& semester work to assess intellectual skills
2- Mid term exam to assess the knowledge & understanding
3-Final term exam to assess the knowledge & understanding
4- Practical exam to assess the practical skills.

Assessment schedule:

Assessment 1- Semester work	weak	(4 - 6)
Assessment 2- Mid term exam	weak	8
Assessment 3- Final term exam	weak	16

Weighting of Assessments

-Semester work	10%
-Mid term exam	20%
-Final term exam	70%
Total	100%

6- List of References:

-Essential pathology
-Basic pathology
-Epidemic pathology
- Genital pathology
Endocrine pathology
- Periodicals, Web Sites … etc

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
*Data show

Course Specifications Of Organic Chemistry

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (103)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Organic Chemistry
Academic year / Level:-1st year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title : : generic and organic chemistry — Code:
Credit Hours: 3hrs — Lecture: 2hrs
Tutorial: None — Practical:1hr — Total:3hrs

B- Professional Information

Overall Aims of Course

1. To provide all knowledge about concept of chemistry and how to formed drug formula from individual atoms.
2. To provide the properties of the constituent atoms and how its influence by molecular structure and reactivity .
3. To understanding fundamental concepts of chemical bonds.
4. To gain knowledge about intamolecular active force.
5. To know how to nomenclature each group of organic chemicals

2 – Intended Learning Outcomes of Course (ILOs)

Knowledge and Understanding:

1. Describe basic chemical principles including the structure of the atom, chemical bonding and the periodic table, and also apply the concept of orbital hybridization
2. Describe the concept of functional groups and how these groups give rise to characteristic properties
3. Describe the stereoisomer.
4. Describe how the reactivity of organic compounds can be related to Lewis and hybridization models for bonding.
5. Describe the classification of organic molecules
6. Explain how to nomenclature of organic compounds.

Intellectual Skills

1. Able to solve problem depend on given in formation
2. Nomenclature the different groups of compounds

Professional and Practical Skills

1. Prepare different types of drugs from organic compounds
2. Modify some compounds to get required group of drugs

General and Transferable Skills

1- Work in teams in researching groups
2 – Analyze and evaluate different data

3- Contents

Unit	Topic	No.hrs	Lecture	Practical
• **Introduction to general chemistry**	• Periodic table of elements • Mendeleev's periodic table • Modern periodic table.	**4hrs**	**2**	**—**
• **Types of chemical bonds** • **Electro distribution in atoms** • **Intramolecular active force**	• Ionic bonds, covalent bonds, metallic bonds. • Lewis electron and orbital hybridization . • Vander Waals force • Hydrogen bonding force	**6hrs**	**3**	**2**
• **Classification of organic molecules** • **Stereoisomer**	• Types of Hydrocarbons (aliphatic and aromatic), cyclic and uncyclic , saturated and unsaturated. stereoisomer's	**8hrs**	**4**	**4**
• **Nomenclature of organic compounds**	• Structure , reaction and nomenclature of aliphatic hydrocarbons, Alkanes, alkenes, alkynes, alcohol, ether, aldehydes, ketones, alky halides, carboxylic acids, amines • Structure , reaction and nomenclature of aromatic hydrocarbons, Benzene, phenol, halogen derivatives of benzene. • Structure , reaction and nomenclature of heterocyclic groups, amino acids and carbohydrates	**14hrs**	**7**	**10**
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- lecture
4.2- Discussion in groups
4.3 – Researching in groups for different topics as assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.
5.5- Quizzes to assess the knowledge & understanding
5.5- Workbook Assignments to assess the general and transferable skills.

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 practical	Week 14
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

6- List of References

6.1- Course Notes
Handouts
6.2- Essential Books (Text Books)
JG Smith, Organic Chemistry, McGraw-Hill, New York USA.
PY Bruice, Organic Chemistry, Fifth Edition, Pearson Prentice Hall,, New Jersey USA

7- Facilities Required for Teaching and Learning

- White board & Markers
- Over head projector
- Data show
- Lab (pharmaceutical materials, glass wares, balances, etc….)

Course Specifications Of Pharmacology I

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (106)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pharmacology I
Academic year / Level:-1st year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Pharmacology I Code:
Credit Hours: 3hrs Lecture: 2hrs
Tutorial: None Practical:1hr Total:3 hrs

B- Professional Information

1 – Overall Aims of Course

1. Giving knowledge about the pharmacokinetic of drugs (absorption, distribution, metabolism and excretion).
2. To provide the student with the knowledge concerning Pharmacodynamic of drugs (mechanism of drug action & their biological effects on different body organs and drug-protein binding) and dosage form of drugs (advantages & disadvantages).
3. To provide the student with the knowledge concerning use & their side effects (drug toxicity, abuse, and their misuse).
4. Giving the types of drug-drug interactions.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Define the drugs affecting Eye.
a2- Identify action and indication of the drugs.
a3- Recognize the side effects of various drugs .
a4- Explain Mechanism of action of drugs affecting autonomic nervous system.
a5- Identify the abbreviations used in pharmacology.

b-Intellectual Skills

b1- list precaution to be taken for each drug.

b2- Deal with patient when side effect occurred.

c- Professional and Practical Skills

c1- Perform some experiments in pharmacology.

d- General and Transferable Skills

d1- Present scientific topics in seminar.
d2- work as team.

3- Contents

Unit	Topic	No. of hours	lecture	Practical

Introduction	• General pharmacology Definitions.
	• Drug source & classification.
	• Pharmacokinetic:-Absorption, Distribution, bio transformation & Excretion.
	• Routes of drugs administration
	• Pharmacodynamics: –
	  ○ Theory of receptor
	  ○ drug-protein binding
	• Adverse drug effects.
	• Drug-drug interaction.
		14	7	7

Autonomic Nervous System	• Introduction to A.N.S. • Sympathomimetic agents. • Sympatholytic agents. • Parasympathomimetic agents. • Parasympatholytic agents. • Drugs acting on ganglia	14	7	7
Pharmacology of Eye	• Drugs used in glaucoma • Mydriatics. • Miotics. • Miscellaneous ophthalmic drugs.	4	2	2
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Group discussion.
4.3- practical

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding

5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 practical	week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Semester work	10%
Mid-Term Examination	20%
Final-term Examination	50%
Practical Examination	20%
Total	100%

6- List of References

6.1- Course Notes
Handouts

6.2- Essential Books (Text Books)

- Rang, Dale and Ritter Pharmacology (2000)
- Katzung –Basic and Clinical Pharmacology (2001)
- Laurence, Bennett and Brown-Clinical pharmacology (1997)
- Goodman & Gilman's- The pharmacological basic of therapeutics (1995)
- British National Formulary (BNF) (2002)
- Lippincot's pharmacology

6.3- Recommended Books
6.4- Periodicals, Web Sites … etc

7- Facilities Required for Teaching and Learning

- White board & Markers
- Over head projector
- Data show

SECOND YEAR
COURSE SPECFICATION

FIRST SEMESTER

Course Specification Of Biochemistry

COURSE SPECIFICATIONS:

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (112 - 113)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Biochemistry
Academic year / Level:-2nd year /1st semester

Date of specification approval:-8 – 2007

BASIC INFORMATION:

Title: Biochemistry Code:
Credit Hours: 3hrs Lectures: 2hrs
Tutorial: - None Practical: 1hr Total: 3hrs

PROFESSIONAL INFORMATION

1-AIMS OF THE COURSE:

1. Acquire an appropriate functional background of carbohydrates, lipids, proteins& enzymes.
2. Integrate biochemistry data & mechanisms with the ongoing basic sciences: botany, nutrition, pharmacology, physiology and clinical applications.
3. Develop the basic scientific research skills as well as effective communication and team work attitudes.

2-INTENDED LEARNING OUTCOMES:

a- KNOWLEDGE and UNDERSTANDING:

a1. Describe & explain the function, classification, molecular structures of carbohydrate, lipids, proteins& enzymes.
a2. Describe & explain the metabolic pathways of carbohydrates, lipids, proteins& enzymes.
a3. Describe & explain in molecular terms all chemical process of living cells.
a4. Describe some biophysical laws & their relation to biochemistry.

b-INTELLECTUAL SKILLS:

b1. Interpret the most important biochemistry laboratory results (blood, cholesterol, TG….).
b3. Integrate biochemistry with other basic and clinical sciences.

b3-Relate the signs and symptoms to the molecular basis of diseases.

c-PRACTICAL SKILLS:

c1. Perform hematological tests: estimation of blood Hb, bleeding & clotting times & blood group.

d-GENERAL SKILLS AND ATTITUDES:

d1. Work separately or in a team to research and prepare a scientific topic.

d2. Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day.

3-COURSE CONTENTS:

Unit	Topic	No. Of Hours	Lecture	Practical

Introduction	• The Chemistry of carbon Atom,
	  ○ Definition
	  ○ Composition with low Molecular weight.
	  ○ Composition of small units
	  ○ Amino Acids - simple sugar.
	• Classification: carbohydrate, lipid, protein……..ect
		6	3	—

Carbohydrate metabolism	• Glycolysis • Citric acid cycle • Glycogenesis and glycogenolysis • Hexose monophosphate shunt • Uric acid pathway • Blood sugar and its regulation. • **Tests used to diagnose and manage diabetes mellitus**.	8	4	4
Lipid metabolism	• Oxidation of fatty acids • Biosynthesis of fats • Ketogenesis and ketosis • Metabolism of cholesterol • Essential fatty acid and eicosanodis phospholipids • Sphingolipids. • lipid disorders	6	3	4

Metabolism of amino acid and proteins	• General biochemical reaction of amino acids like
	  ○ Transamination
	  ○ Deamination
	  ○ Decarboxylation.
		8	4	4

Unit	Topic	No. Of Hours	Lecture	Practical
	• Amino acids and plasma proteins Aminoacidurea, albumin and immunoglobulins • Metabolism of sulfur containing amino acids. • Urea cycle • Nitrogen balance ○ Biosynthesis of salts and bile pigments			
Metabolism of nucleic acids	• Biosynthesis and catabolism of purines and pyrimidines containing nucleotides.	4	2	4
Total		**32hrs**	**16**	**16hrs**

4- Teaching and Learning Methods:

1- Lectures
2- Discussion
3- Lab. Work

5- Student Assessment Methods:

1- Participation& semester work	to assess intellectual skills
2- Mid term exam	to assess the knowledge & understanding
3-Final term exam	to assess the knowledge & understanding
4- Practical exam	to assess the practical skills.

Assessment schedule:

Assessment 1 Semester work	week 4
Assessment 2 Mid term exam	week 8
Assessment 3 Practical	week 12
Assessment 4 Final term exam	week 16

Weighting of Assessments

-Semester work	10%
-Mid term exam	20%
-Practical exam	20%
-Final term exam	50%
Total	100%

6- List of References

.1- Course Notes

-Handout Texts

.2- Essential Books (Text Books)

-Harpers review of biochemistry / Lippincot's Biochemistry

3- Periodicals, Web Sites … etc

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Lab instruments.

Course Specifications of Pharmaceutics III

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (117 - 118 – 119)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pharmaceutics III
Academic year / Level:-2nd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Pharmaceutics III — Code:
Credit Hours: 3 hrs — Lecture: 2hrs
Tutorial: None — Practical: 1hr — Total: 3hrs

B- PROFESSIONAL INFORMATION

1 – OVERALL AIMS OF COURSE

1. To provide student with a detailed knowledge and understanding solid dosage forms like tablets and capsules.
2. To provide the student with the knowledge about the theoretical principles outlined in the syllabus in relation to pre-formulation concepts, design and formulation of a solid dosage forms.
3. Ability in applying their theoretical knowledge to the formulation of proprietary dosage forms discussed in this syllabus and an understanding of the manufacturing processes involved in the preparation of solid dosage forms.

2 – INTENDED LEARNING OUTCOMES OF COURSE (ILOS)

a- KNOWLEDGE AND UNDERSTANDING:

a1- Demonstrate the tableting methods.
a2- Explain the principles of pre-formulation of pharmaceutical dosage forms.
a3- Describe effect excipients on the physical properties of solid dosage form.
a4- Explain the principles of design and formulation of pharmaceutical solid dosage forms.
a5-Define the coating methods for tablets and capsules and its equipments.

a6- Enumerate the problems occur during tablet preparation process and the methods used to overcome it.
a7- Describe the disintegration and dissolution of drug formulations

b- INTELLECTUAL SKILLS

b1- Choose the best method to obtain a good and stable preparation.
b2-Identify the drug manufacturing relating problems and solve it.
b2- Correctly choose the excipients to make good pharmaceutical product.

c-PROFESSIONAL AND PRACTICAL SKILLS

c1- Prepare of tablet and capsule.
c2- Perform quality control for pharmaceutical dosage form.
c3- Formulate a cosmetic preparation.

d- GENERAL AND TRANSFERABLE SKILLS

d1. Work separately or in a team to research and prepare a scientific topic.
d2. Present clearly and effectively scientific topic in a tutorial, a staff meeting.

3- Contents

Unit	TOPIC	No. of hours	Lect.	Pract.
Powders and granules	• Types of powders • Advantages and disadvantages of powders, • Cachets and Tablet triturates. • Preparation of different types of powders encountered in prescriptions. • Weighing methods, possible errors in weighing • Minimum weighable amounts and weighing of material below the minimum weighable amount • Geometric dilution and proper usage and care of dispensing balance. • Granules • Effervescent granules ▪ Formulation ▪ preparation	4	2	2
Solid dosage form	• **Compressed tablets** ▪ Introduction ▪ Advantages and disadvantages. ▪ Types of compressed tablets.	8	4	4

Unit	TOPIC	No. of hours	Lect.	Pract.
	▪ Tableting methods o Direct compression o Dry granulation o Wet granulation ▪ Technology of production of granules on large scale by various techniques. ▪ Tablet excipients ▪ Large scale production of tablets. ▪ Tablet press machines ▪ Problems encountered during tablet formulation. ▪ Standards quality control tests for tablets. ▪ Tablet coating o Types of coating o Film forming materials o Common polymers used for tablet coating. o Formulation of coating solution o Equipments for coating Coating process evaluation of coated tablets.			
	• **Hard and soft gelatin capsules** ▪ Hard gelatin capsules o Advantages and disadvantages o Composition of capsule shell o Selection of capsule size. o Excipients used in hard gelatin capsule formulation. o Enteric coating of capsules. o Capsule filling process. o Storage of hard gelatin capsules. ▪ Soft gelatin capsules o Advantage and disadvantages. o Capsule shell composition. o Shapes and sizes. o Soft gelatin capsule formulation. • Soft gelatin capsule filling process.	6	3	6
Sustained release oral dosage forms	• Introduction. • Advantages and disadvantages. • Drugs that can be good candidates for sustained release formulation. • Methods to obtain sustained release o Pharmaceutical o Chemical o Biopharmaceutical	4	2	-

Unit	TOPIC	No. of hours	Lect.	Pract.

Microcapsulation	• Types of microcapsules
	• Importance of microencapsulation in pharmacy
	• Micro-capsulation by
	  ○ Phase separation co-aservation multiori-fice
	  ○ Spray drying
	  ○ Spray congealing
	  ○ Polymerization
	  ○ Complex emulsion
	  ○ Air suspension technique
	  ○ Coating pan and other techniques.
		6	3	-

Cosmeticology and cosmetic preparation	• Fundamentals of cosmetic science
	• Formulation
	• Preparation
	• Formulation and manufacture of perfumes
	• Cosmetics for
	  ○ Skin
	  ○ Hair
	  ○ Facial
	• Deodorants
	• Antiperspirants
	• Shampoos, Hair dressing and Hair removers
	• Dentifrice and Manicure preparation like
	  ○ Nail polish
	  ○ Lipsticks etc.
		4	2	4

Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Practical
4.3- Large or small group discussion
4.4- Small Group Projects
4.5- Independent Research

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding

5.4- Practical exam to assess the practical skills.
5.5- Quizzes to assess the knowledge & understanding
5.5- Workbook Assignments to assess the general and transferable skills.

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 practical	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

6- List of References

6.1- Course Notes

Handouts.

6.2- Essential Books (Text Books)

4. Aulton ME *Pharmaceutics: The Science Of Dosage Form Design* Living-stone, 1988
5. Collett D M And Aulton M E *Pharmaceutical Practice* Churchill Living-stone, 1990
6. Winfield and Richards Pharmaceutical Practice, 3rd Edn, 2004.
7. S J Carter, Cooper and Gunn's Dispensing for pharmaceutical students, 12th Edn.
8. Martindale W *The Extra Pharmacopoeia* 30th Edn, Pharmaceutical Press, 1993
9. Pharmaceutical Press *The Pharmaceutical Codex* 12th Edn, Pharmaceutical Press, 1994
10. Remington's Pharmaceutical Sciences.

7- Facilities Required for Teaching and Learning

- White board & Marker
- Over head projector
- Data show
- Lab (pharmaceutical materials, glass wares, balances, etc….)

Course Specifications Of Scientific Research Methodology

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (123)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Scientific Research Methodology
Academic year / Level:-2nd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Method of scientific research Code:
Credit Hours: 1 hr Lecture: 1hr
Tutorial :- None Practical: None Total: 1 hr

B- Professional Information

1 – Overall Aims of Course

*This course is designed to help and provide student with scientific knowledge skill and attitudes them to under take the step of scientific research

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding

a1- Explain the basic concept of research
a2- Identify the general concepts sample , and planning for sample collection

b- Intellectual Skills

b1- Describe different method of information collection, and select the most appropriate method according to the need of research

c-Professional and Practical Skills

c1.Utilize the step of the research process and explain the basic of research

d-General and Transferable Skills

d1-Prepare of final report including recommendation for implementation of the research finding
d2-Evaluate and management plan for scientific research.

3- Contents:

Unit	Topic	No. Of hour	Practical
INTRODUCTION	• Definition of scientific research • Type of research	1	1
Research Methodology	• Definition and identification of the problem • Ethical issues in research	2	2
Collection of information	• Research Method • Scientific observation • Questionnaire • Interview	3	3
Presentation of results	• interpretation of result • conclusion and result	3	3
Writing report	• Title • Acknowledgement • Table of content • Introduction • Aim of study • Material and Method • Result • Discussion • Conclusion • Recommendation • Reference • Summary • Appendix	7	7
Total		**16hrs**	**16**

4– Teaching and Learning Methods

4.1-Lecture
4.2-Group discussion
4.3-Seminar

5- Student Assessment Methods

5.1- Semester Work. to assess Intellectual ,General and Transferable Skill
5.2- Writs. Research. to assess Knowledge and Understanding skill
5.3-Mid-Term Exam. to assess …knowledge,understanding,professional and practical skill..
5.4-Final Exam to assess knowledge, understanding, professional and practical skill

Assessment Schedule

Assessment 1 Write Reports….	Week 2
Assessment 2 Mid-Term Exam	Week 8
Assessment 3 Write Report.	Week 7
Assessment 4 Final Exam	Week 16

Weighting of Assessments

Mid-Term Examination	20%
Final-term Examination	60%
Semester Work	10 %
Writing report	10%
Total	100%

Any formative only assessments

6- List of References

6.1- Course Notes

……Handout texts……..

6.2- Essential Books (Text Books)

أساليب البحث العلمي في العلوم الاجتماعية والإنسانية

***-مناهج البحث العلمي**

***-كيف تكتب بحثا أو رسالة (دراسة منهجية)**

***- أساسيات البحث العلمي.**

7- Facilities Required for Teaching and Learning

*White board & marker

* Data show

Course Specifications For Medical Equipment and Materials

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (126)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Medical equipment & Materials
Academic year / Level:-2nd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Medical equipment & Materials Code:
Credit Hours: 1hr Lecture: 1hr
Tutorial: - None Practical:-None Total: 1hr

B- Professional Information

1 – Overall Aims of Course

At the end of the course the student will acquire knowledge and skill in most types of medical equipment and material to enable him to meet the need in his field

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Identify the types of medical instrument and material -
a2- Identify how care with all type of this equipment
a3- Classify of the medical equipment and materials

b- Intellectual Skills

b1-Recognize the all type of medical equipments ant material and its used
b2- Differentiate between types of surgical instrument
b3- Differentiate between the instruments for any medical department

c- Professional and Practical Skills

c1- Handle with care all medical instrument-

d- General and Transferable Skills

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
I	• **INTRODUCTION** • Physical and chemical properties of materials ▪ Rubber and plastic ▪ Glass ▪ Metals ▪ Fibers	2	2	——
	• **Metals (stainless steel)** • Surgical instruments • Forceps (all type with its used) • Scissors (all types with its used) • Circumcision Instruments • Other surgical instruments (stitch needle, surgical blade) • Syringes and Needles • Containers • Other metal instruments	4	4	
	• **Glass (types and uses)** • Containers for drugs • Lenses • Slides • Others	2	2	
	• **Fibers and cotton (types, uses)** • **Surgical dressing** ▪ **Gauze** ▪ **Adsorption cotton** ▪ **Stitch threads** ▪ **Bandages** ▪ **Adhesive tapes (plasters)**	2	2	
II	• **Rubber and plastic** • Vial covers (types and uses) • Plastic containers (types and uses) • Catheters (types and uses) • Others (canula, butterfly, syringes, glove,…..etc)	2	2	——
III	• **Equipments (principle, types, uses,)** ○ Suction equipments ○ Sphygmomanometer ○ Thermometers (medical ,non-medical) ○ Electrical equipment (autoclave, oven, incubators,) ○ Nebulizers	4	4	——
Total		**16hrs**	**16**	——

4– Teaching and Learning Methods

4.1-lectures
4.2-Demonstration
4.3-Visiting to medical supply store

5- Student Assessment Methods

5.1-Semester Work & presentation — to assess Intellectual, General and Transferable Skill.
5.2- Mid term Examination — to assess knowledge and understanding
5.3- final exam (M.S Q) — to assess knowledge and understanding

Assessment Schedule

Assessment 1 Semester work	Week 3
Assessment 2 Mid term	Week 8
Assessment 3 fnal exam.	Week 16

Weighting of Assessments

Semester Work	%١٠
Mid-Term Examination	%٢٠
Final-term Examination	% ٧٠
Total	100%

Any formative only assessments

6- List of References

6.3- Recommended Books
Health catalogue for drug fund…

7- Facilities Required for Teaching and Learning

* White board& marker
* Over head projector
* Data show

Course Specifications Of Microbiology And Parasitology

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (129 - 130)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Microbiology and Parasitology
Academic year / Level:-2nd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Microbiology and Parasitology Code:
Credit Hours: 3hrs Lecture: 2hrs
Tutorial: None Practicals: 1hr Total: 3 hrs

B- Professional Information

1-Aim of the course

1. To educate students about the basic features of general bacteriology, virology and Parasitology.
2. To familiarize students with the common infections and diseases of medical importance, their microbial causes, as well as laboratory diagnosis, treatment, prevention and control of such diseases.
3. To enable students to study the antimicrobial agents

2) Intended learning outcomes (ILOs)

a- Knowledge and Understanding:

a1- Explain the general bacterial morphology.
a2- Identify the host parasite relationship and microbial pathogenesis.
a4- Describe the morphology, culture, antigenic structure and virulence factors of microorganisms of medical importance.
a5- Recognize the most important infectious clinical conditions and outline the diagnosis, treatment, prevention and control of the most likely organisms causing such diseases.
a6- Describe the basics of antimicrobial agents (classification mode of action and uses)
a7- Describe the most important methods of Sterilization and disinfection.

a8- Identify the impact of molecular technology in microbiology and immunology.
a9- Recognize the properties of viruses, pathogenesis, diagnosis and prevention

b- Intellectual Skills:

b1- Interpret results of microbiological, serological tests.
b2- Categorize a microorganism as a bacterium, virus according to standard taxonomy.

c- Professional and Practical Skills

c1- Identify medically important bacteria based on microscopic examination of stained preparations.
c2- Perform a Gram stain and a Ziehl-Neelsen stain and identify, according to morphology and characteristics, stained preparations.
c3- Identify culture media and biochemical tests commonly used for bacterial identification and distinguish positive and negative results.
c4- Perform MIC and MBC by serial dilution method and by agar diffusion method

d- General and Transferable Skills

d1- Appreciate the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage.

3) Contents:

Unit	Topic	No. of hours	Lecture	Practical
I	**Introduction** • Definition of microbiology • Importance • Classification of microbial agents	2	1	——
II	**Systematic Bacteriology** • Staphylococci • Streptococci • Niesseria • Non-spore forming gram positive bacilli. • Spore forming gram positive bacilli • Mycobacterium • Vibrio • Mycoplasma and Ureaplasma • Chlamydia • Rickettsiae	8	4	7

Unit	Topic	No. of hours	Lecture	Practical
	• Spirochaetes			
III	**Systematic virology** • Picornaviruses • Orthomyxoviruses, paramyxoviruses • Rubella virus, Rabies virus • Arboviruses • herpesviruses • adenoviruses • Hepatitis viruses • Tumor viruses	8	4	—
IV	**3- Antimicrobial agents** • Antibiotics • Classification • Mode of action • Cell wall inhibitors • Cell membrane inhibitors • Anti-metabolites Antimicrobials that interfere with DNA • Antimicrobials that interfere with protein synthesis • Mechanisms of resistance • Antiviral agents • Antifungal agents	8	4	4
V	**Parasitology** • Introduction • Transmission routes • Classification of parasites ○ Amoebiasis ○ Giardiasis ○ Trichomoniasis ○ Ascariasis ○ Schistosomiasis ○ Taenia sp. ○ Malaria • Anti-parasitic drugs	6	3	5
Total		**32hrs**	**16**	**16 hrs**

4- Teaching and Learning Methods

4.1 Lecture
4.2 Practical class
4.3 Small group discussion with case study and problem solving

4.4 Seminar
4.5 Self-study

5- Student Assessment Methods

5.1 MCQ and short assay to assess knowledge and understanding
5.2 Problem solving to assess knowledge and understanding and Intellectual Skills
5.3 Practical exam to assess Professional and Practical Skills
5.4 Reports & seminar to assess General and Transferable Skills

Assessment Schedule

Assessment 1 med term	Week: 8
Assessment 2 Practical	Week: 12
Assessment 3 Final	Week: 16

Weighting of Assessments

Semester Work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100%

6- List of References

6.1- Pharmaceutical microbiology. Hugo
6.2 – principles of microbiology by alice lorraine smith , 7th edotion , saint louis .

7- Facilities Required for Teaching and Learning

1. Overhead projectors white board and markers.
2. Data show.
3. Slides and computer presentations used during teaching.
4. Microscope slides, laboratory instruments .

Course Specification Of Pharmacognosy And Phytochemistry

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (134 - 135)
Department offering the programme:- Pharmacy Section.
Department offering the course:- phytochemistry and pharmacognosy
Academic year / Level:-2nd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Phytochemistry and Pharmacognosy Code:
Credit Hours: 3hrs Lecture:2hrs
Tutorial: None Practical:1hr Total: 3hrs

B- Professional Information

1 – Overall Aims of Course

The student by the end of the course should be able to, identify different plants with there Latin name , Maine active constituents and uses
Also how to extract and purify such active constituents to be used therapeutically

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1-Identify different active constituents with there source and there uses
a2- Explain describe different methods of extraction of active constituents
a3- Identification and screen active constituents in plants .

b- Intellectual Skills

b1-Identify different plants and herbs as medicine and its uses
b2- Recognize the different dosage forms of natural plants used as drugs

c- Professional and Practical Skills

c1-Use different herbal remedies for treatment of different disease
c2-Utilize different methods for identify and screening the active constituents

have therapeutic activity

d- General and Transferable Skills

d1- Give advice to patient and other heath profession about use of natural plant as medicine

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
I	○ **Alkaloids** **- Introduction and definition** ○ **Leaves Alkaloids** - Atropa belladona - Datura - Hyoscyamus - Tobacco - Ephedra - Tea - Cacao - Catha - Jaborandi **Barks** - Cinchona - Pomegranate **Root and Rhizome** - Rauwolfia root - Ipeca cuanha **Fruit** - opium - capsaicin - Ergot - Curare - Seed - Nux vomica - Colchicum - Calabar - Fenugreek - Castor oil seed	12	6	5
II	○ **Fixed oils** - Olive Oil - Sesame oil - Corn oil - Iodized oil - Lanoline	4	2	2
III	○ **Resins**	4	2	3

Unit	Topic	No. of hours	Lecture	Practical
	Introduction and definition **Resins** - Colophony - Podophyllum - Jalap - Cannabis **Oleoresins** - Turpentine **Oleo – gum – resin** - Myrrh - Asafetida **Balsams** - Storax - Peru			
IV	**Chromatography**	4	2	1
V	**Extraction and Identification**	4	2	3
VI	**Quality control**	4	2	2
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1-lectures
4.2-group discussion
4.3-research
4.4-seminar

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.
5.5- Quizzes to assess the knowledge & understanding
5.5- Workbook Assignments to assess the general and transferable skills.

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 practical	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

6- List of References

6.1- Course Notes
handouts
6.2- Essential Books (Text Books)
parmacognosy trase and evans
Pharmacognosy varro E.tyler

7- Facilities Required for Teaching and Learning

5. Overhead projectors white board and markers.
6. Data show.
7. Slides and computer presentations used during teaching.
8. Microscope slides, laboratory instruments .

Course Specifications Of Pharmacology II

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (139)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pharmacology II
Academic year / Level:-2nd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Pharmacology II Code:
Credit Hours: 3 hrs Lecture: 2hrs
Tutorial: None Practical: 1hr Total: 3 hrs

B- Professional Information

1 – Overall Aims of Course

Providing the student with the knowledge and understanding about the mechanism of action, therapeutic uses, side effect and contraindication of drugs affecting gastrointestinal tract, cardiovascular and respiratory system.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Define the drugs affecting GIT, cardiovascular and respiratory system.
a4- Explain Mechanism of these drugs.
a5- Explain adverse effects of these drugs..

b-Intellectual Skills

b1- list precaution to be taken for each drug.
b2- Deal with patient when side effect occurred.

c- Professional and Practical Skills

c1- Perform some experiments in pharmacology.

d- General and Transferable Skills

d1- Present scientific topics in seminars.
d2- Work as team.

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
I G.I.T	• Antiulcer and antacid drugs • Emetics and antiemetic drugs • Liver disease and gallstones • Constipation & laxatives • Diarrhea & anti-diarrheal agents • Inflammatory bowel disease (IBD). • Anorexigenic agents • Appetizers. • Digestants. • Carminatives	12	6	6
II Cardiovascular System (C.V.S)	• Antihypertensive agents. • Drugs used in treatment of heart fail-ure. • Anti-anginal agents. • Anti-arrhythmic agents. • Drugs for shock • Hypolipidaemic agents	12	6	6
III Respiratory Sys-tem (R.S)	• Cough therapy • Respiratory stimulants • Drugs used in treatment of Bronchial Asthma. • Drugs used in treatment of Rhinitis.	8	4	4
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Group discussion.
4.3- practical

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.

Assessment Schedule

Assessment 1 mid term exam Week 8
Assessment 2 practical week 12
Assessment 3 final exam Week 16

Weighting of Assessments

Semester work	10%
Mid-Term Examination	20%
Final-term Examination	50%
Practical Examination	20%
Total	100%

6- List of References

6.1- Course Notes

Handouts

6.2- Essential Books (Text Books)

- Rang, Dale and Ritter Pharmacology (2000)
- Katzung –Basic and Clinical Pharmacology (2001)
- Laurence, Bennett and Brown-Clinical pharmacology (1997)
- Goodman & Gilman's- The pharmacological basic of therapeutics
  - (1995)
- British National Formulary (BNF) (2002)

7- Facilities Required for Teaching and Learning

- White board & Markers
- Over head projector
- Data show

SECOND YEAR
SECOND SEMESTER

Course Specifications Of Pharmaceutics IV

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (144)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pharmaceutics IV
Academic year / Level:-2nd year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Pharmaceutics IV Code:
Credit Hours: 3hrs Lecture: 2hrs
Tutorial: None Practical: 1hr Total: 3hrs

B- Professional Information

1 – Overall Aims of Course

To provide the students with the knowledge and understanding concerning Biopharmaceutics studies including drug absorption, distribution, metabolism and elimination.

2 – Intended Learning Outcomes of Course (ILOs)

a- KNOWLEDGE AND UNDERSTANDING:

a1. Explain the effects of various physicochemical, biochemical, physiological and pathological processes on the kinetics and extent of drug absorption, distribution, and elimination

a2. Explain the effects of dosage form design and routes of drug administration on therapeutic drug levels optimization.

a3-Differentiate between passive diffusion, facilitated diffusion, and active transport.

a4-Identify how various physicochemical characteristics of drugs influence their biotransport.

a5-Describe the significance and impact of the first-pass effect after oral administration.

a6-Describe how formulation characteristics influence the disposition and action drugs after various routes of administration (especially via the pulmonary and ophthalmic routes).

a7- Outline the effect of physiological factors in the gastrointestinal tract on drug absorption.

a8-Be able to apply these principles to describe the effects of gastric emptying rate, segments of the GI tract, and intestinal blood flow on drug absorption

b- INTELLECTUAL SKILLS

b1- Design of bioavailability and bioequivalence studies.

b3- Able to use empirical pharmacokinetic models to devise and optimize dosage regimens.

c- PROFESSIONAL AND PRACTICAL SKILLS

c1- Able to adjust and optimize the dose and dosage regimen.

c2- Estimation of drug half life

d- GENERAL AND TRANSFERABLE SKILLS

d1. Work separately or in a team to research and prepare a scientific topic.

d2. Present clearly and effectively scientific topic in a tutorial, a staff meeting.

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
I	• **GIT absorption of drugs** ○ Mechanism ○ Physiological factors affecting oral absorption ○ Physical-Chemical factors affecting oral absorption ○ Formulation factors affecting oral absorption ○ Techniques for the GIT absorption assessment	10	5	5
II	• **Biopharmaceutics study of drugs** ○ Introduction to Biopharmaceutics ○ Distribution ○ Metabolism	12	6	6

	○ Elimination ○ Blood level concentration ○ Biological half life ○ Elimination rate constant ○ Apparent volume of distribution			
III	• **Bioavailability and bioequivalence** ○ Definition ○ Method of determination of bioavailability using blood and urine excretion data. ○ Protocol design of bioavailability assessment. ○ Methods of bioequivalence determination	10	5	5
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Practical
4.3- Large or small group discussion
4.4- Small Group Projects
4.5- Independent Research
4.6- Workbook Assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.
5.5- Quizzes to assess the knowledge & understanding
5.5- Workbook Assignments to assess the general and transferable skills.

Assessment Schedule

Assessment 1 Semester work Week 4
Assessment 1 mid term exam Week 8
Assessment 2 practical Week 12
Assessment 3 final exam Week 16

Weighting of Assessments

Participation& semester work	10 %
Mid-Term Examination	20 %
Practical Examination	20 %
Final-term Examination	50 %
Total	100 %

Any formative only assessments

6- List of References

6.1- Course Notes

Handouts

6.2- Essential Books (Text Books)

1. Handbook of Basic Pharmacokinetics-Ritschel, W.A.,Drug Intelligence Publication, M Hamilton, 1977.
2. Fundamentals of Clinical Pharmacokinetics-Wagner,J.C.,Drug Intelligence Publication, M.Hamilton, 1975.
3. Remington's Pharmaceutical Sciences - Gennaro A.R., ed., 19th Edition, Mack Publishing Co., Easton, PA. 1995. Clinical Pharmacokinetics - Rowland, M. & Tozer,N., 2nd,edition, Lea and Febiger, Philadelphia, 1989.
4. Pharmacokinetics-Gibaldi M. & Perrier, D., 2nd ed., Marcel Dekker, New York, 1982. Pharmacokinetics for the Pharmaceutical Scientist-Wagner, J.C., Technomic Publishing AG, Switzerland, 1993.
5. Biopharmaceutics and Pharmacokinetics-Notari, R.E., 2nd ed., Marcel Dekker, New York, 1975.

7- Facilities Required for Teaching and Learning

- White board.
- Over head projector
- Data show
- Lab (pharmaceutical materials, glass wares, balances, etc….)

Course Specifications Of Medicinal Chemistry I

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (149)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Medicinal Chemistry I
Academic year / Level:-2nd year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Medicinal Chemistry I — Code:
Credit Hours: 3hrs — Lecture: 2hrs
Tutorial: None — Practical: 1hr — Total: 3hrs

1 – OVERALL AIMS OF COURSE

1- To provide the knowledge about chemistry of drugs with special references to their pharmaceutical and medicinal use.
2- To provide the knowledge about structure activity relationship .
3- To correlate medical chemistry facts with manufacture of drugs & clinical application

2-INTENDED LEARNING OUTCOMES:

A- KNOWLEDGE & UNDERSTANDING:

a1-Describe the principles of medicinal chemistry.
a2- Describe the basic principles of mechanism action for active groups in pharmaceutics chemistry
a3-Explain the different reaction between active groups in pharmaceutics chemistry special in preparations of drugs -Explain nomenclature of medical group.
a4- Explain the active group structure and roles in each group of activity compounds.
a5- Describe how the chemical modification effects on activity of drugs.

B- INTELLECTUAL SKILLS

b1- Determine mode of action , structure of active group in different group of compound drugs .

b2- Classification of medical compound drugs according to medical sed& active group.

C-PROFESSIONAL AND PRACTICAL SKILLS

c1- Gain ability to nomenclature the chemical compound s and its derivatives

c2- Synthesis different drugs from chemical materials

d- GENERAL AND TRANSFERABLE SKILLS

d1. Work in team

d2. Participate in group discussion

3- Content

Unit	Topic	No .of hour	Lect.	practical
Basic and principle of medicinal chemistry	• Physicochemical aspect's (optical – geometric) and drug receptors • Concept of prodrugs	2	1	—
Drug acting at synaptic and neuro- effector junction sites.	• Synthesis, Mode of action , uses, structure activity relationship for cholinergic, anticholinergic and anit-cholinesterase (neostigmine, physostigmine, pilocarpine, atropine.) • Adrenergic drug (ephedrine, amphetamine, terbutaline)	8	4	4
Drug acting on central nervous system	Synthesis, Mode of action , uses, structure activity relationship for ○ General anesthetics(thiopental, methohexital) ○ Local anesthetics (lignocaine, benzocaine) ○ Hypnotic , sedative(Phenobarbital, pentobarbitone) ○ opioid analgesics (pethidine,methadone,pentazocine)	8	4	4
Anticonvulsants, anti-parkinsonism, CNS stimulants	• Synthesis, Mode of action , uses, structure activity relationship for (phenytoin , carbamazepine, valporic acid, levodopa, carbidopa, nikethamide)	6	3	4

Unit	Topic	No .of hour	Lect.	practical
Drug acting as psycho-pharmacological agents	• Synthesis, Mode of action , uses, structure activity relationship for antidepressant (meprobamate, chlordiazepoxide), antispasmodic and antiulcer drug(dicyclomine, lansoprazole, omeprazole)	8	4	4
Total		**32hrs**	**16**	**32hrs**

4– Teaching and Learning Methods

4.1- lecture

4.2- discussion in groups

4.3 –researching in groups for topics course as assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills

5.2- Mid term exam to assess the knowledge & understanding

5.3-Final term exam to assess the knowledge & understanding

5.4- Practical exam to assess the practical skills.

Assessment Schedule

Assessment semester work Week 4

Assessment mid term exam Week 8

Assessment practical exam Week 12

Assessment final exam Week 16

Weighing of Assessments

Semester Work (assignments) 10%

Practical Examination 20%

Mid-Term Examination 20%

Final-term Examination 50 %

Total 100%

***- List of References**

1. Wilso; Gisvold, Doerge, Text book of organic medical pharmaceutical chemistry 7th edition –J . B. Lippincot.
2. Remington's pharmaceutical sciences,
3. An introduction to medicinal chemistry by Graham L. Patrick.

Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.

Lab Glass wares, Chemicals , Instruments.

Course Specifications Of Pharmacology III

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (152)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pharmacy III
Academic year / Level:-2nd year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Pharmacology III Code:
Credit Hours: 3hrs Lecture: 2hrs
Tutorial: None Practical: 1hr Total: 3 hrs

B- Professional Information

1 – Overall Aims of Course

Providing the student with the knowledge and understanding about the mechanism of action, therapeutic uses, side effect and contraindication of drugs affecting endocrine system and blood.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Define the drugs affecting endocrine system and blood.
a2- Identify action and indication of the drugs.
a3- Recognize the side effects of these drugs .
a4- Explain Mechanism of these drugs.
a5- classify anti-inflammatory agents

b-Intellectual Skills

b1- list precaution to be taken for each drug.
b2- Deal with patient when side effect occurred.

c- Professional and Practical Skills

c1- Perform some experiments in pharmacology.

d- General and Transferable Skills

d1- Present scientific topics in seminars.
d2- Work as team.

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
Autocoids	• Histamine & antihistamines • Serotonin agonists & antagonists. • Eicosanoids, and their uses • PAF, bradykinin • Drugs for treatment of migraine head-ache	8	4	4

Endocrine Sys-tem	• Hypothalamic & pituitary gland.
	• Thyroid and anti-thyroid drugs.
	• Glucagon and adrenocortical steroids
	• Insulin &oral hypoglycemic agents.
	• Sex hormones.
	  ○ Female sex hormones.
	  ○ Male sex hormones.
	• Contraceptives.
	• Pituitary hormones
		12	6	6

Blood	• Haematinic &Haemostatic. • Drugs used in anemia • Coagulants, Anticoagulants & fibrinolyt-ics. • Anti-hyperlipidemic. • Drugs used in treatment of gout. • Plasma expanders	12	6	6
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Group discussion.
4.3- practical
4.4- assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.

Assessment Schedule

Assessment 1 mid term exam Week 8
Assessment 2 practical week 12
Assessment 3 final exam Week 16

Weighting of Assessments

Semester Work	10%
Mid-Term Examination	20%
Final-term Examination	50%
Practical Examination	20%
Total	100%

6- List of References

6.1- Course Notes

6.2- Essential Books (Text Books)

- Rang, Dale and Ritter Pharmacology (2000)
- Katzung –Basic and Clinical Pharmacology (2001)
- Laurence, Bennett and Brown-Clinical pharmacology (1997)
- Goodman & Gilman's- The pharmacological basic of therapeutics
  - (1995)
- British National Formulary (BNF) (2002)

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Data show.
* Animals , Rabbit and mice.

Course Specifications for Toxicology

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (155 -15٦)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Toxicology
Academic year / Level:-2nd year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Toxicology Code:
Credit Hours: 2 hrs Lecture: 2hrs
Tutorial: None Practical: 1 hr Total:3 hrs

B- Professional Information

1 – Overall Aims of Course

* This course is designed to provide the student with the necessary knowledge and skills in toxicology to enable them to deal with toxic substances and to discover their effects and also their severity on man, animals and plants.

2 – Intended Learning Outcomes of Course (ILOs)

a-Knowledge and Understanding:

a1- Design of toxic agents to main groups.
a2- Explain different type of Plant, Corrosive, Narcotics, Volatile groups.
a3- Identify the chemical and physical properties of toxic substances.
a4- Mention the effects and severity of chemicals, and air pollutions on man, animal and plants...

b- Intellectual Skills

b1- Differentiate between extraction and identification methods
b2- Deals with this toxic agents in the laboratory, by safe handling of chemicals, avoid hazards associated with use.
b3- Analyzes and carry out test for toxic agents relating to qualitative &quantities' information.

c. Professional and Practical Skills

c1- Study Toxic sample to analyze & determines type of toxic agents.
c2- Takes biological sample to analyze of toxic agents.

d- General and Transferable Skills

d1- Advice patients, workers….etc about the physical properties, hazards, safety steps when deals with this poisons.
d2-Accepts Attitude on working in a team to prepare a scientific topic and reports.
d3-Manages, controls time and organize his work.

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
Introduction	-Introduction to Toxicology. - History & Scope of toxicology. - Classification of toxic agents.	2 hrs	1	——
Toxicology evaluation	a. Toxic dynamic. b. Dose - response relationship in Toxicity.	2hrs	1	——
Management of Poisoning :	a)General characters, Symptom Treatment and Haemodialysis. b) Antidote Therapy.	4hrs	2	——
Household poi-sons :	a. Cosmetics. b. Food poisoning (milk –Fish) - Botulism, Bacterial. Chemical food Poisson	2hrs	1	——
Industrial Poisons:	a. General prevention of Poisoning. B. Corrosive: acid, base, phenol. C. Gas poison: General Characters, toxicity mechanism of action, source, fatal ▪ Dose poisoning. ▪ Antidotes for the following: ▪ Carbon monoxide ▪ Cyanides ▪ D. Heavy metals poisoning: General characters, source ,action route & fatal dose, antidotes: ▪ Lead ▪ Arsenic ▪ Mercury	8 hrs	4	6
Pesticides :	General characters, classification, , route & Fatal Dose, toxicity action ,antidote:- - Chlorinated insecticides - Organophosphorouse comp.	2hrs	1	2
Drug toxicolo-gy:	General characters , Fatal dose, action , anti-dotes: - Barbiturate drug poison. - Analgesics poison (Aspirin & Parace-	4hrs	2	2

Unit	Topic	No. of hours	Lecture	Practical
	tamol). - Benzodiazepines groups.			
Animal poison-ing	General characters ,Route & Fatal dose, action , antidotes: Snake bite ,Scorpion stings Black widow spider.	2hrs	1	
Environmental of community Poisoning :	* Air pollution by Radiations. - Plastic poisons. * Plants poisons General characters, source , Fatal dose & route of poison , action , anti-dotes: - Atropine group - Nicotine's & amphetamine - Hashish (cannabis) - Strychnine *Narcotic substances General characters, action, fatal dose, route of poisons, antidotes : - Opium Morphine derivatives Cocaine & Heroine. - Alcohol's : Methanol & Ethanol	6 hrs	3	6
Total		**32 hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures.
4.2- Group discussion, outside activities.
4.3- Seminars.
4.4- Lab skills

5- Student Assessment Methods

Evaluation of the students will be done by:

5.1 Participation& Semester work — to assess Intellectual , Transferable Skills
5.2 Reports. — to assess Intellectual Skills.
5.3 Evaluation sheet. — to assess Understanding and Practical Skills
5.4 Practical exam — to assess the practical skills.
5.5 MCQs& Examination — to assess Knowledge, Professional Skills

Assessment Schedule

Assessment 1. Formative exam	Week (4)
Assessment 2 Semester Work	Week (4-6)
Assessment 3. Med term Examination	Week (8)
Assessment 4. Practical exam	Week (12)
Assessment 5. Final Examination.	Week (16)

Weighting of Assessments

Semister Work.	10 %
Mid term Examination	20%
Practical Examination	20%
Final Examination	50 %
Total	100%

Any formative only assessments.

6- List of References

6.1- Course Notes

Handout .

6.2- Essential Books (Text Books)

(1) R.E. Gosselin & H.C. Hodge - Clinical Toxicology - 4th edition Baltimore Williams & Wilking.

(2) R.H. Derisbach - HandBook of poisoning - 9th edition -Lange Medical.

(3) Handbook of poisoning : Diagnosis & treatment 8th e.d. Robert.H.Dresbach, MD,PhD.

6.3- Recommended Books

Library books

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Books -handouts.
* Data show

Course Specifications for Health staticis.

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (159)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Health statistics
Academic year / Level:-2nd year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Health statistics — Code:
Credit Hours: 1 hr — Lecture: 1hr
Tutorial: None — Practical: None — Total: 1 hr

B- Professional Information

1 – Overall Aims of Course

This course is designed to give student general aspect about knowledge and skills enabling them to follow the basic rules in health statistics in them field.

.2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Explain concepts and importance of Statistical data.

b- Intellectual Skills

b1- follow the basic rules in health statistics in his field.
b2- Professional and Practical Skills
b3- Analyze and interoperate statistical data in researches.

d- General and Transferable Skills

d1- Classify and tabulate statistical data

3- Contents

Topic		No. of hours	Lecture	Practical
Concepts and Importance of statistical Data:	*** Introduction, definitions :** - Statistical science. - Health and vital statistics. - The statistics. **importance of data :**	2	2	——

Topic		No. of hours	Lecture	Practical
	- For planning. - For use.			
Classification and Tabulation of Statistical Data :	- Variables quality and quantity. - frequency distribution tables: - Single kind. - Double kinds. **Variable quantitative tables:-** - Continuous categories. - Discrete categories. - Absolute numbers. **Ordinary Tables :-** - simple - Multiple - compound **Graphs :-** - Frequency :- - Histogram Frequency. - Polygene Frequency. - Curve. - Simple bars. - linked bars. - Component part bars. - Line graph. - Pie - graph.	8	8	——
Analysing and Interpretation of Statistical Data :	**- measures of central tendency** Average. - mean. - median- mode - **Dispersion Measures**: - absolute range - standard deviation	6	6	——
Total		**16hrs**	**16**	——

4– Teaching and Learning Methods

4.1- Lectures
4.2- Discussion
4.3- Problem solving.

5- Student Assessment Methods

5.1 Semester Work. to assess Intellectual ,General and Transferable Skills
5.2 MCQs to assess Knowledge, Understanding ,Professional Skills
5.3 Problem solving. to assess Knowledge, Understanding , Intellectual Skills

Assessment Schedule

Assessment 1. Formative exam Week (4)
Assessment 2 Semester Work Week (4-6)
Assessment 3. Mid term Examination Week (8)
Assessment 4. Final Examination. Week (16)

Weighting of Assessments

Semester Work.	10 %
Med term Examination	20%
Final Examination	70 %
Total	100%

Any formative only assessments.

6- List of References

6.1- Course Notes

Handout .

6.2- Essential Books (Text Books)

1. Dr. Mukhtar Mahmood El-Hanis " Methods of Social Statistics".
Moasa Shabab El-Gamaa - Egypt.
2. Dr.Fathi A/Aziz Abo - Redha. " Statistical Methods in Social Science"

6.3- Recommended Books

Library books

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Books -handouts.
* Data show .

THIRD YEAR
COURSE SPECFICATION

FIRST SEMESTER

Course Specification Of Clinical Pharmacy

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (165)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Clinical Pharmacy
Academic year / Level:-3rd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Clinical Pharmacy Code:
Credit Hours: 3hrs Lecture: 2hrs
Tutorial: None Practical: 1hr Total: 3hrs

B- Professional Information

1 – Overall Aims of Course

1. Giving knowledge about the diagnosis of disease.
2. Analysis all information about patient's state according to patient history, clinical features and laboratory findings.
3. Solve the given case according to the correct therapeutic way.
4. Detect the complications of the drug and diseases.
5. Recognize the safety of drugs in special groups like children, elderly and pregnancy.

2 – Intended Learning Outcomes of Course (ILOs)

e- Knowledge and Understanding:

a1- Define the Epidemiology, Etiology, Risk factors for particular condition under study.
a2- Recognize the Clinical features & laboratory tests for each case study .
a3- Mention the therapeutic approaches, both pharmacological and non-pharmacological in details .
a4- Identify Mechanism of these drugs.
a5- Explain the reasons of clinical complications &drug interaction .
a6- Explain the principals of human anatomy, histology, pathology and physiology that relevant to clinical pharmacokinetic of drugs.

a7-Acquire knowledge about drugs and their uses therapeutically concerning their identities, safety, optimum use in medication and contraindications
a8- mention the correct diagnosis of diseases.
a9-Recognition of disease state, pathology and management of symptoms.
a10- Get knowledge about recent researches, articles and advanced studies on drugs treating many diseases.

b- Intellectual Skills

b1- list precaution to be taken for each prescribed drugs individually or in combination.
b2 -Explain how to deal with patient when side effect occurred.
b3-The student can diagnosed disease according to their manifestations, investigations and physical examinations
b4-Interpret the clinical features and the diseases related to them.
b5-Solve the case studies according to the therapeutic way.
b6-Interpret patient and clinical data, including patient records held within practice settings.
b7- Writing a report for criticizing of suitable drugs for each case.

c- Professional and Practical Skills

c1-Acquire skills to diagnosed the case studies precisely.
c2-Evaluate critically observations and measurements, in terms of their significance and theory underlying them.
c3-Give advises for the patients and others on the safe and effective use of medicines
c4- Acquire the skill of drug monitoring therapy.

d-General and Transferable Skills

d1-Improve the communications with the patients or physicians.
d2- Great a management plan for drugs administration..
d3-Interact effectively with patients, the public and health care professionals; including communication both written and oral.
d4-Behave with an ethical attitude and approach.

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
Introduction	• Definition • Some medical and pharmaceutical abbreviation	2	1	-

Unit	Topic	No. of hours	Lecture	Practical
	• Monitoring of therapy			
The Cardiovascular System.	• Hypertension. • Angina pectoris. • Congestive heart failure. • Acute myocardial infraction. • Thrombo-embolic diseases.	8	4	4
Respiratory System.	• Bronchial asthma • Chronic obstructive pulmonary disease (COPD) • Upper respiratory infections (URI) • Tuberculosis	8	4	4
Gastrointestinal System.	• Peptic ulcers and gastritis	4	2	2
The Endocrine System.	• Diabetes mellitus • Thyroid and Parathyroid disease	6	3	3
Renal System.	• Renal failure. • Urinary tract infections. • urinary lethiasis	4	2	3
Total hours		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures, Discussion.
4.2- Group discussion.
4.3- visiting hospital to take patient history and medication profile.

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding

Assessment Schedule

Assessment 1 Formative assessment. Week 2
Assessment 2 Mid-Term Examination Week 8
Assessment 3 Formative assessment. Week 9
Assessment 4 Final written exam. Week 16

Weighting of Assessments

Participation and Semester Work	10 %
Mid-Term Examination	20 %
Final-term Examination	70 %
Total	100%

6- List of References

6.1- Course Notes

Handout Texts

6.2- Essential Books (Text Books)

1. Walker and Edwards (eds). Clinical Pharmacy and Therapeutics Third edition (2003).
2. Applied Therapeutics: The Clinical Use of drugs. Koda-kimble.

6.3- Recommended Books

Library Books

7- Facilities Required for Teaching and Learning

- White board & Markers.
- Over head projector.
- Data show.

Course Specifications For Quality Control

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (168)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Quality Control
Academic year / Level:-3rd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Quality control Code:
Credit Hours: 3 hrs Lecture: 2 hrs
Tutorial: None Practical: 1 hr Total: 3 hrs

B- Professional Information

1 – Overall Aims of Course

* This course is designed to give student general aspect about differents quality tests which involved in various manufacturing and processing drugs industries. ,provide him with high ability to use different types of quality control methods & use different types of spectroscopy methods of drugs analysis.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Define Quality control in drugs manufacturing.
a2- Explain different type of Quality control .

b- Intellectual Skills

b1- Differentiate between different methods of drugs preperations and analysis.
b2- Use the necessary knowledge to maintain the quality of drugs.

c-Professional and Practical Skills

c1- Analyzes and carry out test for drugs relating to qualitative &quantities' information.

c2- Integrate the quality of drugs in his field by following the basic rules of drugs quality control .

d- General and Transferable Skills

d1- Accepts Attitude on team working.

d2- Manages, controls time and organize his work.

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
Introduction	• Quality control Definition • Types of quality control. • G. M.P as a type of Q.C. • I.S.O in drug manufacturing.	4 hrs	2	——
In processes Quality control (Raw Materials)	• sampling: • Solid R.M. &Liquid R.M • Analysis: Physical &Chemical tests • Packaging Materials analysis	6hr	3	2 hrs
Examples of Physical Quality control on:	• syrup & suspensions: o pH, density, viscosity, sedimentation. • tablets & capsules: o Weight variation, hardness, friability, disintegration, dissolution. • Cream & ointments: o weight variation, homogenisty.	10hrs	5	6 hrs
Examples of Chemical Quality control	• Spectrophotometric method (UV,VIS,IR,&NMR) theory , principle of work. • Qualitative and quantitative use .	6hrs	3	4 hrs
Chromatography and general concept of extraction	• chromatography , types of chromatography • general concept of extraction - H.P.L.C, Column & Gas chromatography. • Thin layer Chromatography.	6 hrs	3	4 hrs
Total		**32 hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures.

4.2- Group discussion.

4.3- Visiting of pharmaceutical industries

5- Student Assessment Methods

Evaluation of the students will be done by:

5.1 Participation& Semester work to assess Intellectual ,General Skills
5.2 Reports to assess Intellectual ,General and Transferable Skills
5.3 Practical exam to assess the practical skills.
5.4 MCQs& Examination to assess Knowledge, Professional Skills

Assessment Schedule

Assessment 1. Formative exam	Week (4)
Assessment 2 Semester Work	Week (4-6)
Assessment 3. Mid term Examination	Week (8)
Assessment 4. Practical exam	Week (12)
Assessment 5. Final Examination.	Week (16)

Weighting of Assessments

Semester Work.	10 %
Mid term Examination	20%
Practical Examination	20%
Final Examination	50 %
Total	100%

Any formative only assessments.

6- List of References

6.1- Course Notes
Handout .
6.2- Essential Books (Text Books)
Library books
6.3- Recommended Books

(1) World Health Organization -Technical report-Specification for pharmacetical preperation - 2th edition. W.H.O. Geneva - 1992.

(2) Quality system for Medical Imaging (W.H.O)

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Books -handouts.
* Data show

Course Specifications For Quality Assurance

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (171)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Quality Assurance
Academic year / Level:-3rd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Quality Assurance Code:
Credit Hours: 1 hr Lecture: 1hr
Tutorial: None Practical: None Total:1 hr

B- Professional Information

1 – Overall Aims of Course

* This course is designed to help the student to acquire knowledge and skills in Quality assurance to enable him / her to managing quality of drugs in his/ her field.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1-Define Quality assurance as a concept.
a2- Enumerate the good manufacturing processes in drugs industry.
a3- Discuss the importance of Dispensing Environment to Ensuring Good Dispensing Practices.

b- Intellectual Skills

b1- Use the necessary knowledge to maintain the quality of drugs.
b2- Integrate the basic rules of Quality assurance with drugs quality control

c- Professional and Practical Skills

c1- Apply the basic knowledge and skills in Quality assurance in his field.
c2- Evaluate G.M.P after industry visiting.

d-General and Transferable Skills

d1- Manage the Rational Use of Drugs in his field.
d2- Work separately or in a team to research and prepare a scientific topic.
d3-Communicate effectively with clients in the dispensing Environment.

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
Introduction	**Definitions**: • Quality, Quality assurance, • Drug quality assurance. • Importance of drug quality assurance in work field.	1 hrs	1	
Quality assurance for drug procurement	Practical approaches to quality assurance. Obtaining Good Quality Drugs Verifying the quality of shipped product. Maintaining Drug Quality Monitoring Drug Quality	4hrs	4	
Good practices in the production	-In Quality control. - controlling of starting materials, intermediates , bulk and finished products. - In production, -Prevention of cross contamination & bacterial contamination.	4hrs	4	
Ensuring Good Dispensing Practices	-Dispensing Environment -Dispensing Person -Dispensing process -Promoting Efficient Management in dispensing -Packing and labelling of drugs -Course of Therapy Pre-packing of medicines -Aids in Counting tablets and capsules. -Pharmacy Personnel.	5hrs	5	
Rational Use Of Drugs.	* Managing Rational Use of Drugs	2 hrs	2	
Total		**16 hr**	**16**	**----**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Discussion.
4.3- Work in groups.

5- Student Assessment Methods

Evaluation of the students will be done by:

5.1 Participation& Semister work to assess Intellectual ,General Skills
5.2 Reports to assess Intellectual ,General and Skills
5.3 MCQs& Examination to assess Knowledge, Professional Skills

Assessment Schedule

Assessment 1. Semester Work	Week (4-6)
Assessment 2. Mid term Examination	Week (8)
Assessment 3. Formative exam	Week (12)
Assessment 4. Final Examination.	Week (16)

Weighting of Assessments

Semester Work.	10 %
Mid term Examination	20%
Final Examination	70 %
Total	100%

Any formative only assessments.

6- List of References

6.1- Course Notes

Handout .

6.2- Essential Books (Text Books)

Library books.

6.3- Recommended Books

(1) World Health Organization -Technical report-Specification for pharmaceutical preparation - 2th edition. W.H.O. Geneva - 1992.

(2) Quality system for Medical Imaging (W.H.O)

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Books -handouts.
* Data show.

Course Specifications Of Medicinal Chemistry II

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (175)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Medicinal Chemistry II
Academic year / Level:-3rd year /1st semester
Date of specification approval:-8 – 2007

A- Basic Information

Title: Medicinal Chemistry II Code:
Credit Hours: 3hrs Lecture: 2hrs
Tutorial: None Practical: 1hr Total: 3hrs

1 – OVERALL AIMS OF COURSE

1- To provide the knowledge of chemistry of drugs with and their pharmaceutical and medicinal use.
2- To provide the knowledge about structure activity relationship .
3- To correlate medical chemistry facts with manufactuer drugs & clinical application

2-INTENDED LEARNING OUTCOMES:

A- KNOWLEDGE & UNDERSTANDING:

a1-Describe the principles of medicinal chemistry.
a2- Describe the basic principles of mechanism action for active groups in pharmaceutics chemistry
a3-Explain the different reaction between active groups in pharmaceutics chemistry special in preparations of drugs
-Explain nomenclature of medical group.
a4- Explain the active group structure and roles in each group of medicine compounds.
a5- Describe how the chemical modification affects the activity of drugs.

B- INTELLECTUAL SKILLS

b1- Be able to synthesis different medical compound drugs from chemical materials
b2- Determine mode of action , structure of active group in different group of compound drugs .

C-PROFESSIONAL AND PRACTICAL SKILLS

c1- Gain ability to nomenclature the chemical compound s and its derivatives

c2- Classification of medical compound drugs according to medically used& active group.

d- GENERAL AND TRANSFERABLE SKILLS

d1. Work in team

d2. Participate in group discussion

3- Content

unit	Topic	No .of hour	Lect.	practical
Cardiovascular agents	Synthesis, Mode of action , uses, structure activity relationship for • Anti-anginal drugs • Vasodilators • anti-arrhythmic, • Antihypertensive • Anticoagulants, • Anti-hyperlipidaemics	8	4	4
Drug acting as antihistamines	Synthesis, Mode of action , uses, structure activity relationship for • H1 antagonists (diphenhydramine, promethazine, cetrizine), • H2 antagonists (ranitidine, famotidine)	6	3	3
Drug acting as analgesic and antipyretics	Synthesis, Mode of action , uses, structure activity relationship for • Aspirin, mefeanamic acid, ibuprofen, diclofenac.	6	3	3
Drug acting as antibacterial	Synthesis, Mode of action , uses, structure activity relationship for • sulphamethoxazole, sulphadiazine , sulphacetamide, nalidixic acid	6	3	4
Drug acting as diuretics	Synthesis, Mode of action , uses, structure activity relationship for • (acetazolamide, chlorthiazide, furosemide, spironolactone	6	3	3
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- lecture

4.2- discussion in groups

4.3 –researching in groups for topics course as assignments

5- Student Assessment Methods

5.1- Participation& semester work	to assess intellectual skills
5.2- Mid term exam	to assess the knowledge & understanding
5.3-Final term exam	to assess the knowledge & understanding
5.4- Practical exam	to assess the practical skills.

Assessment Schedule

Assessment semester work	Week 4
Assessment mid term exam	Week 8
Assessment final exam	Week 16

Weighing of Assessments

Semester Work (assignments)	10%
Mid-Term Examination	20%
Final-term Examination	70 %
Total	100%

***- List of References**

4. Wilso; Gisvold, Doerge, Text book of organic medical pharmaceutical chemistry 7th edition –J . B. Lippincot.
5. Remington's pharmaceutical sciences,
6. An introduction to medicinal chemistry by Graham L. Patrick.

Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Glass wares, Chemicals
* Data show.

Course Specifications Of Pharmacology IV

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (178)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pharmacy IV
Academic year / Level:-3rd year /1st semester
Date of specification approval:-8 – 2007

A- Basic Information

Title: Pharmacology IV Code:
Credit Hours: 3hrs Lecture: 2hrs
Tutorial: None Practical: 1hr Total: 3 hrs

B- Professional Information

2– Overall Aims of Course

Providing the student with the knowledge and understanding about the mechanism of action, therapeutic uses, side effect and contraindication of drugs affecting gastrointestinal tract, cardiovascular and respiratory

A-Intended Learning Outcomes of Course (ILOs)

a-Knowledge and Understanding:

a1- Define the drugs affecting central nervous system
a2- Explain the action and indication of these drugs.
a3- Classify and mention the uses and adverse effects of diuretics

b-Intellectual Skills

b1- list precaution to be taken for each drug.
b2 - deal with patient when side effect occurred.

c- Professional and Practical Skills

c1- Perform some experiments in pharmacology.

d- General and Transferable Skills

d1- Present scientific topics in seminars.
d2- work as team.

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
Urogenital system	• Diuretics • Oxytocics and uterine relaxants	6	3	4
Central Nervous System (C.N.S)	• C.N.S. Stimulants. • Sedatives &hypnotics. • Antipsychotic, Neuroleptic agents. • Anti-anxiety agents • Antidepressant agents. • Anti-parkinsonism. • Antiepileptic agents. • Opioid analgesics. • General anesthetics. • Local anesthetics. • Alcohols (Ethyl alcohol, Methyl alcohol). • Skeletal muscle relaxants & Anti-spastic agents. • Analgesics, antipyretics and anti-inflammatory agents. • Narcotic analgesics and antagonists.	26	13	12
Total		**32**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Group discussion.
4.3- practical
4.4- assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.

Assessment Schedule

Assessment 1 semester work Week4
Assessment 2 mid term exam Week 8
Assessment 3 practical week 12
Assessment 4 final exam Week 16

Weighting of Assessments

Semester work	10%
Mid-Term Examination	20%
Final-term Examination	50%
Practical Examination	20%
Total	100%

6- List of References

6.1- Course Notes

Handouts

6.2- Essential Books (Text Books)

- Rang, Dale and Ritter Pharmacology (2000)
- Katzung –Basic and Clinical Pharmacology (2001)
- Laurence, Bennett and Brown-Clinical pharmacology (1997)
- Goodman & Gilman's- The pharmacological basic of therapeutics
  - (1995)
- British National Formulary (BNF) (2002)

6.3- Recommended Books

Library Book

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Data show.

Course Specifications Of Pharmaceutical Microbiology

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (181)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pharmaceutical Microbiology
Academic year / Level:- 3rd year /1st semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Pharmaceutical Microbiology — Code:
Credit Hours: 1hr — Lecture: 1hr
Tutorial: None — Practical: None — Total: 1hr

B- Professional Information

1-Aim of the course

1. To enable the students to practice the principles of sterilization and infection control.
2. To provide the students with the knowledge and understanding about the principles of immunity and immunization.

2) Intended learning outcomes (ILOs)

a- Knowledge and Understanding:

a1- Describe the most important methods of Sterilization and disinfection.
a2- Identify the impact of immunity and immunization.
a3-Differentiate between active and passive immunity.
a4- Define hypersensitivity reaction.
a5-Explain the physiology of the immune system, its beneficial role, as well as its detrimental role in hypersensitivity, autoimmunity and transplant rejection.

b- Intellectual Skills:

b1- Recognize the hypersensitivity reaction.
b3- Appreciate the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage

c- Professional and Practical Skills

d- General and Transferable Skills

d1- Appreciate the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage.

d2- work in team or separately.

3) Contents:

Unit	Topic	No. of hours	Lecture	Practical
I	**Immunology and Immunological Preparations:** • Principles • Antigens and haptens • Immune system • Immunodeficiency • Cellular and humoral immunity • Immunological tolerance • Antigen-antibody reactions and their applica-tions. • Hypersensitivity • Active and passive immunization products, their preparation, standardization and storage.	10	10	——
II	**Sterilization** • Sterilization methods and mechanisms • validation of sterilization methods • sterility testing of pharmaceutical products	3	3	——
III	**Disinfection** • Factors influencing disinfectants • Dynamics of disinfection • Evaluation of disinfectants and antiseptics.	3	3	——
Total		**16**	**16**	——

4– Teaching and Learning Methods

4.1- Lectures
4.2- Small Group Projects
4.3- Independent Research
4.4- Workbook Assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding

5.5- Quizzes to assess the knowledge & understanding
5.5- Workbook Assignments to assess the general and transferable skills.

Assessment Schedule

Assessment 1 mid term exam	Week 8
Assessment 2 Formative	Week 12
Assessment 3 final exam	Week 16

Weighting of Assessments

Semester work and reports	10 %
Mid-Term Examination	20 %
Final-term Examination	70 %
Total	100%

6- List of References

6.1- Pharmaceutical microbiology. Hugo
- Recommended book.
- Library book.

7- Facilities Required for Teaching and Learning

Overhead projector
7. 2 Data show
7.3 Slides and computer presentations used during teaching

THIRD YEAR
SECOND SEMESTER

Course Specifications of Administration and Medical Supply

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (185 - 186)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Administration &Medical supply
Academic year / Level:- 3rd year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Administration &Medical supply Code:
Credit Hours: 2hrs. Lecture:2hrs
Tutorial: None Practical: None Total:2hrs

B- Professional Information

1 – Overall Aims of Course

This course is designed to provide student knowledge about basis principles of administration and medical supply to develop an ability in planning, organization, making orders, fill an order –form and also pharmaceutical services handling and keeping drug and medical equipments.

2 – Intended Learning Outcomes of Course (ILOs)

d- Knowledge and Understanding:

a1- Define the administration and medical supply.
a2-Plan and organize pharmaceutical services
a3-Make regular inventories and mention equipment
a4-keep records and mention well organized system and report
a5-make order from stock and fill-in order form-

b- Intellectual Skills

b1-planning be able to make drug planning to a hospital pharmacy
b2-control and regular stock

c- Professional and Practical Skills

c1-Differntiate between pharmaceutical administration and other department
c2-Reciveivang and distribution drug and other medical instruments.
c3-Train how to buy his supplies

d- General and Transferable Skills

d1-Apply administration
d2-Evaluate a management plan for pharmacy administration
d3-Great a management plan for drug stores

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
Introduction about administration	• The nature and function of administration • Organization and function of pharmaceutical services in Yemen • The relation between pharmacy and another health department • Pharmaceutical by laws in Yemen • Office organization • Index • Filing • Reporting • Corresponding • Budgeting –Organization-- • Scheduling of duty time • Equipment managing • Purchasing-	8	4	—
Store and srore keeper	• Preparation and selection of stock item • Cleaning and re-arrangement of stock • Stock count and making the inventory • Calculation of minimum of and maximum stock level	8	4	—
Ordering Procedure	• Making order from stock • Danger of over stock • Checking • Fill an order form • Buying • Receiving and checking • Unpacking • Discrepancy report • Objectives • Type	8	4	—
Inventory control Store of stock	• Stock temperature • Storage of chemicals • Storage of pharmaceutical form • Pharmacy storage • Storage store • Storage of medical equipments • Alteration of drug when poor storage • use of antioxidants, preservatives and other • Physico-chemical laws in stability of drug	8	4	—
Total		**32hrs**	**16**	**—**

4– Teaching and Learning Methods

4.1-Lectures, discussion
4.2-visiting medical supply store and hospitals

5- Student Assessment Methods

5.1- Semester work to assess Intellectual, General and Transferable skill
5.2- Write report about visiting to assess knowledge, understanding. Professional skill
5.3- Mid term Exam assess knowledge, understanding. Professional and practical skill.
5.4- Final Exam. to assess knowledge, understanding. Professional and practical skill

Assessment Schedule

Assessment 1…Formative assessment	Week 3
Assessment 2 Mid-Term exam	Week 8
Assessment 3 Formative assessment	Week8
Assessment 4Final Exam	Week 16

Weighting of Assessments

Semester Work	١٠%
Mid-Term Examination	٢٠ %
Final-term Examination	٦٠ %
Other types of assessment	10 %
Total	100%

6- List of References

6.1- Course Notes
Handouts
6.2- Essential Books (Text Books)
The drug fund for medical supply catalogue.
6.3- Recommended book:- Library Book

7- Facilities Required for Teaching and Learning

* white board-marker.
* Data show.
* Over head projector.

Course Specifications Of Community Pharmacy

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (190 - 191)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Community Pharmacy
Academic year / Level:- 3rd year /2nd semester

Date of specification approval:-8 – 2007

A- BASIC INFORMATION

Title: community pharmacy practice Code:
Credit Hours: 2 hrs Lecture: 1hr
Tutorial: None Practical: 1 hr Total: 2hrs

B- PROFESSIONAL INFORMATION

1 – OVERALL AIMS OF COURSE

3. Provide the student with roles of community pharmacist
4. Learn the student with the methods of patient assessment and care as they relate specifically to the drug and non-drug management of minor ailments.
5. The student able to asses the pathogenesis, clinical features, management and treatment outcomes of some disorders.
6. Provide the student with the knowledge about prescription and non-prescription drugs.

2 – INTENDED LEARNING OUTCOMES OF COURSE (ILOS)

A- KNOWLEDGE AND UNDERSTANDING:

a1- Explain the roles of community pharmacist.
a2- Enumerate the non-prescription drugs.
a3- Describe the method of patient assessment and care.
a4- Describe the hospital pharmacy organization and hospital pharmacist responsibilities.
a6- Explain the process of therapy drug monitoring.

b- INTELLECTUAL SKILLS

b1- Differentiate the symptoms of different causing diseases.
b2- Select the correct OTC drug for different cases.

b3- Determines the patient case for treatment or referring to the physician.
b4- Integrate the basic science required to asses the pathogenesis, clinical features, management and treatment outcomes of some disorders.

c- PROFESSIONAL AND PRACTICAL SKILLS

c1- Diagnose and treatment of some minor illnesses.
c2- Dispense the drug prescription.
c3- Manage the drug adverse effect or drug interaction.
c4- Prepare intravenous admixture

d- GENERAL AND TRANSFERABLE SKILLS

d1 Interact effectively with patients, the public and health professionals.
d2- Reflect on the use of communication skills in counter prescribing.
d3- Be able to analyze published literature

3- CONTENTS

Unit	TOPICS	No. of hours	Lecture	Practical
I	**The practice of community pharmacy** • Definitions • Roles of community pharmacist • Adverse drug reactions and drug interactions	1	1	-
II	**Non-prescription drugs:** • Introduction • Types	1	1	2
III	**In each of the following topics it covers the *pathogenesis, clinical features, management and treatment outcomes as well as the recommendation and the cases that need referral to physician*)** o Pain (internal and external analgesics) o Cough o Diarrhea o Constipation o Common cold o Hemorrhoids'. o Gastritis, indigestion, and gastro-esophageal reflux distress o Insomnia o Allergy o Infestations; ear, nose and throat conditions (like sore throat o Genitourinary tract infections (volvovaginal	12	12	12

Unit	TOPICS	No. of hours	Lecture	Practical
	candidiais, vaginitis) ○ Skin disorders (eczema, scabies, head lice) ○ Wounds ○ Burns ○ Irritable bowel syndrome ○ Girdiasis, amoebisis, ascariasis and pin worm infestation. ○ Hair loss ○ Oral contraceptives			
IV	**Hospital pharmacy** • Definition • Structure and Organization • Hospital pharmacist responsibilities • Types of drug distribution • Hospital formulary • Pharmacy and therapeutic committee • Intravenous admixture • Therapy drug monitoring (TDM)	2	2	2
Total		**16hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Visiting to community pharmacies and hospitals
4.3- Group discussion
4.4- Seminars
4.5- Reports

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding

Assessment Schedule

Assessment 1 mid term exam Week 8
Assessment 2 practical week 12
Assessment 3 final exam Week 16

Weighting of Assessments

Participation& semester work	10%
Mid-Term Examination	20%
Practical Examination	20%
Final-term Examination	50%
Total	100%

6- List of References

6.1- Course Notes

6.2- Essential Books (Text Books)

1. **Handbook of Non-Prescription drugs, Tim Covington, American Pharmaceutical Association.**

6.3- Recommended Books

Library Book

7- Facilities Required for Teaching and Learning

- White board & Markers.
- Over head projector.
- Data show.

Course Specifications Of Medicinal Chemistry III

Course Specifications

Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (195)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Medicinal Chemistry III
Academic year / Level:- 3rd year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Medicinal Chemistry III Code:
Credit Hours: 3hrs Lecture: 2hrs
Tutorial: None Practical: 1hr Total: 3hrs

1 – OVERALL AIMS OF COURSE

1- To provide the knowledge about chemistry of drugs with special references to their pharmaceutical and medicinal use.
2- To provide the knowledge about structure activity relationship .
3- To correlate medical chemistry facts with manufacture drugs & clinical application

2-INTENDED LEARNING OUTCOMES:

A- KNOWLEDGE & UNDERSTANDING:

a1-Describe the principles of medicinal chemistry.
a2- Describe the basic principles of mechanism action for active groups in pharmaceutics chemistry
a3-Explain the different reaction between active groups in pharmaceutics chemistry special in preparations of drugs -Explain nomenclature of medical group.
a4- Explain the active group structure and roles in each group of medicine compounds.
a5- Describe how the chemical modification effects on activity of drugs.

B- INTELLECTUAL SKILLS

b1- Able to synthesis different medical compound drugs from chemical materials

b2- Determine mode of action, structure of active group in different group of compound drugs.

C-PROFESSIONAL AND PRACTICAL SKILLS

c1- Gain ability to nomenclature the chemical compound s and its derivatives

c2- Classification of medical compound drugs according to medically used& active group.

d- GENERAL AND TRANSFERABLE SKILLS

d1. Work in team

d2. Participate in group discussion

3- Content

Unit	Topic	No .of hour	Lect.	Prac
Steroids and related Drugs	Synthesis, Mode of action , uses, structure activity relationship for • Androgens • Estrogens • Adrenocorticoids	8		4
Antibiotics	Synthesis, Mode of action , uses, structure activity relationship of • Penicillins • Tetracyclines • Cephalosporins, • Sulphonamides • Aminoglycosides • Macrolides • Anti-mycobacterium	8		4
• **Anti-malarial** • **Anti-amoebic** • **Anthelmentic** • **Antifungal**	Synthesis, Mode of action , uses, structure activity relationship for • Antimalarial:-chloroquines, primaquine • Anti-amoebic :- metronidazole, tinidazol • Anthelmintics :-mebendazol, albendazol • Antifungal :-Amphotericin B, Fluconazole,	6		3

Unit	Topic	No .of hour	Lect.	Prac
	ketoconazole			
Endocrine drugs	Synthesis, Mode of action , uses, structure activity relationship for • Thyroid :-levothyroxine, propylthiouracil,carbimazole • Insulin • Oral hypoglycemic chlorpropamide, metoformine,	6		3
Anti-virual Drug	Synthesis, Mode of action , uses, structure activity relationship for • acyclovir, zidovudine, lamivudine	4		2
Total		**32hrs**		**16hrs**

4– Teaching and Learning Methods

4.1- lecture

4.2- discussion in groups

4.3 –Researching in groups for topics course as assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills

5.2- Mid term exam to assess the knowledge & understanding

5.3-Final term exam to assess the knowledge & understanding

5.4- Practical exam to assess the practical skills.

Assessment Schedule

Assessment assignments Week 4

Assessment mid term exam Week 8

Practical exam Week 12

Assessment final exam Week 16

Weighing of Assessments

Semester Work (assignments) 10%

Mid-Term Examination 20%

Practical Examination 20%

Final-term Examination 50 %

Total 100%

6 - List of References

7. Wilson; Gisvold, Text book of organic medical pharmaceutical chemistry 7th edition –J . B. Lippincott.
8. Remington's pharmaceutical sciences,
9. An introduction to medicinal chemistry by Graham L. Patrick.

Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Glass wares, Chemicals.
* Data show.

Course Specifications of Pharmacology V

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (198 - 199)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Pharmacology V
Academic year / Level:- 3rd year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: Pharmacology V — Code:
Credit Hours: 3hrs — Lecture: 2hrs
Tutorial: None — Practical: 1hr — Total: 3hrs

B- Professional Information

1 – Overall Aims of Course

Providing the student with the knowledge and understanding about chemotherapy.

– Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Define and describe the antifungal drugs.
a2- Explain the action and indication chemotherapeutics agents.
a3- Classify antibiotics.
a4- Enumerate the anti-malarial agents.
a5- Explain the chemotherapy of tuberculosis.
a7- Define the antiviral, Anthelmintics and antiprotozoal drugs.
a8- Classify anticancer drugs and describe its adverse effects.

b-Intellectual Skills

b1- list precaution to be taken for each drug.
b2 - Deal with patient when side effect occurred.

c- Professional and Practical Skills

c1- Perform some experiments in pharmacology.

d- General and Transferable Skills

d1- Present scientific topics in seminars.
d2- Work as team.

3- Contents

Unit	Topic	No. of hours	Lecture	Practical
Introduction	General principles of chemotherapy	2	1	—
Antimicrobials	Classification of antimicrobial agents • Folate antagonists ▪ Inhibitors of folate synthesis (sulfonamides) ▪ Inhibitors of folate reduction ▪ (trimethoprim) • Inhibitors of cell wall synthesis o Beta lactam antibiotics o Penicillin o Cephalosporin o Carbapenems o monobactams o B- lactamase inhibitors • Protein synthesis inhibitors o Chloramphenicol o Tetracycline o Macrolides o Clindamycin. o Amino glycosides &Spectinomycines. • Quinolones o Quinolones o Fluroquinolones • Urinary tract antiseptics.. • Chemotherapy of tuberculosis • Chemotherapy of leprosy	8	4	4
Anti-protozoal agents	▪ Leishmaniasis ▪ Trypanosomiasis ▪ Toxoplasmosis ▪ Giardiasis and amoebisis	2	1	1
Anti -fungal agents.	▪ Drugs for subcutaneous and systemic mycoses. ▪ Drugs for superficial mycoses.	4	2	2
Antiviral agents.	• Antiviral drugs for respiratory virus infection • Antiviral drugs for herpes and cytomegalovirus infection • Antiviral drugs for human immunodeficiency virus (HIV) infection. • Antiviral drugs for hepatitis • Antiviral drugs for leukemia.	4	2	2

Unit	Topic	No. of hours	Lecture	Practical
Anti- malarial agents	▪ Life cycle of malarial parasite ▪ Tissue schizonticides ▪ Blood schizonticides ▪ Blood schizonticides and sporonti-cide	2	1	1
Anthelmintic drugs.	• Chemotherapy of Nematiodes • Chemotherapy of Trematodes • Chemotherapy of Cestodes	4	2	2
Chemotherapy of cancer and immu-nosuppressant drugs	▪ Principles of cancer chemotherapy ▪ Adverse effects of anticancer drugs. ▪ Anticancer drugs o Anti-metabolites o Antibiotics o Alkylating agents o Microtubule inhibitors. o Steroid hormones and theirantagonists. o Others o Cisplatin o Etoposide o Procarbazines o Asparaginase o Interferons.	6	3	4
Total		**32hrs**	**16**	**16hrs**

4– Teaching and Learning Methods

4.1- Lectures
4.2- Group discussion.
4.3- practical
4.4- assignments

5- Student Assessment Methods

5.1- Participation& semester work to assess intellectual skills
5.2- Mid term exam to assess the knowledge & understanding
5.3-Final term exam to assess the knowledge & understanding
5.4- Practical exam to assess the practical skills.

Assessment Schedule

Assessment 1 mid term exam Week 6
Assessment 2 practical week 12
Assessment 3 final exam Week 14

Weighting of Assessments

Semester work	10%
Mid-Term Examination	20%
Final-term Examination	٥0%
Practical Examination	20%
Total	100%

6- List of References

6.1- Course Notes

hand out

6.2- Essential Books (Text Books)

- Rang, Dale and Ritter Pharmacology (2000)
- Katzung –Basic and Clinical Pharmacology (2001)
- Laurence, Bennett and Brown-Clinical pharmacology (1997)
- Goodman & Gilman's- The pharmacological basic of therapeutics
  - (1995)
- British National Formulary (BNF) (2002)

6.3- Recommended Books

Library book

7- Facilities Required for Teaching and Learning

* White board & Markers.
* Over head projector.
* Data show.

Course title: Field Training

Course Specifications

Programme(s) on which the course is given

Major or Minor element of programmes

Department offering the programme: - pharmacy

Department offering the course: -

Academic year / Level

Date of specification approval

A- Basic Information

Title: Field Training Code:
Credit Hours: 6 hr Lecture:
Tutorial: Practical: Total:

B- Professional Information

1 – OVERALL AIMS OF COURSE

1. Able to apply academic knowledge to real-world applications of pharmacy in an industrial setting.
2. Able to analyze, interpret and report scientific and/or commercial information.
3. Able demonstrate professional attitudes to work including reliability, planning and time management skills,
4. The ability to operate as part of a team and to respond to leadership
5. Ability to investigate, analyze and critically assess aspects `of the professional practice of pharmacy in hospital and community pharmacy.
6. To develop students' confidence and competency to
    - Care for patients with non-pharmacological strategies and non-prescription medications.
    - Care for patients with health-promotion and immunization and other disease- prevention activities.

- Educate patients about the roles and responsibilities of pharmacists
- Self-assess and document activities.

2-INTENDED LEARNING OUT COMES:

b- INTELLECTUAL SKILLS

b1- The ability to apply problem solving skill

b2- Intellectual independence

b3-Investigate, analyze and critically assess aspects of the professional practice of pharmacy in their organization at the area of work

b4-Analyze interpret and report scientific and/or commercial information

c-PROFESSIONAL AND PRACTICAL SKILLS

c1- Dispensing of medicines to individual patients with due regard for the legal, therapeutic and professional requirements

c2- Recording of prescriptions and patient details.

c3- Apply academic knowledge to real-world applications of pharmacy in an industrial setting.

d- GENERAL AND TRANSFERABLE SKILLS

d1- The ability to work effectively and safely in a clinical and laboratory environment

d2- An appreciation of the relationships existing between drugs, medicines and patients

d3- To develop the concept of professionalism and the responsibilities associated with being a professional.

d4-To develop the culture and ethics of pharmacy as it relates to the total health-care setting.

d5-Demonstrate appropriate communication skills.

3- Content

Topic		No .of hour	Practical
Drug Industry Training	• Students are intended to practice in any pharmaceutical company to acquire the skills for :- o Quality control of pharmaceutical dosage forms. o Manufacturing process of different types of pharmaceutical dosage forms. o Pharmaceutical research and development.	120	
Hospital Training	Hospital visit to • Identify drug-related problems for some patients from information available in hospital charts. • Create therapeutic plans to address the drug-related problems • Discuss the therapeutic plans with a hospital pharmacist • process of adverse drug reaction reporting and analysis • Understanding of policies and procedures relating to distribution and administration of drugs to patients in hospitals. • steps involved in preparation of intermittent and continuous infusions, total parenteral nutrition, and chemotherapy • Unit dose Interpret/ check medication orders for completeness, appropriateness, and accuracy	140	
Community Pharmacy Training	• Experiences counseling patients about non-prescription medications • Health-promotion and disease-prevention strategies • The roles and responsibilities of pharmacists. • Students are encouraged to form a long-term professional relationship with one or more patients with chronic medical conditions. • Students are encouraged to design and implement their own health-promotion and disease-prevention programs. • Know the generic and brand names of drugs.	124	
		384	

4– Teaching and Learning Methods

4.1- Lectures

4.2- Tutorials

5- Student Assessment Methods

5.1- Essay assignments to assess intellectual skills

5.3-Final oral/written exam to assess the knowledge & understanding

5.3- laboratory and other written reports to assess practical/professional and general transferable skills.

Weighting of Assessments

Essay assignments	20	%
Laboratory and other written reports	10	%
Final oral/written exam	70	%
Total	100	%

*- List of References

***- Facilities Required for Teaching and Learning**

* White board & Markers.

* Over head projector.

Course Coordinator:

Head of Department:

Date: / /

Course Specifications of Graduation Project

Course Specifications
Programme(s) on which the course is given: Three year Pharmacy Technicians Diploma.
Major or Minor element of programmes: Table page- (203)
Department offering the programme:- Pharmacy Section.
Department offering the course:- Graduation Project
Academic year / Level:- 3rd year /2nd semester

Date of specification approval:-8 – 2007

A- Basic Information

Title: **Graduation Project** Code:
Credit Hours: 2hrs Lecture: None
Tutorial: None Practical: 2hrs Total:2hrs

B- Professional Information

1 – OVERALL AIMS OF COURSE

1. To apply research skills into a research study, undertake fieldwork and present a dissertation.
2. Summarizes and provides a final integration of knowledge, skills and attitudes developed during the five years in subjects related to pharmacy
3. Each student carries out a project relevant to current pharmaceutical development and practice in the hospital, community and pharmaceutical industry and/or research laboratory, and writes a critical report of relevant knowledge, novel observations and findings.

2-INTENDED LEARNING OUT COMES:

a- KNOWLEDGE & UNDERSTANDING:

a1-Define the Principles of research planning and design
a2- Describe principles of basics of experimental design and analysis.

b- INTELLECTUAL SKILLS

b1- Identify suitable research topics.
b2- Undertake independent research.
b3- Be able to do Critical review and analysis of related literature.

c-PROFESSIONAL AND PRACTICAL SKILLS

c1- Design research study

c2- Perform method validation and presentation of research report.
c3- Write the research proposal and theses.

d- GENERAL AND TRANSFERABLE SKILLS

d1-Demonstrate appropriate communication skills.
d2- Present clearly and effectively scientific topic in a tutorial or a staff meeting.
d3- Work separately or in a team to research and prepare a scientific topic.

3- Content

Topic	No .of hour	Lecture	practical
• Development of a research protocol • Fieldwork and data analysis	4		4
• This research project course involves the generation of new scientific information and a review and understanding of the scientific literature. • The research may be conducted in a laboratory, hospital, community pharmacy, pharmaceutical company, etc., depending on the project and the supervisor. • Students are divided into groups and each group is working together. • Students are expected to work approximately 72 hours. This will include working in the laboratory, etc., reading or searching literature, and writing up the research project. • Fields of study available may include: o Medicinal chemistry o Pharmaceutics o Biopharmaceutics and Pharmacokinetics o Pharmacology o Community pharmacy o Toxicology. o Pharmacognosy o ٦ o Industrial pharmacy	28		28
Total	**32hrs**		**32hrs**

4– Teaching and Learning Methods

4.1- Research
4.2- Tutorials

5- Student Assessment Methods

1- Dissertation

Assessment Schedule

At the end of the semester week 18

Weighting of Assessments

Dissertation Evaluation 100 %

For dissertation evaluation

Evaluation of student performance is as follows:

	Components	Grade distribution	
		Supervisor	Reviewer
1	Identification of problem	15	5
2	Quality of work (carefulness)	15	5
3	Data analysis	5	5
4	Write-up (style, grammar)	10	10
5	Theses examination	15	15
		60	40
Total hours		**100**	

APPENDIX

بسم الله الرحمن الرحيم

الأخوة / رئيس ومدرسو قسم الصيدلة المحترمون

يهدف هذا الاستبيان إلى جمع بعض المعلومات من جهة نظركم حول المنهج التعليمي لتخصص.....الصيدلة.....، وذلك بغرض معرفة نواحي القوة والضعف في المناهج التعليمية للمعهد.

يرجى التكرم بقراءة كل عبارة في الاستبيان بدقة وتأنً، والإجابة عليها بأن تضع (✓) في الخانة التي تعبر عن رأيك، أملين الإجابة عن جميع العبارات مع مراعاة الموضوعية والمصداقية في إجابتكم لها، علماً بأن البيانات لأغراض البحث العلمي فقط.

مع خالص الشكر والتقدير لتعاونكم الكريم.

معلومات أولية: ضع دائرة حول المعلومة المناسبة فيما يلي:

النوع:

المؤهل: دبلوم المعهد الصحي (بعد الإعدادية)، دبلوم المعهد الصحي (بعد الثانوية)، بكالوريوس ، دبلوم بعد البكالوريوس، ماجستير، دكتوراه، مؤهل أخر أذكره:

سنوات الخبرة في التدريس: ١ – ٥ سنوات، ٦ – ١٠ سنوات، أكثر من ١٠سنوات .

التخصص: صيدلة – كيمياء حيوية – أحياء دقيقة – علم نفس

م	العبارات	درجة التحقق			
		عالية	متوسطة	ضعيفة	منعدمة
	أهداف المنهج:				
١	يحتوي المنهج على أهداف تعليمية عامة واضحة				
٢	ترتبط أهداف المنهج التعليمية بأهداف المعهد				
٣	يحتوى المنهج على أهداف تعليمية واضحة خاصة لكل مقرر				
٤	في المنهج أهداف معرفة وفهم واضحة				
٥	في المنهج أهداف مهارية ذهنية واضحة				
٦	في المنهج أهداف مهارية عملية ومهنية واضحة				
٧	تخضع أهداف المنهج المراجعة في كل عام دراسي				
٨	الأهداف المعرفية تساعد الطلبة على اكتساب المعارف والمفاهيم الأساسية في المنهج				
٩	الأهداف المهارية الذهنية تساعد الطلبة على التمكن من الاستنتاج والتحليل والابتكار في ضوء ما تعلمة				

م	العبارات	درجة التحقق			
		عالية	متوسطة	ضعيفة	منعدمة
١٠	تسهم الأهداف المهارية العملية والمهنية في تعميق وعي الطلبة بأهمية ما يتعلمونه في المنهج وتطبيقه في الميدان				
محتوى المنهج :					
١١	محتوى المنهج يعبر بوضوح عن الأهداف التعليمية للمنهج				
١٢	الجوانب النظرية غالبة على المحتوى التعليمي في المنهج				
١٣	جوانب التطبيق والتدريب غالبة على المحتوى التعليمي في المنهج				
١٤	المحتوى التعليمي موزع بشكل متوازن إلى جوانب نظرية وجوانب تدريبية				
١٥	المحتوى التعليمي متناسب مع قدرات الطلبة واستعداداتهم				
١٦	محتوى المنهج مشابه لمحتوى المناهج المماثلة إقليمياً ودولياً				
١٧	خبرات المنهج التعليمية مواكبة للتطورات المتلاحقة في التخصص				
١٨	محتوى المنهج يلبي متطلبات المجتمع وسوق العمل				
١٩	يوجد تداخل وتكرار لمحتوى مقررات المنهج المختلفة				
٢٠	المنهج التعليمي يهتم بالكم على حساب الكيف				
٢١	تتوفر كتب تعليمية محددة ومقررة لمقررات المنهج				
٢٢	تتوفر البيئة التعليمية المناسبة لتنفيذ المنهج بشكل فاعل				
الطرائق والوسائل والأنشطة للمنهج:					
٢٣	يؤكد المنهج على استخدام طرائق تدريس متنوعة				
٢٤	طرائق التدريس للمنهج تعتمد على تقديم المعلومات جاهزة للطلبة				
٢٥	تستخدم الطرائق التي تعزز التفاعل بين الطالب والمدرس في المنهج				
٢٦	يعتمد المنهج على الطرائق التي تشجع الطلبة على التعلم الذاتي				
٢٧	المنهج يشجع المدرس على استخدام تكنولوجيا التعليم في تنفيذه				
٢٨	الوسائل التعليمية المطلوبة لتنفيذ المنهج متوفرة في المعهد				
٢٩	المدرس يحرص على استخدام الوسائل المتوفرة في تعليم المنهج				
٣٠	يشجع المنهج المدرس على إنتاج بعض الوسائل التعليمية من البيئة				
٣١	يقدم المنهج للطلبة أنشطة عملية تنفذ في مجموعات تعاونية				
٣٢	المنهج غني بالأنشطة العملية التي تنمي مهارات التعلم الذاتي				
٣٣	يوفر المنهج أنشطة متنوعة تراعي الفروق الفردية للطلبة				
٣٤	تتضمن أنشطة المنهج أنشطة يتم تنفيذها في الميدان خارج المعهد				
٣٥	أنشطة المنهج تكسب الطالب القدرة على البحث والاستكشاف				
٣٦	يتميز المنهج بتوفر الأدلة العملية لأنشطته المختلفة				
٣٧	توفر الإمكانيات تساعد على تنفيذ أنشطة المنهج التدريبية بفاعلية				
أساليب التقويم في المنهج :					
٣٨	أساليب تقويم المنهج تساعد على معرفة مدى تحقق أهدافه التعليمية				
٣٩	يتم إتباع أساليب تقويم متنوعة لتقويم الجوانب النظرية في المنهج				
٤٠	يتم إتباع أساليب تقويم متنوعة لتقويم الجوانب التطبيقية في المنهج				
٤١	يتم تقويم مدى فاعلية المنهج التعليمي بشكل دوري				
٤٢	يعتمد المنهج على الامتحانات التي تقيس مدى حفظ الطالب للمعلومات				
٤٣	توفر استمارات وقوائم معدة في التقويم لمكونات محتوى المنهج				

أ- ما الجوانب النظرية (المقررات أو المواضيع) في المنهج التعليمي التي تشعر أنها ليست مهمة في إعداد وتأهيل الطالب للحياة العملية في التخصص؟

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ب- ما الجوانب النظرية التي ترى إضافتها إلى المنهج وتشعر أنها مهمة في إعداد وتأهيل الطالب للحياة العملية في التخصص؟

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ج- ما المهارات التخصصية التي ترى بأن يتم إضافتها إلى المنهج لتؤهل الطالب بشكل جيد لسوق العمل؟

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د- ما جوانب الضعف في المنهج التعليمي الحالي ؟

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ه- ما الجوانب الإيجابية للمنهج التعليمي الحالي؟

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و- عدد أهم المشكلات التي تعوق التعلم الفاعل للجوانب النظرية والتطبيقية في المنهج الحالي للقسم؟

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ح- ملاحظات أخرى:

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شاكرين ومقدرين تعاونكم لاهتمامكم وتفاعلكم الإيجابي مع الاستبيان

بسم الله الرحمن الرحيم

أخي الطالب / أختي الطالبة في قسم الصيدلة

هذا الاستبيان يحتوي على عبارات خاصة بتقييم المنهج التعليمي ومقرراته لقسم الصيدلة لذا يرجى منك قراءة هذه العبارات بدقة وعناية وإبداء رأيك بصراحة وأمانة حول الأمور المتعلقة بالمنهج ومحتوى المقررات فيه، علماً أن هذه المعلومات لن تستخدم إلا لغرض معرفة نواحي القوة والضعف في المنهج مما سيساعد على تطوير هذه لمناهج على مستوى الجمهورية اليمنية إلى الأفضل، إن شاء الله. وللعلم فلن يطلع على المعلومات في هذا الاستبيان سوى فريق التقويم، ولن يكون لها أي أثر على درجاتك في أي مادة، كما أنه لا يلزمك كتابة اسمك على الاستبيان، شاكرين تعاونك الكريم لما فيه المصلحة العامة.

قبل البدء بالإجابة يرجى منك كتابة البيانات التالية

الجنس: التخصص: المستوى:

التقدير العام للمستوى السابق:

العبارات في الجدول أدناه تصف بعض الخصائص والمميزات لمنهج الصيدلة، والمطلوب مدى تحقق كل عبارة وذلك بوضع علامة (✓) أمام البديل الذي تراه مناسباً أمام العبارة.

م	العبارات	درجة التحقق			
		عالية	متوسطة	ضعيفة	منعدمة
١	المنهج يساعد الطالب على اكتساب المعارف المطلوبة في التخصص				
٢	المنهج يساعد الطالب على التمكن من المهارات العملية المطلوبة في التخصص				
٣	المنهج يساعد الطالب على تكوين اتجاهات وميول إيجابية نحو التخصص				
٤	يشمل المنهج على معلومات حديثة في مجال التخصص				
٥	يشمل المنهج على معلومات مترابطة ومتكاملة ولها علاقة ببعضها				
٦	يوفر المنهج المعلومات التي تساعد الطالب على حل المشكلات في حياته العملية				
٧	المنهج مليء بالمعلومات التي لا تهم الطالب كثيراً في مجال تخصصه				
٨	المنهج يقدم معلومات مكررة في أكثر من مقرر من مقررات المنهج				
٩	المنهج يركز على الجوانب النظرية أكثر من الجوانب العملية والتطبيقية				
١٠	المنهج يركز على جوانب التطبيق والتدريب أكثر من الجوانب النظرية				
١١	المنهج يوازن بين الجوانب النظرية وجوانب التطبيق والتدريب				
١٢	المنهج يؤهل الطالب بشكل ممتاز في مجال تخصصه				
١٣	المنهج ممتع ويشجع الطالب على المزيد من البحث والاطلاع				
١٤	محتوى المنهج التعليمي يتناسب مع قدرات واستعدادات الطلبة				

م	العبارات	درجة التحقق			
		عالية	متوسطة	ضعيفة	منعدمة
١٥	يتيح المنهج فرصاً مناسبة أمام الطالب لمواصلة التعلم الذاتي				
١٦	تتوفر الكتب والمراجع الحديثة للمنهج لمواصلة التعلم من قبل الطلبة				
١٧	يكسب الطالب خبرات تعليمية مواكبة للتطور المتسارع في التخصص				
١٨	يوفر للطلبة فرص التعلم في مجموعات متعاونة				
١٩	يقدم المنهج من قبل المدرسين باستخدام طرائق تدريس مشوقة				
٢٠	يتم التركيز في تدريس المنهج على تقديم المعلومات جاهزة للطلبة				
٢١	يغلب على طرائق تدريس المنهج تعزيز التفاعل بين الطالب والمدرس				
٢٢	يعتمد المنهج على الطرائق التي تشجع الطلبة على التعلم الذاتي				
٢٣	يحرص المدرسون على الوسائل التعليمية في تدريس المنهج				
٢٤	يشجع المنهج الطلبة على إنتاج بعض الوسائل التعليمية من البيئة				
٢٥	المنهج غني بالأنشطة العملية التي تنمي مهارات التعلم الذاتي				
٢٦	يوفر المنهج أنشطة متنوعة تراعي الفروق الفردية للطلبة				
٢٧	يتضمن المنهج أنشطة يتم تنفيذها في الميدان خارج المعهد				
٢٨	أنشطة المنهج تساعد الطلبة على اكتساب مهارات البحث والاستكشاف				
٢٩	تتوفر الكتب المقررة للطلبة لكل مادة من مواد المنهج				
٣٠	يتوفر دليل عملي للطالب لتنفيذ أنشطته المختلفة				
٣١	يقدم محتوى المنهج للطلبة على شكل مذكرات وملازم				
٣٢	يتمكن الطالب من تنفيذ كل أنشطة المنهج التدريبية وتطبيقاته				
٣٣	تستخدم أساليب تقويم متنوعة لتقويم مدى الفهم لحقائق المنهج ومفاهيمه				
٣٤	يقتصر التقويم على الامتحانات التي تقيس مدى حفظ الطالب للمعلومات في المنهج				
٣٥	يتم إتباع أساليب تقويم متنوعة لتقويم مدى اكتساب الطالب للمهارات العملية				
٣٦	بعض مقررات المنهج الحالي غير مهمة لتخصصي				
٣٧	المنهج يشجع الطالب للرجوع إلى المراجع العلمية المختلفة				

أ- ما المقررات في المنهج التعليمي لتخصصك والتي تشعر أنها ليست مهمة في إعدادك وتأهيلك للحياة العملية في التخصص ؟

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ب- عدد المهارات العملية التخصصية التي تمكنت بشكل ممتاز خلال سنوات دراستك في القسم ؟

- مهارات عملية في .....وفي .....، ..... ، .....
وكذلك .....،.....،..... ومعرفة الجديد من الأدوية الحديثة.

ج- عدد المهارات التي تشعر أنك لم تتمكن منها بالشكل المطلوب خلال سنوات دراستك في القسم، مع ذكر الأسباب لذلك:

م	المهارة	أسباب عدم تمكني منها
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د- ما المعارف والمهارات التي لم تتوفر في المنهج التعليمي وتشعر أنه من المهم أن تكتسبها لحياتك العملية؟

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بعد تعبئة هذه الاستمارة ضعها في الظروف المرفق وسلمها للشخص المعني

ولكم منا خالص الشكر والتقدير