Bachelor of Pharmacy

Program Report

(2019 – 2020)

Prepared by

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Teaching Institution: Faculty of Pharmacy, Zagazig University, Egypt

Awarding Institution: Zagazig University

Degree Award: Bachelor of Pharmacy

Length and Mode : **5** years; full- time

Program Coordinator: Prof. Amal Al-Gindy
Vice Dean for Education and Students Affairs

A- Basic Information:

1- **Program Title:** Bachelor of Pharmacy

2- **Program Type:** single

3- **Number of Courses: 63**

4- **Departments:**

a- Departments affiliated to faculty of pharmacy:

- Department of Analytical Chemistry
- Department of Biochemistry
- Department of Pharmaceutics
- Department of Medicinal Chemistry
- Department of Microbiology & Immunology
- Department of Pharmaceutical Organic Chemistry
- Department of Pharmacognosy
- Department of Pharmacology & Toxicology
- Department of Pharmacy Practice

b- Departments not affiliated to faculty of pharmacy:

- Histology and Anatomy departments (Faculty of Medicine)
- Mathematics department (Faculty of Science)
- English Language department (Faculty of Education)
- Accounting & Pharmacy Administration department (Faculty of Commerce)
- Human Rights department (Faculty of Law)
- Psychology department (Faculty of Education)

5- **Co-coordinator:**

- Prof. Amal AlGindy "Vice dean for Education and Student affairs"

6- **External evaluator:** Prof. Mahmoud Bakr Al-Ashmawi, Department of Pharmaceutical Chemistry, Mansoura University

B- Statistics:

1. **No. of students admitting the program (2015 - 2016):**1352
2. **No. of students admitting the program this year (2019 – 2020):**680

% decrease = 50.3 %

The process of application, selection and approval for admission is carried out through a central national admission office supervised by the MOHE which took a decision to reduce the annual number of enrolled students for the purpose of services development.

The number of enrolled students is determined annually by the SCU.

No. and percentage of students passing in each year/level/Semester:

Year	No. admitted	No. passing the exam.	Percentage
1st year	1352	1047	77.44%
2nd year	1169	1008	86.22%
3rd year	1098	1038	94.53%
4th year	1064	1020	95.86%
5th year	1094	974	98.03%

The table illustrates higher student achievement in higher levels.

3. **No. of students completing the program and as a percentage of those who started:**

No. of students admitted to the program (2015 – 2016)	No. of students completed the program (2019-2020)	% of students completed the program
1352	974	72.04 %

4. **Grades: no. and percentage of each grade:**

Year	Grade					Total	Total (pass)
	Excellent	Very Good	Good	Pass	Fail		
1st year	81	373	344	12	298	1345	1047
	6.02%	27.73%	25.57%	0.89%	22.15%	100%	77.84%

Year	Grade					Total	Total (pass)
	Excellent	Very Good	Good	Pass	Fail		
2nd year	44	256	396	74	103	1169	1008
	3.7%	21.89%	33.87%	6.33%	8.81%	100%	86.2%

Year	Grade					Total	Total (pass)
	Excellent	Very Good	Good	Pass	Fail		
3rd year	127	392	308	43	33	1096	1038
	11.58%	35.76%	28.1%	3.92%	3.01%	100%	94.7%

Year	Grade					Total	Total (pass)
	Excellent	Very Good	Good	Pass	Fail		
4th year	118	376	414	98	33	1064	1020
	11.09%	35.33%	38.9%	9.21%	3.1%	100%	95.8%

Year	Grade					Total	Total (pass)
	Excellent	Very Good	Good	Pass	Fail		
5th year	253	505	215	1	8	1073	974
	23.57%	47.06%	20.03%	0.09%	0.74%	100%	90.7%

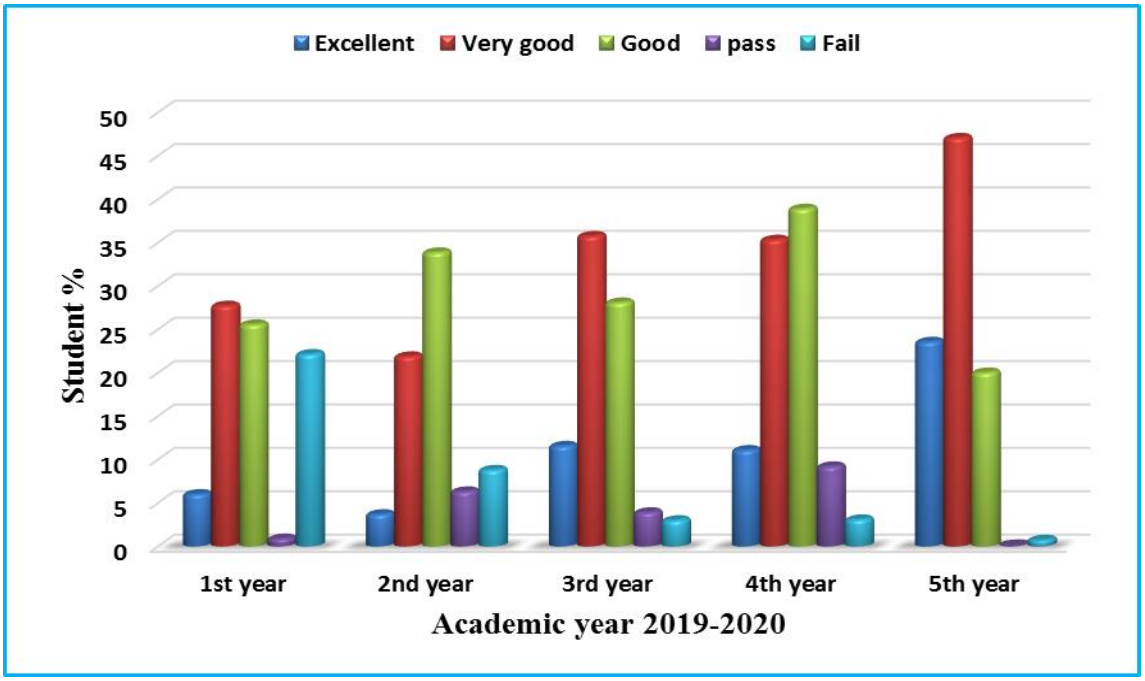
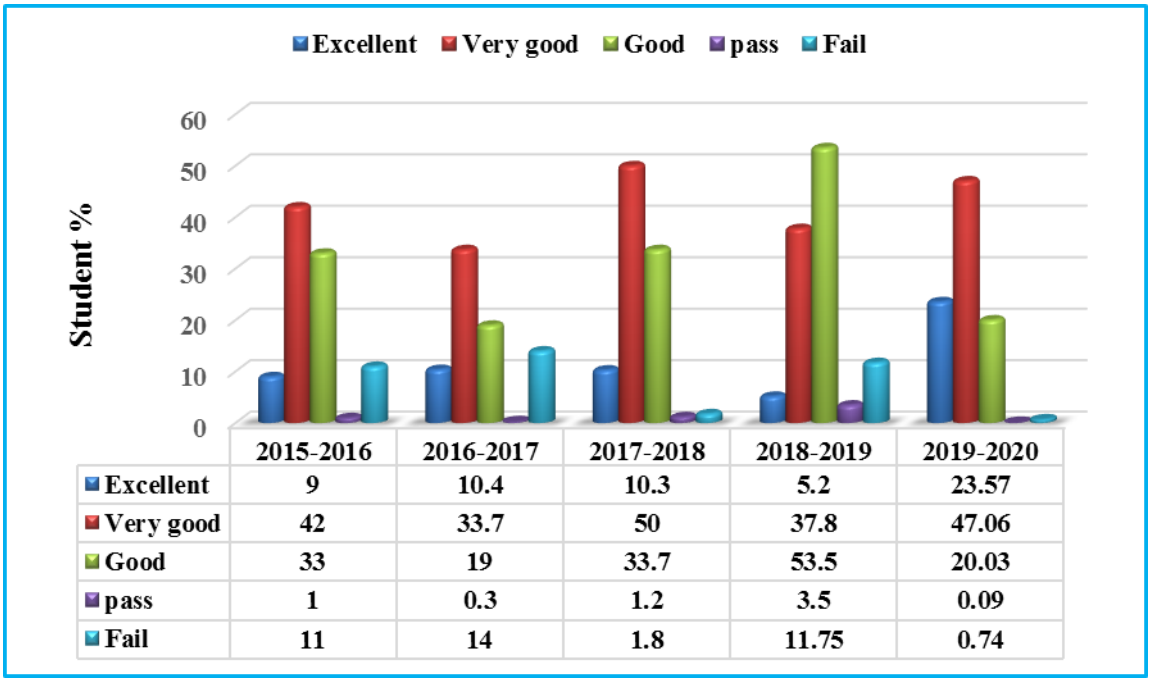


Fig. 1: Follow up of students' progress along the five years of the program.



	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Excellent	9	10.4	10.3	5.2	23.57
Very good	42	33.7	50	37.8	47.06
Good	33	19	33.7	53.5	20.03
pass	1	0.3	1.2	3.5	0.09
Fail	11	14	1.8	11.75	0.74

Fig. 2: Comparison between the grades of graduates along the past 5 years

This figure shows significant improvement in 5th students' grades when compared to the past 4 years. This result may be due to not application of

Faculty council decision of necessity of presence of 25% short essay questions in the final written exam because of Covid-19 pandemic.

C- Professional Information:

Academic Standards:

1. Achievement of Program Intended learning Outcomes.

The following table presents the courses taught in Bachelor of Pharmacy program and the covered ILOs through the courses`:

National Academic Reference Standards (NARS)	Program ILOS	Course (s) covering ILOs`
2-1 Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A1	• General and Physical Chemistry • Pharmaceutical Organic Chemistry-1 • Botany and Medicinal Plants • Analytical chemistry-1 • English and Medical Terms • Principles of Math. And Statistics • Pharmaceutical Organic Chemistry-2 • Analytical chemistry-2 • Analytical chemistry-3 • Pharmaceutical Organic Chemistry-3 • Analytical chemistry-4 • Pharmaceutical Organic Chemistry-4 • Production of Raw Materials
	A2	• Pharmaceutics-1 • Pharmaceutics-2 • Pharmacognosy-1 • Pharmaceutics-3 • General Microbiology & Immunology • Pharmacognosy-2 • Pharmaceutics-4 • Pharmaceutical Microbiology • Biopharmaceutics & Pharmacokinetics • Phytochemistry-1 • Phytochemistry-2 • Chromatography of Natural Products • Medicinal Chemistry-1 • Bioassay1 • Biotechnology of Natural Products • Medicinal Chemistry-2 • Bioassay2 • Pathology and Parasitology • Industrial Pharmacy-1 • Applied Pharmacognosy • Industrial Pharmacy-2 • Phytotherapy

Exceeding NARs	A3	• Botany and Plant Taxonomy • Pharmacognosy 1 • Pharmacognosy 2
	A4	• Histology and Anatomy • Physiology • Biochemistry-1 • Biochemistry-2 • Medical Microbiology • Biotechnology • Pharmacology-2 • Clinical Nutrition
	A5	• Human Rights and Professional Ethics • Psychology
	A6	• Accounting and pharmaceutical business administration
	A7	• Medical Microbiology • Toxicology-1 • Toxicology-2
	A8	• Hospital and Clinical Pharmacy • Community Pharmacy • Phytotherapy
2-2 Physico-chemical properties of various substances used in preparation of medicines including inactive and active ingredients as well as biotechnology and radio- labeled products.	A9	• General and Physical Chemistry • Pharmaceutics-2 • Pharmacognosy-1 • Pharmaceutics-3 • Pharmaceutics-4 • Pharmaceutical Microbiology • Biopharmaceutics & Pharmacokinetics • Phytochemistry-2 • Toxicology-1 • Toxicology-2 • Drug Design
	A10	• Pharmaceutical Microbiology • Biotechnology of natural products
2-3 Principles of different analytical techniques using GLP guidelines and validation procedures.	A11	• Analytical chemistry-1 • Analytical chemistry-2 • Analytical chemistry-4 • Pharmaceutical Organic Chemistry-4 • Chromatography of natural products • Applied pharmacognosy-1 • Medicinal chemistry- 4 • Quality control
2-4 Principles of isolation, synthesis, purification, identification, and standardization methods of pharmaceutical compounds.	A12	• Pharmaceutics-1 • Pharmacognosy-2 • Phytochemistry-2 • Quality Control • Drug Design
	A13	• Pharmaceutical Microbiology • Analytical chemistry-3

		• Analytical chemistry-4 • Applied pharmacognosy-1 • Bioassay-1 • Bioassay-2
2-5 Principles of drug design, development and synthesis.	A14	• Pharmaceutical Organic Chemistry-1 • Medicinal Chemistry-4 • Drug design •
	A15	• Pharmaceutical Organic Chemistry-1 • Pharmaceutical Organic Chemistry-2 • Pharmaceutical Organic Chemistry-3 • Pharmaceutical Organic Chemistry-4 • Pharmacognosy2 • Production of Raw Materials • Medicinal Chemistry-1 • Medicinal Chemistry-2 • Medicinal Chemistry-3 • Medicinal Chemistry-4 • Drug Design
2-6 Properties of different pharmaceutical dosage forms including novel drug delivery systems.	A16	• Pharmaceutics-1 • Pharmaceutics-3 • Analytical chemistry-4 • Pharmaceutics-4 • Sterile Products and Controlled Drug Delivery Systems • Applied Pharmacognosy-2 • Summer training
	A17	• Sterile Products and Controlled Drug Delivery Systems • Drug design • Summer training
2-7 Principles of various instruments and techniques including sampling, manufacturing, packaging, labeling, storing and distribution processes in pharmaceutical industry	A18	• Pharmaceutics 3 • Pharmaceutics 4 • Sterile Products and Controlled Drug Delivery Systems • Industrial pharmacy 1 • Industrial pharmacy 2 • Histology and anatomy •
2-8 Principles of pharmacokinetics and biopharmaceutics with applications in therapeutic drug monitoring, dose modification and bioequivalence studies.	A19	• Drug Design • Sterile Products and Controlled Drug Delivery Systems • Medicinal Chemistry-4 • summer training •
2-9 Principles of hospital pharmacy including I.V. admixtures, TPN and drug distribution system	A20	• Hospital and Clinical Pharmacy • Community Pharmacy • summer training
2-10 Principles of public health issues including sources and control of	A21	• Toxicology-1 • Pharmaceutical Microbiology •

microbial contamination as well as sanitation, disinfection, sterilization methods and microbiological QC of pharmaceutical products.	A22	• General Microbiology & Immunology • Pharmaceutical Microbiology •
	A23	• Pharmaceutical Microbiology •
2-11 Principles of body function in health and disease states as well as basis of genomic and different biochemical pathways regarding their correlation with different diseases	A24	• Biochemistry I • Physiology • Medical Microbiology • Clinical Biochemistry • Clinical Nutrition • Pathology and parasitology
	A25	• Toxicology-2 • Clinical Biochemistry-1 • Biochemistry 2 • Biochemistry I • Physiology
	A26	• General Microbiology & Immunology • Histology and Anatomy • Biochemistry-2 • Clinical Biochemistry-2 • Biotechnology of Natural Products
2-12Etiology, epidemiology, laboratory diagnosis and clinical features of different diseases and their pharmaco-therapeutic approaches	A27	• Histology and Anatomy • Physiology • Biopharmaceutics & pharmacokinetics • Pharmacology-1 • Pharmacology-2 • Pharmacotherapy • Medical Microbiology • Microbiology-4 • Clinical Biochemistry • Hospital and Clinical Pharmacy-2 • Pathology and Parasitology • Clinical Pharmacology • Clinical Nutrition
	A28	• Physiology • Biochemistry I • Biopharmaceutics & pharmacokinetics • Pharmacology-1 • Pharmacotherapy • Biotechnology • Clinical Biochemistry-1 • Pathology and Parasitology • Clinical Pharmacology • Summer training
	A29	• Pharmacology-1 • Pharmacology-2 • Pharmacotherapy • Biotechnology • Bioassay-1 • Community Pharmacy • Bioassay-2 • Clinical Pharmacology

2-13 Pharmacological properties of drugs including mechanisms of action, therapeutic uses, dosage, contra-indications, ADRs and drug interactions.	A30	• Pharmacognosy-1 • Phytochemistry-2 • Pharmacology-2 • Pharmacotherapy • Chromatography of Natural Products • Medicinal Chemistry-1 • Medicinal Chemistry-2 • Medicinal Chemistry-3 • Applied Pharmacognosy-2
2-14 Principles of clinical pharmacology, pharmacovigilance and the rational use of drugs.	A31	• Pharmacology-1 • Clinical Pharmacology
2-15 Basis of complementary and alternative medicine	A32	• Chromatography of Natural Products • Applied Pharmacognosy-2 • Clinical Nutrition
2-16 Toxic profile of drugs and other xenobiotics including sources, identification, symptoms, management control and first aid measures	A33	• Bioassay-2
	A34	• Pharmaceutics-1
2-17 Methods of biostatistical analysis and pharmaceutical calculations	A35	• Principles of Math. And Statistics • Bioassay-2 • Summer training
	A36	• Medicinal Chemistry-4 • Quality Control • Pharmaceutics-1 • Analytical chemistry-3 • Analytical chemistry-4 • Biopharmaceutics & Pharmacokinetics • Summer training
2-18 Principles of management including financial and human resources.	A37	• Accounting & Business Administration
2-19 Principles of drug promotion, sales and marketing, business administration, accounting and pharmacoeconomics.	A38	• Drug Marketing and Communication Skills • Accounting & Business Administration
2-20 Principles of proper documentation and drug filing systems.	A39	• Pharmaceutics-4
2-21 Regulatory affairs, pharmacy laws and ethics of health care and pharmacy profession	A40	• Pharmaceutics-4 • Human Rights
Exceeding NARs	A41	• Biotechnology of Natural Product
3-1 Use the proper pharmaceutical and medical terms and abbreviations and	B1	• Histology and Anatomy • General Microbiology & Immunology • Pharmaceutical Microbiology

symbols in pharmacy practice.		• Physiology • Community Pharmacy • Biotechnology of Natural Products • Pathology and Parasitology • Applied Pharmacognosy-1 • Applied Pharmacognosy-2 • Botany and Medicinal Plants • Pharmaceutics-1 • English and Medical Terms • Summer training
3-2 Handle and dispose chemicals and pharmaceutical preparations safely	B2	• General and Physical Chemistry • Pharmaceutical Organic Chemistry-1 • Botany and Medicinal Plants • Analytical chemistry-1 • Analytical chemistry-2 • Analytical chemistry-3 • Analytical chemistry-4 • Pharmaceutical Organic Chemistry-2 • Pharmaceutical Organic Chemistry-3 • Pharmaceutical Organic Chemistry-4 • General Microbiology & Immunology • Pharmaceutical Microbiology • Phytochemistry-1 • Biochemistry-1 • Medical Microbiology • Production of Raw Materials • Phytochemistry-1 • Phytochemistry-2 • Biochemistry-2 • Biotechnology • Hospital and Clinical Pharmacy • Chromatography of Natural Products • Medicinal Chemistry-1 • Clinical Biochemistry-1 • Bioassay-1 • Bioassay-2 • Toxicology-1 • Biotechnology of Natural Products • Medicinal Chemistry-2 • Pharmacognosy-1 • Pharmacognosy-2 • Pharmaceutics-3 • Pharmaceutics-4 • Pathology and Parasitology • Applied Pharmacognosy-1 • Applied Pharmacognosy-2 • Summer training
	B3	• Pharmaceutics-1 • Pharmaceutics-3 • Pharmaceutics-4 • Hospital and Clinical Pharmacy • Quality Control
3-3 Compound, dispense, label, store and distribute	B4 B5	• Pharmaceutics-3 • Pharmaceutics-4

medicines effectively and safely		• Biopharmaceutics & Pharmacokinetics • Sterile Products and Controlled Drug Delivery Systems • Hospital and Clinical Pharmacy • Industrial Pharmacy-2 • Summer training
3-4 Extract, isolate, synthesize, purify, identify, and/or standardize active substances from different origins.	B6	• General and Physical Chemistry • Pharmaceutics-1 • Analytical chemistry-1 • Analytical chemistry-2 • Pharmacognosy-1 • Pharmacognosy-2 • Phytochemistry-1 • Biochemistry-1 • Phytochemistry-2 • Chromatography of Natural Products • Quality Control
		• Pharmaceutical Organic Chemistry-1 • Pharmaceutical Organic Chemistry-2 • Analytical chemistry-2 • Pharmaceutical Organic Chemistry-3 • Pharmaceutical Organic Chemistry-4 • Production of Raw Materials • Medicinal Chemistry-1 • Medicinal Chemistry-2 • Medicinal Chemistry-3
	B7	• Analytical chemistry-3 • Analytical chemistry-4 • Pharmaceutical Microbiology
3-5 Select medicines based on understanding of etiology and pathophysiology of diseases	B8	• Pharmacology-1 • Pharmacology-2 • Community Pharmacy • Toxicology-2 • Clinical Pharmacology • Clinical Nutrition • Pharmacotherapy
Exceeding NARs	B9	• Clinical Pharmacology • Pharmacotherapy
3-6 Monitor and control microbial growth and carry out laboratory tests for identification of infectious and non-infectious diseases.	B10	• General Microbiology & Immunology • Biotechnology of Natural Products
	B11	• General Microbiology & Immunology • Biochemistry-1 • Medical Microbiology • Biochemistry-2 • Biotechnology • Clinical Biochemistry-1 • Pathology and Parasitology • Clinical Nutrition
Exceeding NARs	B12	• Clinical Biochemistry 2
3-7 Assess toxicity	B13	• Toxicology-1

profiles of different xenobiotics and detect poisons in biological specimens	B14	• Toxicology-1 • Applied Pharmacognosy-2
3-8 Apply techniques used in operating pharmaceutical equipment and instruments	B15	• Pharmaceutics-2 • Analytical chemistry-4 • Bioassay-1 • Bioassay-2 • Industrial Pharmacy-1 • Medicinal Chemistry-4
3-9 Maintain public awareness on rational use of drugs and social health hazards of drug abuse and misuse.	B16	• Pharmaceutical Microbiology • Pharmacology-1 • Toxicology-2 • Clinical Pharmacology • Summer training
3-10 Advise patients and other health care professionals about safe and proper use of medicines	B17 B18	• Hospital and Clinical Pharmacy • Community Pharmacy •
3-11 Conduct research studies and analyze the results	B19	• Pharmacognosy-1 • Histology and Anatomy • Phytochemistry-1 • Phytochemistry-2 • Chromatography of Natural Products • Medicinal Chemistry-1 • Toxicology-1 • Medicinal Chemistry-2 • Toxicology-2 • Applied Pharmacognosy-1 • Medicinal Chemistry-3 • Advanced Pharmacology • Pharmacotherapy • Research Project • Applied Pharmacognosy-2 • Medicinal Chemistry-4 • Pharmacotherapy • Drug Design • Summer training
3-12 Employ proper documentation and drug filing systems	B20	• Advanced Pharmacology • Summer training
Exceeding NARs	B21	• Pharmaceutics-1 • Pharmaceutics-3 • Pharmaceutics-4 • Sterile Products and Controlled Drug Delivery Systems • Hospital Pharmacy and Clinical Pharmacy • Bioassay 2 • Public Health
Exceeding NARs	B22	• Pharmaceutical Organic Chemistry-1 • Phytochemistry-1 • Industrial Pharmacy 1

4-1 Apply pharmaceutical knowledge in the formulation of safe and effective medicines as well as in dealing with new drug delivery systems.	C1	• Pharmaceutics-1 • Pharmaceutics-3 • General Microbiology & Immunology • Pharmaceutics-4 • Pharmaceutical Microbiology • Sterile Products and Controlled Drug Delivery • Hospital and Clinical Pharmacy • Summer training
	C2	• Sterile Products and Controlled Drug Delivery • Summer training
4-2 Comprehend and apply GLP,GPMP, GSP and GCP guidelines in pharmacy practice	C3 C4 C5	• Pharmacognosy-2 • Pharmaceutical Microbiology • Medicinal Chemistry-1 • Clinical Biochemistry • Medicinal Chemistry-2 • Applied Pharmacognosy-1 • Medicinal Chemistry-3 • Industrial Pharmacy-2 • Applied Pharmacognosy-2 • Medicinal Chemistry-4 • Quality Control • Summer training
4-3 Apply qualitative and quantitative analytical and biological methods for QC and assay of raw materials as well as pharmaceutical preparations	C6	• General and Physical Chemistry • Analytical chemistry-1 • Analytical chemistry-2 • Analytical chemistry-3 • Pharmacognosy-1 • Analytical chemistry-4 • Pharmacognosy-2 • Phytochemistry-1 • Biochemistry-1 • Phytochemistry-2 • Biochemistry-2 • Chromatography of Natural Products • Medicinal Chemistry-1 • Clinical Biochemistry • Medicinal Chemistry-2 • Applied Pharmacognosy-1 • Medicinal Chemistry-3 • Quality Control
	C7	• pharmaceutics-1 • pharmaceutics-2 • Sterile Products and Controlled Drug Delivery • Medicinal chemistry-3 • Medicinal chemistry-4 • Quality Control • Drug Design • Medicinal Chemistry-1 • Bioassay-1 • Medicinal Chemistry-2 • Bioassay-2
4-4 Recognize and control possible physical and/or chemical	C8	• Pharmacotherapy • Sterile Products and Controlled Drug Delivery

incompatibilities that may occur during drug dispensing		
4-5 Select the appropriate methods of isolation, synthesis, purification, identification, and standardization of active substances from different origins.	C9	• Pharmaceutical Organic Chemistry-1 • Pharmaceutical Organic Chemistry-2 • Pharmaceutical Organic Chemistry-3 • Pharmaceutical Organic Chemistry-4 • Botany and Medicinal Plants • Pharmacognosy-1 • Pharmacognosy-2 • Phytochemistry-1 • Phytochemistry-2 • Biochemistry-1 • Chromatography of Natural Products
	C10	• Pharmaceutical Organic Chemistry-1 • Pharmaceutical Organic Chemistry-2 • Pharmaceutical Organic Chemistry-3 • Production of Raw Materials
		• Analytical chemistry-3 • Analytical chemistry-4 • Physiology • Toxicology-2 • Applied Pharmacognosy-1 • Applied Pharmacognosy-2 • Pharmaceutical Organic Chemistry-4
4-6 Apply the principles of bio-informatics and computer-aided tools in drug design	C11	• Pharmaceutical Organic Chemistry-4 • Production of Raw Materials • Drug Design
4-7 Apply various principles to determine the characteristics of biopharmaceutical products	C12	• Toxicology-1 • Toxicology-2 • Pharmacotherapy
4-8 Select and assess appropriate methods of infection control to prevent infections and promote public health.	C13	• General Microbiology & Immunology • Pharmaceutical Microbiology • Biotechnology • Pathology and Parasitology • Toxicology-2 • Clinical Nutrition • Summer training
4-9 Utilize the pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions.	C14	• Pharmacology-1 • Pharmacology-2 • Biotechnology • Toxicology-2 • Clinical Pharmacology • Clinical Nutrition • Summer training
4-10 Calculate and adjust dosage and dose regimen of medications	C15	• Biopharmaceutics & Pharmacokinetics • Community Pharmacy • Toxicology-2
4-11 Assess drug interactions, ADRs and pharmacovigilance.	C16	• Human Rights • Pharmacology-1 • Medical Microbiology

		• Toxicology-1 • Community Pharmacy • Clinical Pharmacology • Drug Design • Summer training
4-12 Apply the principles of pharmacoeconomics in promoting cost/effective pharmacotherapy	C17	• Accounting & business Administration
4-13 Analyze and interpret experimental results as well as published literature	C18	• Pharmaceutics-1 • Principles of Math. And Statistics • General Microbiology & Immunology • Histology and Anatomy • Pharmaceutical Microbiology • Biochemistry-1 • Biochemistry-2 • Medical Microbiology • Biotechnology • Clinical Biochemistry • Bioassay-1 • Bioassay-2 • Biotechnology of Natural Products • Pathology and Parasitology • Research Project
4-14 Analyze and evaluate evidence-based information needed in pharmacy practice.	C19	• Pharmacognosy-1 • Histology and Anatomy • Psychology • Phytochemistry-1 • Pharmacology-1 • Phytochemistry-2 • Toxicology-1 • Toxicology-2 • Applied Pharmacognosy-1 • Clinical Pharmacology • Research Project • Applied Pharmacognosy-2 • Pharmacotherapy
5-1 Communicate clearly by verbal and written means	D1	• English and Medical Terms • Pharmaceutical Microbiology-2 • Pharmacology-1 • Microbiology-3 • Biochemistry-2 • Microbiology-4 • Hospital and Clinical Pharmacy-1 • Clinical Biochemistry • Hospital and Clinical Pharmacy-2 • Pathology and Parasitology • Clinical Pharmacology • Quality Control of Drugs • Clinical Nutrition • Summer training
5-2 Retrieve and evaluate information from different sources to	D2	• Botany and Medicinal Plants • Psychology • Physiology

improve professional competencies		• Clinical Biochemistry • Bioassay-1 • Toxicology-1 • Toxicology-2 • Applied Pharmacognosy-1 • Medicinal Chemistry-3 • Applied Pharmacognosy-2 • Quality Control • Pharmacotherapy • Drug Design • Summer training
5-3 Work effectively in a team	D3	• Botany and Medicinal Plants • Human Rights • Analytical chemistry-3 • Pharmacognosy-1 • Pharmaceutical Organic Chemistry-3 • General Microbiology & Immunology • Psychology • Analytical chemistry-4 • Pharmacognosy-2 • Pharmaceutical Organic Chemistry-4 • Pharmaceutical Microbiology • Phytochemistry-1 • Pharmacology-1 • Biochemistry-1 • Production of Raw Materials • Phytochemistry-2 • Pharmacology-2 • Biochemistry-2 • Chromatography of Natural Products • Medicinal Chemistry-1 • Clinical Biochemistry • Toxicology-1 • Biotechnology of Natural Products • Medicinal Chemistry-2 • Toxicology-2 • Applied Pharmacognosy-1 • Medicinal Chemistry-3 • Clinical Pharmacology • Applied Pharmacognosy-2 • Medicinal Chemistry-4 • Quality Control • Clinical Nutrition • Drug Design • Summer training
5-4 Use numeracy, calculation and statistical methods as well as information technology tools	D4	• General and Physical Chemistry • Pharmaceutics-1 • Principles of Math. And Statistics • Pharmaceutics-2 • Pharmaceutical Organic Chemistry-4 • Biopharmaceutics & Pharmacokinetics • Sterile Products and Controlled Drug Delivery • Bioassay-2 • Industrial Pharmacy-1

		• Clinical Nutrition • Drug Design
	D5	• Pharmacognosy-1 • Pharmacognosy-2 • Phytochemistry-1 • Pharmacology-1 • Biochemistry-1 • Production of Raw Materials • Phytochemistry-2 • Bioassay-1 • Toxicology-1 • Biotechnology of Natural Products • Pathology and Parasitology • Bioassay-2 • Toxicology-2 • Applied Pharmacognosy-1 • Clinical Pharmacology • Applied Pharmacognosy-2
5-5 Practice independent learning needed for continuous professional development	D6	• Pharmaceutics-3 • General Microbiology & Immunology • Pharmaceutics-4 • Pharmacology-1 • Hospital and Clinical Pharmacy • Clinical Pharmacology • Clinical Nutrition • Summer training
5-6 Adopt ethical, legal and safety guidelines	D7	• Pharmaceutical Organic Chemistry-1 • Pharmaceutical Organic Chemistry-2 • Analytical chemistry-3 • Pharmaceutical Organic Chemistry-3 • Analytical chemistry-4 • Pharmaceutical Organic Chemistry-4 • Microbiology-3 • Production of Raw Materials • Biotechnology • Medicinal Chemistry-4 • Accounting & Business Administration • Summer training
5-7 Develop financial, sales and market management skills	D8	• Human Rights • Psychology • Accounting & Business Administration • Summer training
5-8 Demonstrate creativity and time management abilities	D9	• Pharmaceutical Organic Chemistry-1 • Pharmaceutical Organic Chemistry-2 • Analytical chemistry-3 • Pharmaceutical Organic Chemistry-3 • Analytical chemistry-4 • Pharmacognosy-2 • Pharmaceutical Organic Chemistry-4 • Biochemistry-1 • Production of Raw Materials • Medicinal Chemistry-4 • Summer training
5-9 Implement writing	D10	• General and Physical Chemistry

and presentation skills		• Botany and Medicinal Plants • English and Medical Terms • Pharmacognosy-1 • General Microbiology & Immunology • Histology and Anatomy • Analytical chemistry-4 • Pharmacognosy-2 • Pharmaceutical Organic Chemistry-4 • Pharmaceutical Microbiology • Physiology • Pharmacology-1 • Biochemistry-1 • Medical Microbiology • Production of Raw Materials • Phytochemistry-2 • Pharmacology-2 • Biochemistry-2 • Biotechnology • Medicinal Chemistry-1 • Clinical Biochemistry • Toxicology-1 • Medicinal Chemistry-2 • Pathology and Parasitology • Bioassay-2 • Toxicology-2 • Medicinal Chemistry-3 • Clinical Pharmacology • Research Project • Quality Control • Clinical Nutrition • Pharmacotherapy • Summer training
5-10 Demonstrate critical thinking, problem-solving and decision-making abilities	D11	• Botany and Medicinal Plants • Pharmaceutics-1 • Analytical chemistry-1 • Principles of Math. And Statistics • Human Rights • Analytical chemistry-2 • Pharmacognosy-1 • Pharmaceutics-3 • Histology and Anatomy • Psychology • Pharmaceutical Organic Chemistry-4 • Pharmaceutics-4 • Biopharmaceutics & Pharmacokinetics • Phytochemistry-1 • Biochemistry-1 • Sterile Products and Controlled Drug Delivery Phytochemistry-2 • Biotechnology • Hospital and Clinical Pharmacy • Chromatography of Natural Products • Clinical Biochemistry • Toxicology-1

		• Community Pharmacy • Biotechnology of Natural Products • Pathology and Parasitology • Toxicology-2 • Industrial Pharmacy-1 • Applied Pharmacognosy-1 • Research Project • Applied Pharmacognosy-2 • Clinical Nutrition • Pharmacotherapy • Summer training

A : Knowledge and understanding.
B : Intellectual skills.
C : Professional and practical skills.
D : General and transferable skills.

- **Strong points:**

1. All National Academic References Standards (NARS/2009) are covered by the courses
2. Presence of qualified staff members of different specialties
3. Continuous students assessment is conducted through midterm exam in the 7th week of the semester
4. The courses contents are regularly reviewed by the course instructors and updated according to the latest updates in pharmacy
5. Presence of different courses that acquire students background knowledge in pharmacy practice to cope with the shift of pharmacist job responsibilities, e.g. Hospital and Clinical Pharmacy, pharmacotherapy, community pharmacy, clinical biochemistry 1&2, clinical nutrition and others
6. Different teaching methods are used e.g. lectures, demonstration within labs, practical experiments and case studies.
7. Some skills are developed through the courses activities such as problem-solving, presentation skills, time management, team work and others
8. Presence of research project for 5th year students to develop different research skills such as ability to retrieve information from different resources and scientific writing and others

9. Presence of 300 hours dedicated for summer training in which students should pass, so the students have the chance to apply knowledge in real field practice

10. **During Covid-19 pandemic since 15 March and sustainment of physical teaching: Application of e-learning through telegram channels:**

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الفرقة التانيه https://t.me/joinchat/AAAAAFHHsu0S6VBcFpQktw

الفرقة الثالث https://t.me/joinchat/AAAAAEdsZfSJr5cJEhPQJA

الفرقة الرابعه https://t.me/joinchat/AAAAAEeXxeQg4NMi4hIidQ

الفرقة الخامسه https://t.me/joinchat/AAAAAE2hbCtJgbIaPMYISw

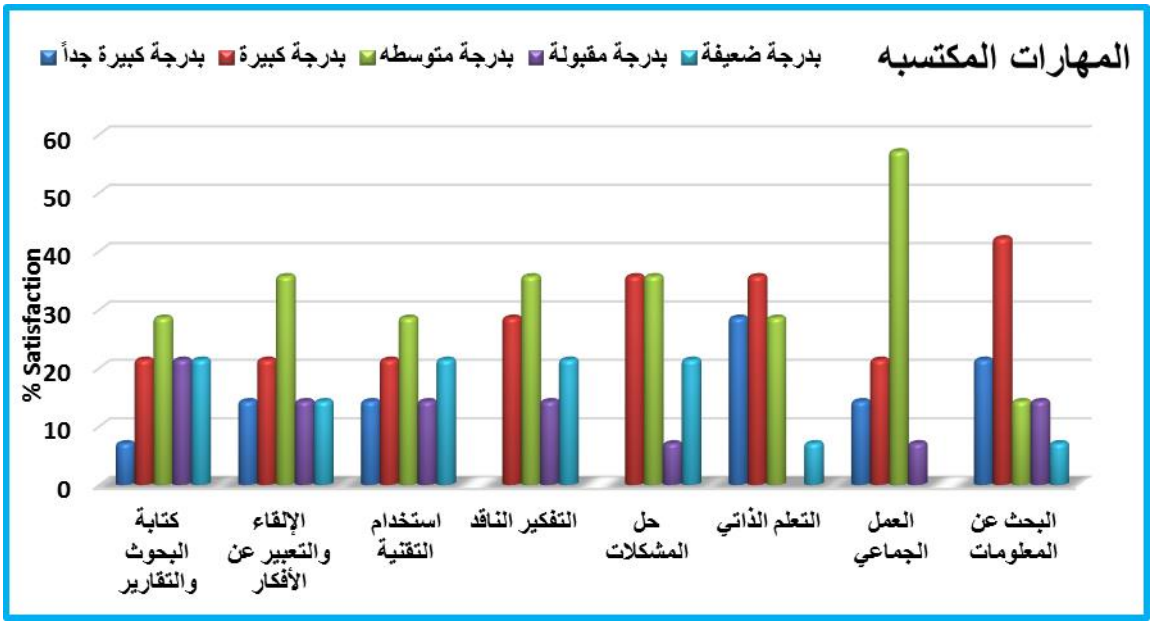
Measures done to ensure achievement of program aims:

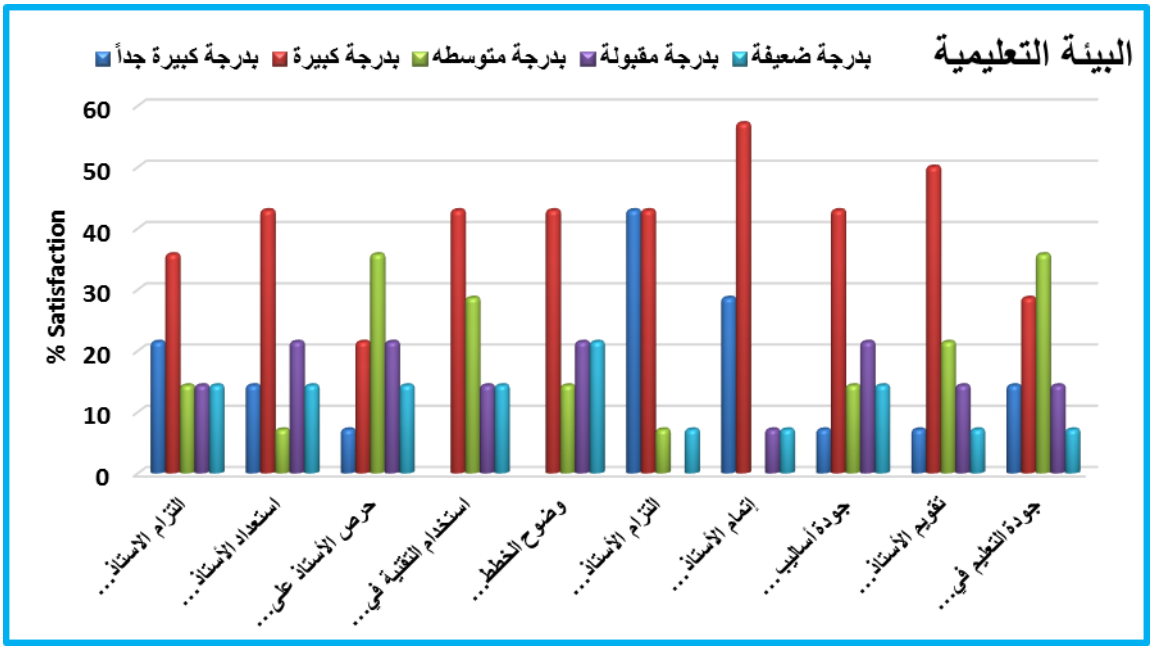
Achievement of program aim and objectives is assured through:

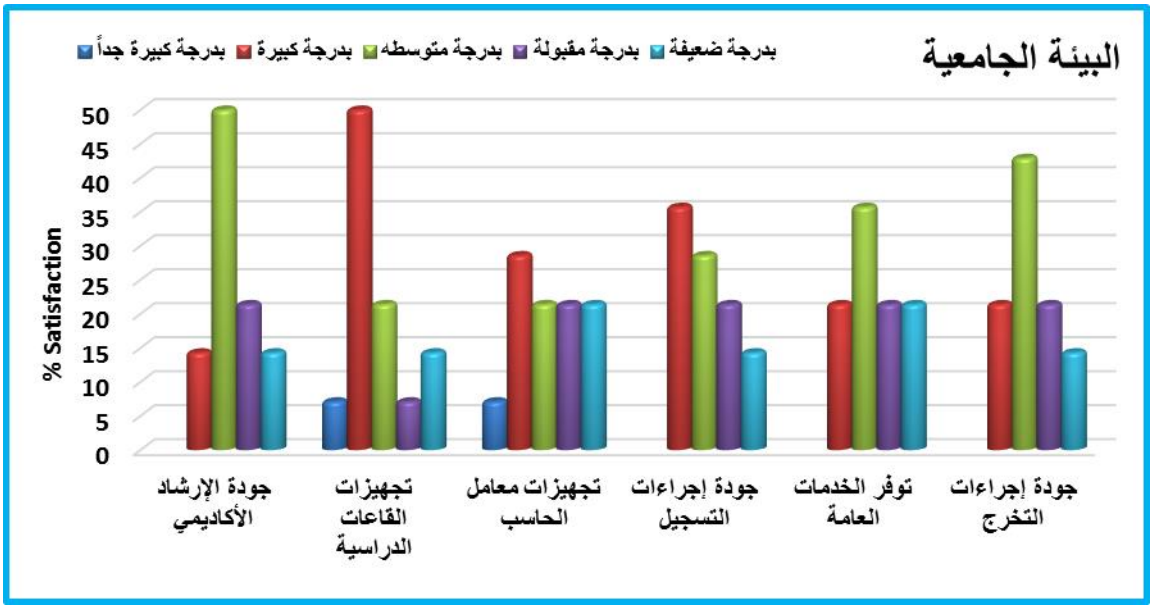
- Analysis of students results (course reports, statistics in section B of program report) which showed reasonable distribution of marks in individual courses as well as reasonable program completion rate (> 70%) and pass rates (> 80%).

Academic year	pass No	Fail No	Pass rates
2019-2020	974	8	97.4
2018 - 2019	849	113	88.25%
2017 - 2018	811	40	95.3%

- Graduates Satisfaction about the program
- Employer satisfaction about the quality of graduates
- % of graduates employment (in process)


المهارات المكتسبه
بدرجة ضعيفة
بدرجة مقبولة
بدرجة متوسطه
بدرجة كبيرة
بدرجة كبيرة جداً
% Satisfaction
60
50
40
30
20
10
0
كتابة البحوث والتقارير
الإلقاء والتعبير عن الأفكار
استخدام التقنية
التفكير الناقد
حل المشكلات
التعلم الذاتي
العمل الجماعي
البحث عن المعلومات


البيئة التعليمية
بدرجة ضعيفة
بدرجة مقبولة
بدرجة متوسطه
بدرجة كبيرة
بدرجة كبيرة جداً
% Satisfaction
60
50
40
30
20
10
0
التزام الاستاذ...
استعداد الأستاذ...
حرص الأستاذ على...
استخدام التقنية في...
وضوح الخطط...
التزام الأستاذ...
إلمام الأستاذ...
جودة أساليب...
تقويم الأستاذ...
جودة التعليم في...



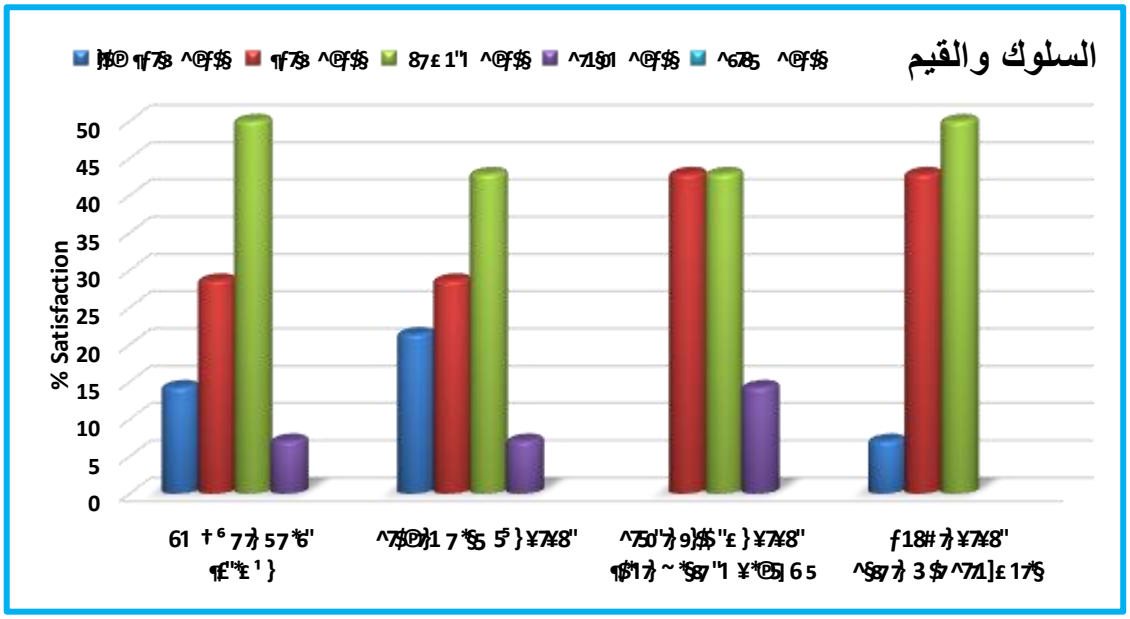
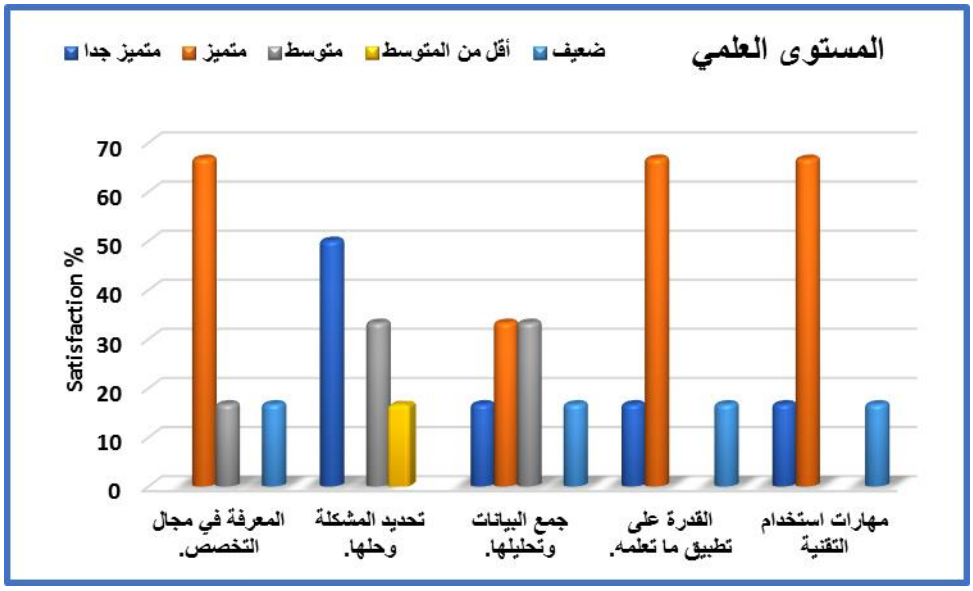
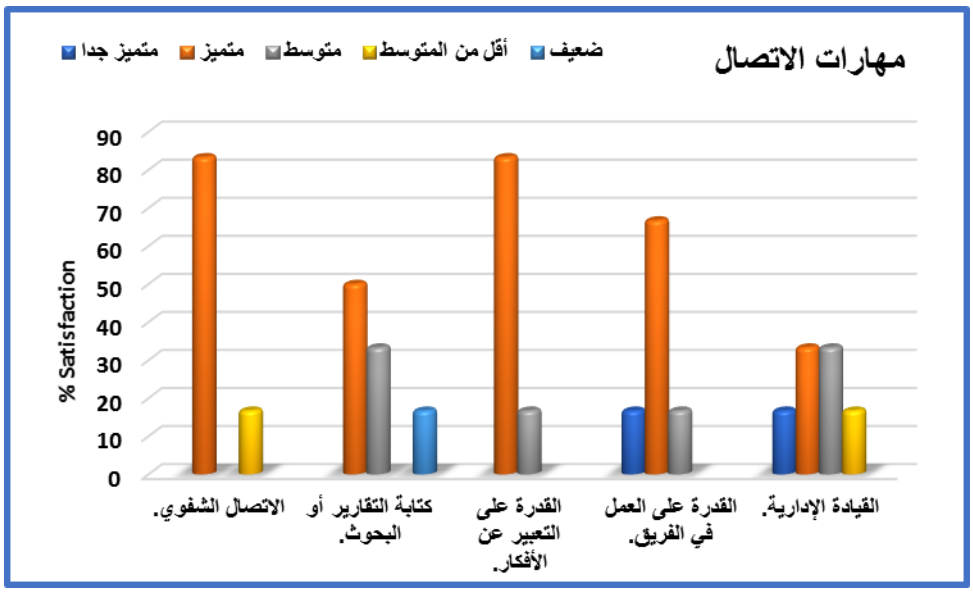
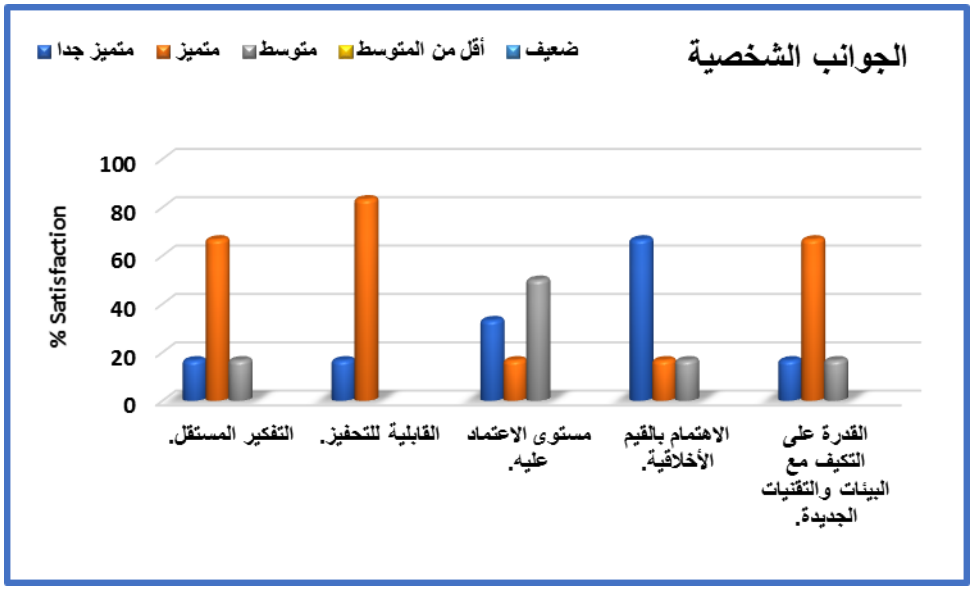


Fig. 3: Graduates satisfaction about the program .


المستوى العلمي
متميز جدا
متميز
متوسط
أقل من المتوسط
ضعيف
Satisfaction %
70
60
50
40
30
20
10
0
المعرفة في مجال التخصص.
تحديد المشكلة وحلها.
جمع البيانات وتحليلها.
القدرة على تطبيق ما تعلمه.
مهارات استخدام التقنية


مهارات الاتصال
متميز جدا
متميز
متوسط
أقل من المتوسط
ضعيف
% Satisfaction
90
80
70
60
50
40
30
20
10
0
الاتصال الشفوي.
كتابة التقارير أو البحوث.
القدرة على التعبير عن الأفكار.
القدرة على العمل في الفريق.
القيادة الإدارية.


الجوانب الشخصية
متميز جدا
متميز
متوسط
أقل من المتوسط
ضعيف
% Satisfaction
100
80
60
40
20
0
التفكير المستقل.
القابلية للتحفيز.
مستوى الاعتماد عليه.
الاهتمام بالقيم الأخلاقية.
القدرة على التكيف مع البيئات والتقنيات الجديدة.

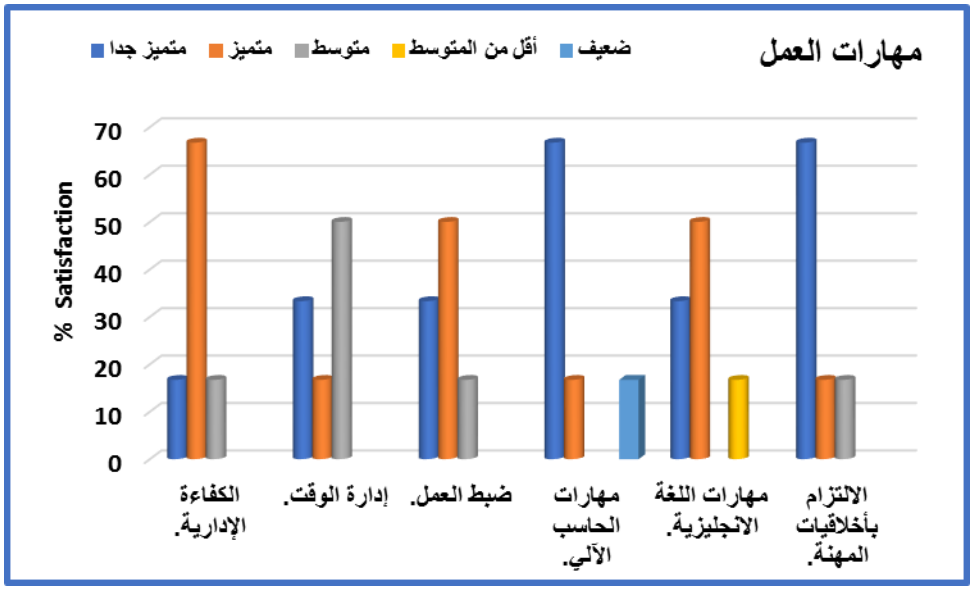


Fig. 4 : Employer satisfaction about the quality of Zagazig pharmacy graduates.

Stakeholders were surveyed about the quality of the graduates, generally they were satisfied but they recommended to give more interest on the development of some of the soft skills necessary for future career e.g. writing skills, critical thinking, conflict management, positive attitude and work ethics, in addition to computer skills.

2. Students evaluation to measure extent of ILOs achievement

Student Assessment Methods

ILOs	Method of achievement and assessment
Knowledge and Understanding Intellectual Skills	Written and oral Exam
Professional and practical Skills Intellectual Skills	Practical Exam Summer Training
Intellectual Skills General and Transferable Skills	Oral Exam Team Work Assignment Research project

Distribution of assessment marks

Course	Method of Assessment					Total
	Final written	Practical	Oral	Midterm	Assignment	
(3 theoretical hours)	75	30	20	15	10	150
(2 theoretical hours)	50	20	15	1 10	5	100
Biotechnology (2 theoretical hours)	75	-	20	5	-	100
Analytical chemistry1,2 (1 theoretical hour)	30	10	10	-	-	50
Public health (1 theoretical hour)	30	10	10	-	-	50

Distribution of assessment marks for courses with no oral exam

Course	Method of Assessment		
	Final written	Practical	Midterm/assignment
English and medical terms	40	-	10
Math & statistics	40	-	10
Accounting and pharmaceutical business administration	40	-	10
Drug marketing and communication skills	80	-	20
Psychology	40	-	10
Human Rights	80	-	20
Anatomy & histology	35 + 35	10+10	5+5
Physiology	80	-	20
Elective course	70	20	10

Important Notes:

- Anatomy, histology, physiology are considered as one course
- The courses with the same title and taught in two semesters in the same academic year are considered as one course and the grade is calculated at the end of the year.

Level 1: Analytical chemistry 1, 2
Organic chemistry 1,2
Pharmaceutics 1, 2
Level 2: Analytical chemistry 3,4
Organic chemistry 3,4
Pharmaceutics 3,4
Level 3: Biochemistry 1, 2
Pharmacology 1,2
Medicinal chemistry 1,2
Level 4: clinical biochemistry 1,2
Bioassay 1,2
Toxicology 1,2
Medicinal chemistry 3,4
Level 5: Industrial pharmacy 1,2

During Covid-19 pandemic since 15 March and sustainment of physical teaching: Application of new assessment methods such as learning projects and electronic practical exams was implemented.

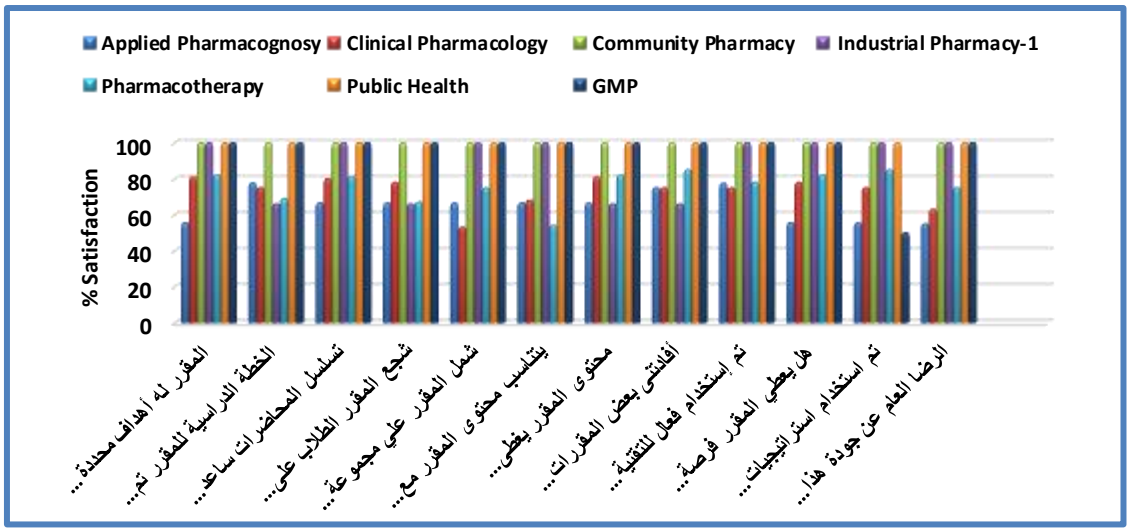
3. Quality of learning opportunities

A-Quality of Teaching and Learning:

The quality of teaching and learning was evaluated at the end of each semester through questionnaires directed to students in all academic levels. Questioners measure student satisfaction about the courses structure and contents, quality of courses handouts and appropriateness of final exams questions. On the mid of March 2020, the study was suspended because of Covid-19 pandemic, accordingly the physical teaching was replaced by the Online lectures which was evaluated by the staff members and students. Departments were informed by the questioners' results for corrective actions when necessary.

Fifth year:

Accounting and Business Administration course had the lowest satisfaction level, while community pharmacy had the highest level of satisfaction



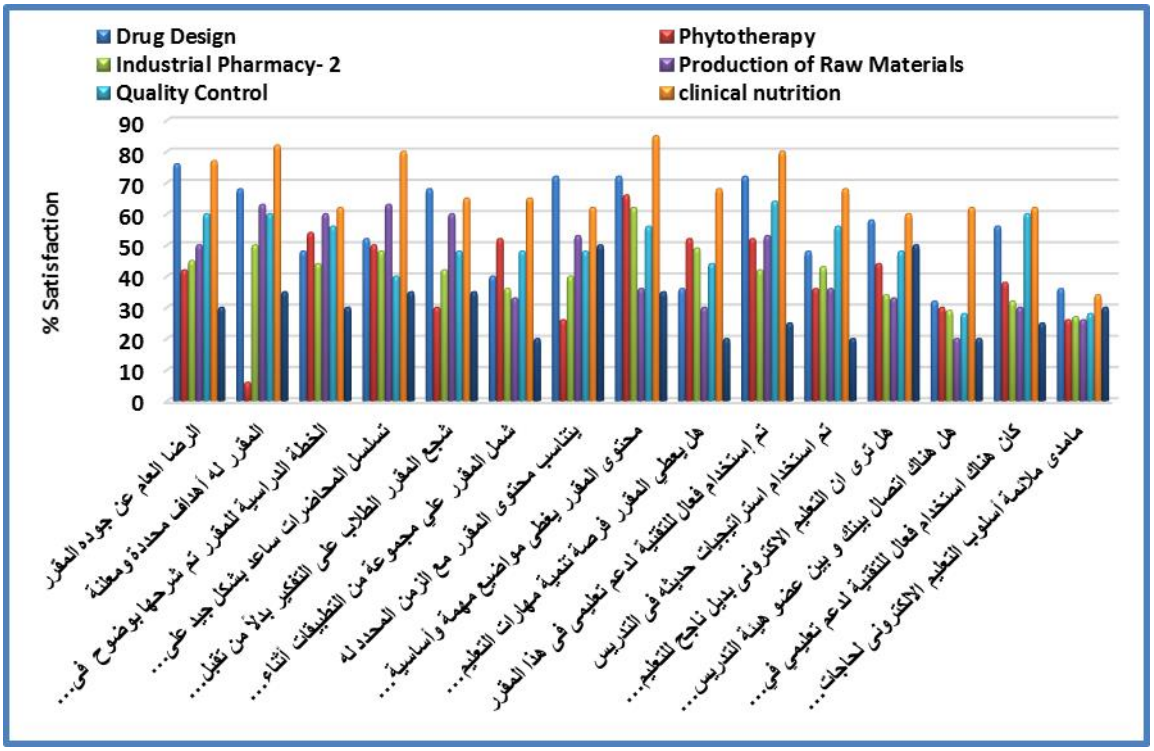


Fig. 5: Fifth year students' satisfaction about 1st term courses (up figure) and 2nd term courses and the online learning (down figure).

B- Effectiveness of Student Support Systems:

Academic guidance and support for all students

* **Course instructors** are available in office hours (4 hours/week) to guide students, guarantee effective communication, clarify any unclear points within the course and answer any questions related to the course.

* **Students** receive feedback about their performance within the course and are notified with weakness areas that require improvement.

* **Distinguished and talent students in all program levels** are identified and nominated by the faculty administration.

* **Ministry of Higher Education (MOHE)** by laws states an annual financial support for distinguished students as follows:

- **Students with excellent grades receive 120 LE**
- **Students with very good grades receive 84 LE**

* **Financially needy students** receive financial social support from Solidarity Fund authority **as** follows: 150-200 LE per term; this may vary dependent on student status, student number and money available.

* **ICDL computer grant** is now available for all faculty students **200 LE**.

* **All students** are covered by health insurance in the different university hospitals and unlimited coverage.

* **The university housing** is available at very small rate **(65 *LE* / month)** to all the university students from other governorates including pharmacy students as well, particularly for girls.

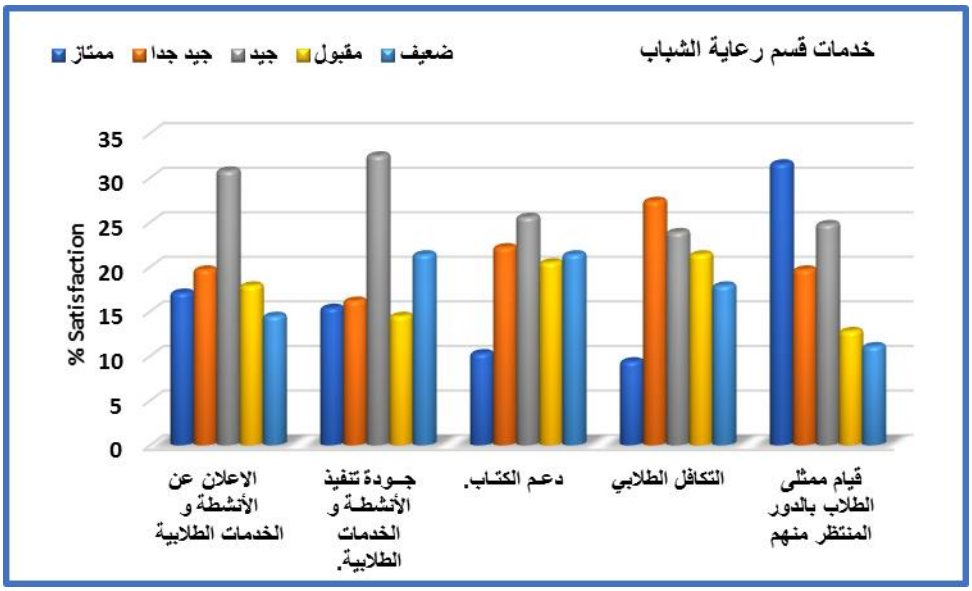
* **The tuition and fees paid** annually by students are feasible for most of the students **(≈ 150 *LE*)**.

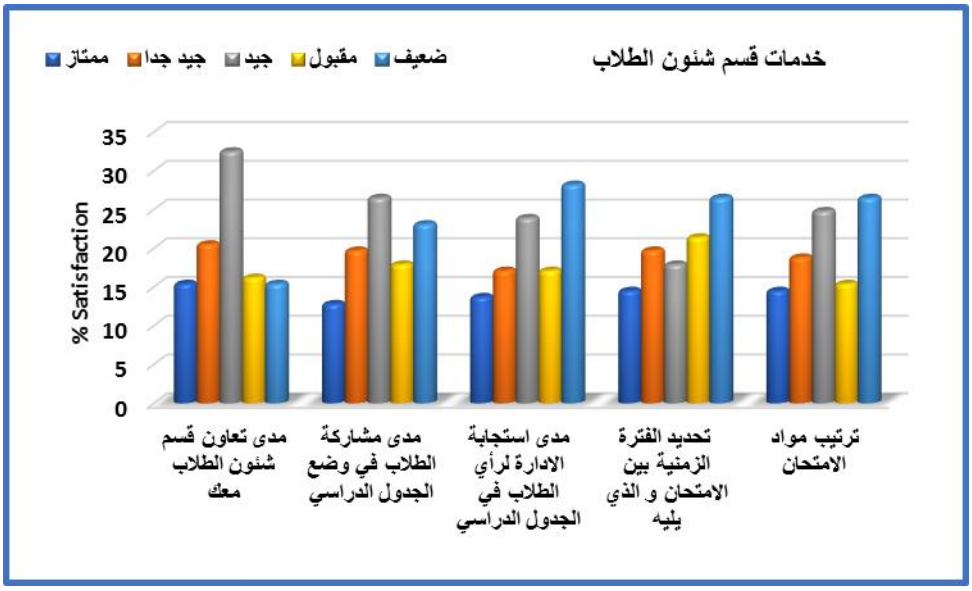
*The university regularly supports the tuition of accommodation in the University Hotel for students coming from low income families **(70,000 LE)**.

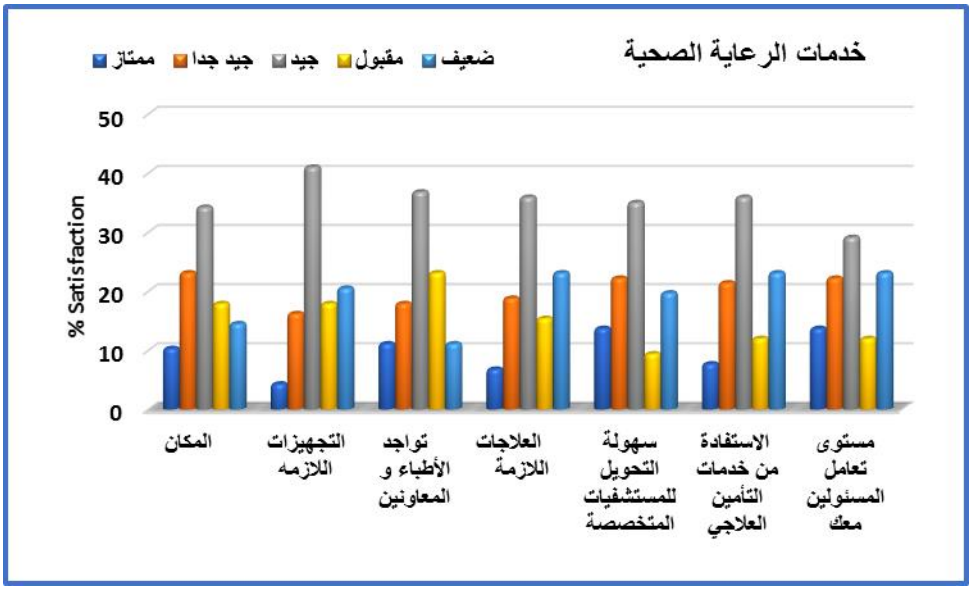
* The university restaurant provides the students with healthy reduced meals daily (for 1.0 LE*)*.

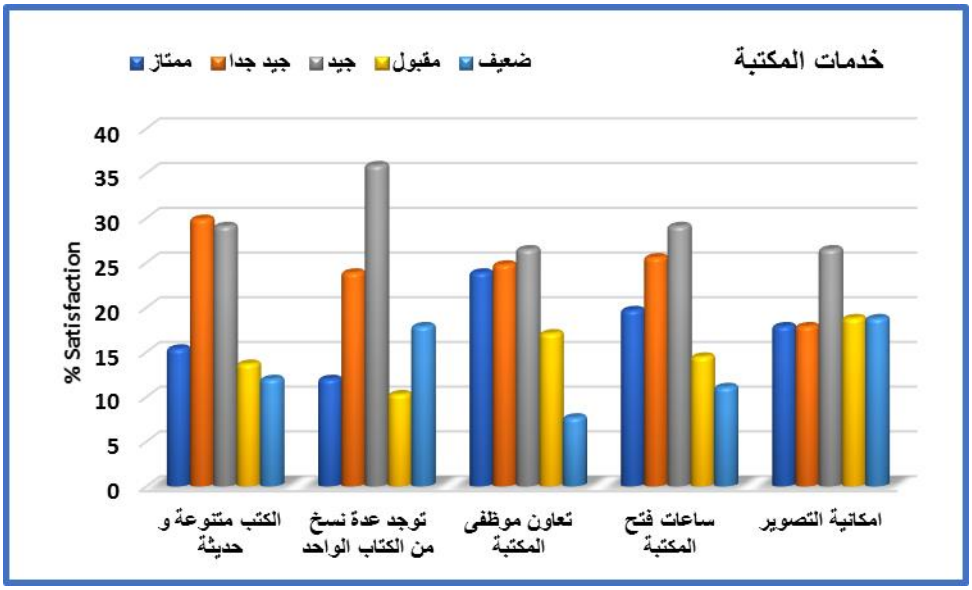
* Each student has the chance to participate in different cultural, sportive, artistic, social, ascetic and camping activities within the faculty or between faculties for distinguished or talented ones.

- Students relocation from and to the faculty depends on geographical distribution,









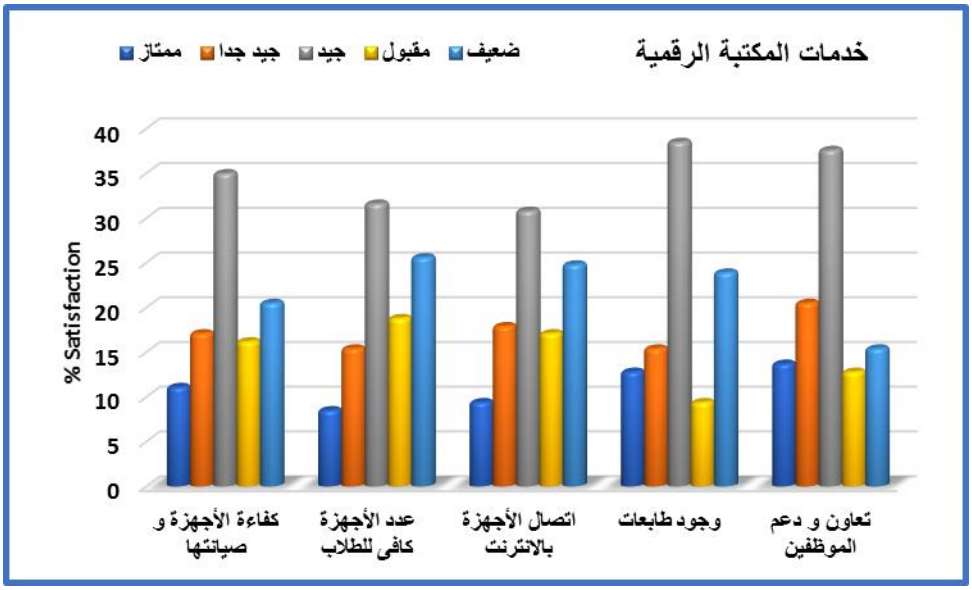


Fig. 6: Students satisfaction about the adequacy of support services.

	Social funds	handout funds	students activities
Amount	156.210	42.450	36.000
Total = 234.660			

During Covid-19 pandemic since 15 March and sustainment of physical teaching: academic support was done through Email and Whatsapp groups and student activities were cancelled.

C. Learning Resources:

I. Number and ratio of Faculty members and their assistants to students:

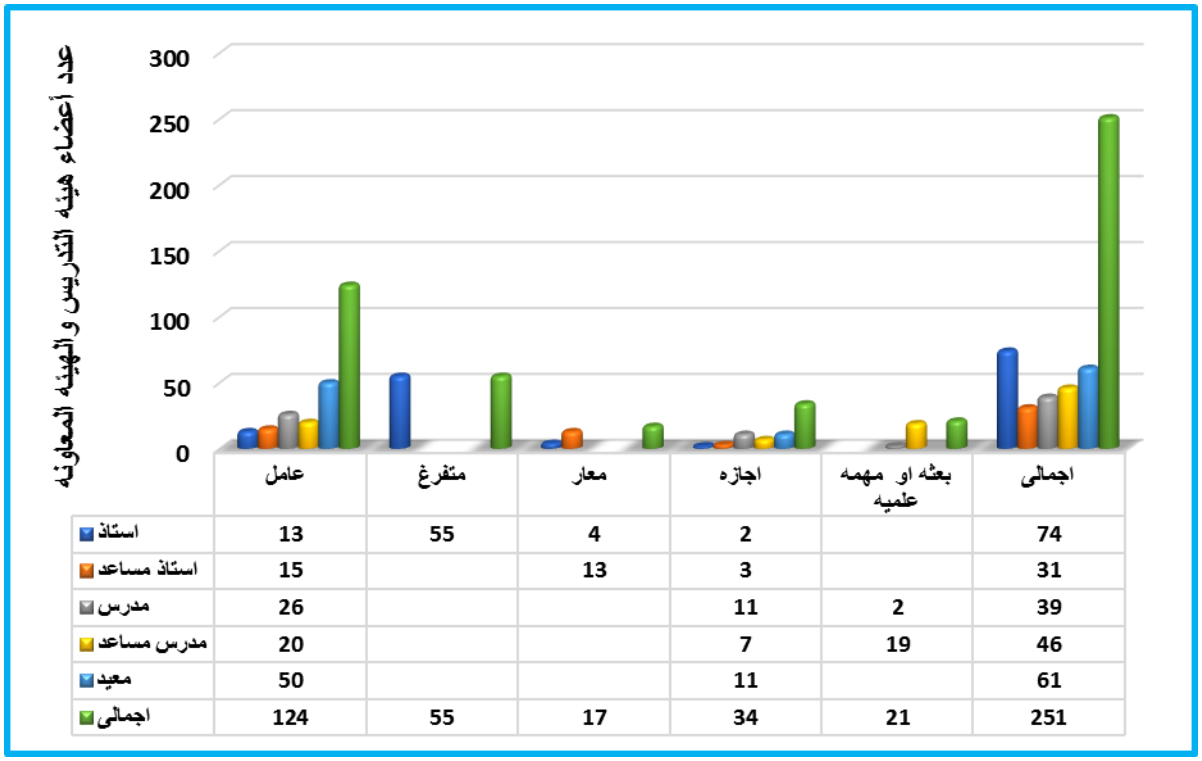


Fig. 7: Total number of teaching staff members and assistants (2019-2020).

Teaching staff/assistants	No.	Students No.	Ratio
Pharmacy teaching staff	109	4491	41:1
Pharmacy + external teaching staff	109 +25 = 121.5		36.9:1
Assistants	70		64:1
Assistants + external assistants staff	70+17=78.5		57.2:1

II. Adequacy of the specialties of the faculty members to the requirements of the program:

The specialties of the faculty members of all departments are adequate for the requirements of the program. Each department teaches courses relevant to its own specialty. In addition to presence of staff members from the Faculty of Medicine, Commerce, Science, Law and Education to teach medical, social and behavioral courses.

III. Availability and adequacy of courses handouts.

In fact, all courses handouts are available for most of students (in different levels) containing courses intended learning outcomes and student assessment methods as well. Likewise, a student guide is available for the newly admitted students in the students affairs and youth care office, describing the infra structure of the college, structure and location of each department, faculty members, faculty facilities, admission policies, student support system as well as the different faculty activities and achievements.

The results of students' satisfaction about lectures handouts are demonstrated below. Nearly all courses handouts gained appropriate satisfaction (70-90%)

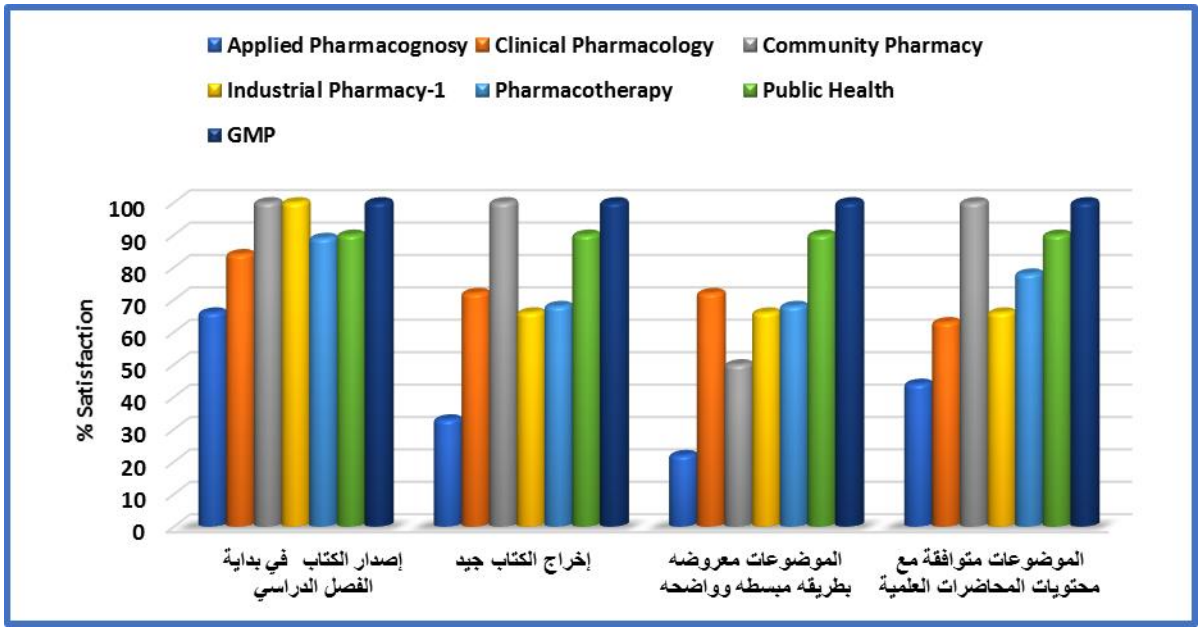


Fig. 8: Fifth year Students satisfaction about lectures handouts of first term.

IV. Adequacy of library facilities.

The Library Facilities;

Library Halls

A-The Library is located at the third floor in the administration building. The space is around 283 m^2, **divided into 5 halls**:

i- The largest hall (96 m^2) is allocated for undergraduate students

ii- The faculty and staff hall (periodical and thesis)

iii- One room for photocopying.

iv- One hall in the pharmaceutics department (pharmaceutics periodical & thesis).

v- One room for internet service (electronic library).

The Library Facilities:

Library is provided with:

i-12 tables and 139 seats with adequate illumination and air conditions.

ii- Two photocopying machines, one scanner.

iii- 30 computers with 11 printers.

Working hours: The library opens from 9 a.m. to 4 p.m. daily during semester's time and from 9 a.m. to 2 p.m. on Saturday.

Library collection: The library contains**:**

i- Almost 6149 English and 283 Arabic textbooks in different specialties of pharmacy.

ii- 6079 English periodical's volumes

iii- 1113 Master and PhD thesis

Library services

1-Photocopying

There is a photocopying unit available for all the students.

2-Internet services

The internet facility is introduced and available for students. E-library is connected to Zagazig university library, other Egyptian libraries and international scientific research engines e.g. research gate.

Evaluation of library services by both staff members and students revealed about 80 – 100% satisfaction

The library budget

	2017-2018	2018-2019	2019-2020
Budget in Egyptian pounds	18,000	16,000	16.000

V. Laboratories and teaching halls:

i- Each department has a number of laboratories (Total = 23) that are equipped with the necessary equipment, glassware and chemicals suitable for conducting the practical sessions of each department.

ii- The infrastructure of each laboratory is suitable, the area capacity about 126 square meters; each lab. is provided with 4 : 7 working benches; six large windows; 3 : 5 vacuum ventilation fans; two sets of fire extinguisher and first aid kit.

iii- The average number of students per lab is 30-40.

iv- The faculty has 6 teaching halls (4 of them are air conditioned), well seated, lighted and aeriated. They are equipped with data shows and sound systems.

VI. Adequacy of computer facilities:

- The faculty has an e-library containing 30 computers with 13 printers.
- Drug design lab devoted to Medicinal chemistry department was established with capacity of 27 computers
- Simulation lab devoted to pharmacology and toxicology department was established with a capacity of 24 computers

VII. Adequacy of Field / Practical Training Resources.

As mentioned before, the structure of the program includes about a mandatory 300 hours summer training in pharmaceutical companies, private pharmacies, or other pharmaceutical institutions. The summer training is divided into two academic years (after the second and /or third academic year) and is under the faculty supervision to insure its value and effectiveness. Although there is a process controlling the summer training in which each supervisor has an assigned group of about 20 students, the effectiveness of the summer training is variable and an improvement plan is required to ensure the achievement of the summer training ILOs.

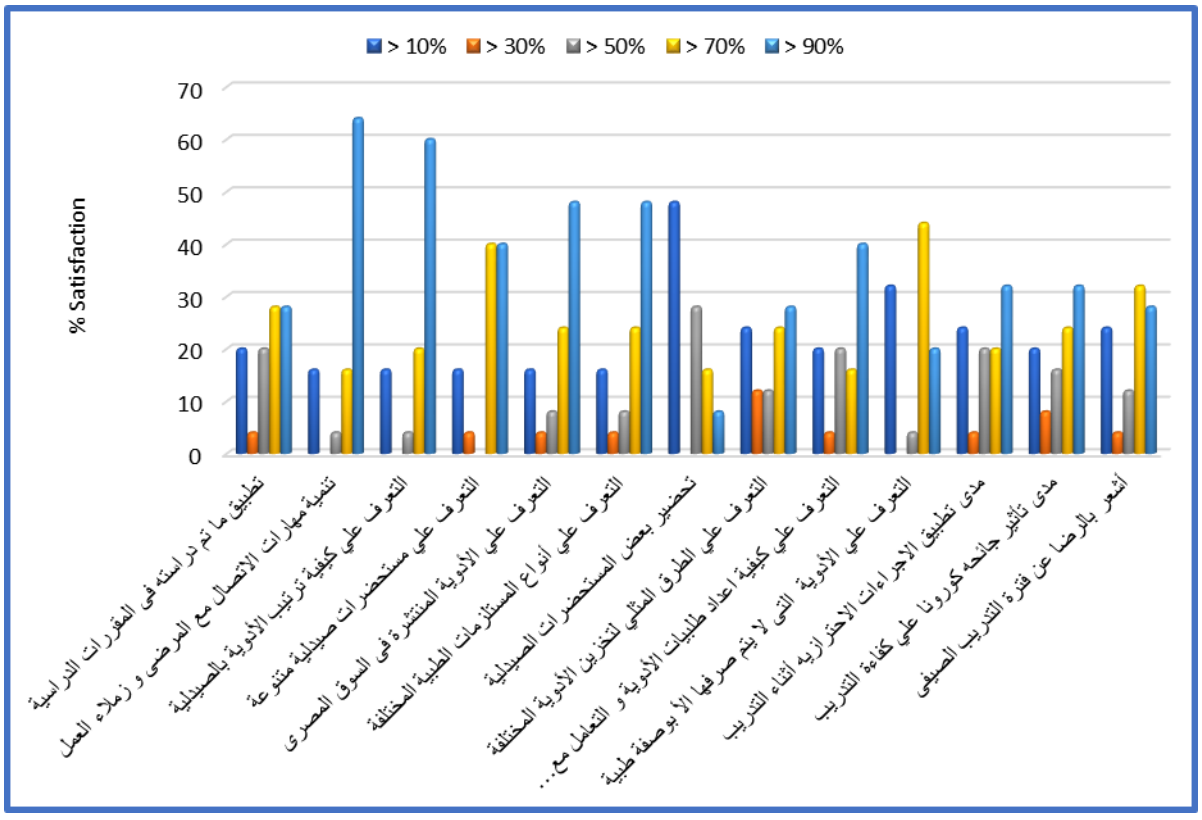


Fig. 9: Students evaluation of summer training

3. Quality Management.

a. Availability of regular evaluation and revision system for the program:

Program evaluation systems include the following:

1-External evaluation for program

2-Internal evaluation for program

Comment of internal evaluator	Comment of external evaluator
• The program is in compliance with the faculty's mission and NARS. • The program goals are compatible with the graduate attributes and the job market needs. • Program and course specifications are in accordance with available job opportunities locally and regionally. • The absolute necessity of increasing pharmacy practice courses at the expense of pharmacognosy, medicinal plants and organic chemistry courses that are overrepresented in comparison with many International universities. • There is no practical specification of the research project.	• The program aims are defined and are in compliance with the faculty mission • The program ILOs are in compliance with the program aims and are covered through the courses • A13 and A35 are similar in meaning • Re-phrasing of some program aims • Application of modern teaching methods to achieve the required competencies 2017. As well as modern assessment such as student portfolio • Induction of some new courses to the program such as: ✓ Pathophysiology ✓ Bioinformatics ✓ Radiopharmaceuticals ✓ Pharmacoeconomics ✓ Pharmacovigilance ✓ Genomics ✓ Entrepreneurial skills

4- Evaluation by stakeholders: graduates and employers (results of surveys were mentioned earlier)

5- Evaluation by customers (students)

b- Effectiveness of the system.

Administrative constrains for achievement of program ILOs include:

1-Increasing number of students

2-Staff / student ratio is inadequate

Measures done to overcome these obstacles:

- Training sessions are regularly held to enhance the faculty potentials to apply new teaching and assessment strategies that would encourage developing higher skills and maintain life long education.
- Effectively classify student into groups (250-500 student in lecture halls and 40 student / lab) to meet the increasing number of students.
- Development and maintenance of the infrastructure of the faculty.

c-Effectiveness of Faculty and University Laws and Regulations for Progression and Completion.

- The system effectively supports the students in every year and levels in a manner that fairly facilitates the progression and completion of the degree.
- Administrative and academic leader members apply the rules regarding student attendance percentage and staff member performance (course specification, and report).

d. Faculty Response to Students and External Evaluations:

– Students feedback about the quality of courses were directed for the heads of the departments to be discussed during the department minutes and take corrective actions when necessary and then approved by the faculty council (Faculty council No. 746 , 9/3/2020, No. 753, 13/7/2020)

- Students feedback about the quality of support services was discussed and approved through faculty council No. 741, 9/12/2019 (Additive no of seating was fixed)

4. Proposals for Programme Development.

i. New program implementation:

Bachelor of pharmacy, pharm D program was implemented according to MOHE decision No. 4203. Feedback from external reviewers and different stakeholders was used in the design of new program.

ii. Induction of blended learning as a teaching method in faculty regulations: (Faculty council no. 758, 14/9/2020)

ii. Courses modifications:

- Induction of the following new courses/ topics to the program was occurred:
  - ✓ Bioinformatics
  - ✓ Communication skills and Pharmacoeconomics
  - ✓ Clinical Research and Pharmacovigilance
  - ✓ Entrepreneurship
  - ✓ Clinical pharmacokinetics
  - ✓ Scientific writing and communication skills
  - ✓ Principles of Quality Assurance
  - ✓ Information Technology

5. Staff development requirements

1- ***Professional training programs are requested based on the results of training questionnaires for staff members:***

- Student assessment
- Strategic planning
- Interactive teaching methods
- Communication skills
- Management and leader skills
- Course specification and report
- Accreditation standards

2- ***List of attended training programs by the staff members and assistants during 2019 – 2020:***

A. ***Organized by the faculty training unit:***

اسم الدوره	تاريخ الانعقاد	اسم المحاضر	عدد الحضور
" معايير الاعتماد: الممارسات و المؤشرات لاعداد الدراسه الذاتيه "	1-9- 2019	أ.د./ عبدالله الشنواني	33
" معايير الاعتماد: الممارسات و المؤشرات لاعداد الدراسه الذاتيه " الجزء التانى	17-9-2019	أ.د./ عبدالله الشنواني	59
" واجبات وحقوق اعضاء هيئة التدريس و معاونيهم وحدود التعامل مع الطلاب "	23-9-2019	أ.د./محمد بركة	54

" اعداد ملف المقرر"	2019/9/29	أ.د./ سحر السويفي	34
" انماط التدريس المختلفه في التعليم الصيدلي"	2019-10-13	أ.د./ عاصم الشاذلي	38
" الادارة العامة بين الواقع وتحديات التطبيق "	2019-10-21	د/ مجدى ثابت د/ بهاء الجبلاوى	65
"قواعد و نظام عمل اللجان العلميه الدوره الثالثه عشر"	2019-10-27	أ.د./ عبدالله الشنواني	24
"تقييم الطلاب"	2019-11-20	ا.م./ جيهان فتحى عطيه	25
"استراتيجيات جذب وتحفيز الطلاب"	2019-12- 8	د/ محمد نبيل شرف الدين :	32

B. ***Organized by the university training center (***FLDP***):***

اسم الدوره	عدد الحضور	اسم الدوره	عدد الحضور
اساسيات المعلومات الحيويه	4	اداب و وسلوكيات المهنه	2
معايير الجوده	6	إدارة الجودة فى الرعاية الصحية	1
مهارات العرض الفعال	10	اخلاقيات البحث العلمى	1
الساعات المعتمده	5	مهارات التفكير الابداعى	2
النشر الدولى للبحوث العلميه	42	نظم الامتحانات و تقويم الطلاب	6
اعداد المشروعات التنافسيه	8	استخدام التكنولوجيا فى التدريس	2
التحليل الاحصائىSPSS	14	اداره الازمات والكوارث	5
مهارات التفكير الابداعى	2	الكتابه العلميه	11
التعليم الالكترونى	10	التخطيط الاستراتيجى	3
اداره الفريق البحثى	5	endnote	6
اداره الوقت و الاجتماعات	8	مهارات الإتصال الفعال	2
الجوانب الماليه و القانونيه	2	تنظيم المؤتمرات العلميه	4

6. Action plan:

Action	Person responsible	Completion date
Update the learning and education strategy to cope with the requirements of implementation of competency-based curriculum and e-learning	• Vice dean for education and students affairs • Quality unit • Staff members	August 2020
Professional training for staff members	• Quality unit • FLDP center in Zagazig university	Annual
Implementation of blended learning	• Vice dean for education and students affairs • E-learning unit	September 2020
Program evaluation by different stakeholders: graduates & employers	• Quality unit	Annual
Establishment of Information Technology Unit	• Faculty Dean • Vice dean for education and students affairs	2020-2021
Availability of internet in all teaching halls	• Faculty Dean •	2020-2021
Application of Microsoft Teams as a platform for teaching and assessment	• Vice dean for education and students affairs • E-learning unit	2020-2021
Increase the number of computer labs	• Faculty Dean • Vice dean for education and students affairs	2020-2021

Appendix 1

The following is the programme structure, previously described and submitted in the programme specification.

الفرقة الأولى - الفصل الدراسي الأول

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
AC110	Analytical chemistry-1	1	2	2	A1, A11, B2, B6, C6, D11
POC110	Pharmaceutical Organic Chemistry-1	2	2	3	A1,A14, A15,B2, B7, B22, C9, D1,D3,D9
PG110	Botany and Plant Taxonomy	2	2	3	A2, B2, B6, C18, D1, D3, D10
AC111	General and Physical Chemistry	2	2	3	A1, A9, B2, B6, C7, C18, D3, D10, D11
PC110	Pharmaceutics-1	2	2	3	A2,A16, B2, B4, B21, C1,D1, D3,D11
EL110	English and Medical Terminology	1	-	1	A1,B1, C18,D1,D10
	Total	10	10	15	

جدول رقم (2): الفرقة الأولى - الفصل الدراسي الثاني

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
‌C122	Analytical chemistry-2	1	2	2	A1, A11, B2, B6, C6, D11
‌OC121	Pharmaceutical Organic Chemistry-2	2	2	3	A1,A15,B2, B7,C9,D1,D3, D9
‌G121	Pharmacognosy 1	3	2	4	A2, A12,B2, B6,C3, C9, D3, D5, D9,D10
‌C121	Pharmaceutics-2	2	2	3	A2, A9, B6 ,C1,C18,D1, D3, D11
‌S120	Mathematics and Statistics	1	-	1	A1, A35,C19 , D5, D11
‌R120	Human Rights and Professional Ethics	2	-	2	A5, D1, D3, D8, D11
	Total	11	8	15	

جدول رقم (3): الفرقة الثانية الفصل ـ الدراسي الأول

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
ʌC213	Analytical chemistry-3	2	2	3	A1, A11, A36, B2, B7, C6, C10,C18, D3,D7,D9, D10
ʾOC212	Pharmaceutical Organic Chemistry-3	2	2	3	A1, A15,B2, B6,C9,C10,D1,D3, D9, D10
ʾG212	Pharmacognosy 2	2	2	3	A2, A12,B2, B6 , C7, C9, D1, D2,D3, D9
ʾC212	Pharmaceutics-3	2	2	3	A2, A16, A18, B2, B4, B21,C1, D4,D7, D11
ʃD210	Anatomy & Histology	2	1	2	A4, A18,A24, A27, B1,B19, C18, C19, D10, D11
ʾM21	Drug Marketing and Communication Skills	2	-	2	A6, A38, C19, D1, D4, D11
	Total	12	9	17	

جدول رقم (4): الفرقة الثانية ـ الفصل الدراسي الثاني

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
ʌC224	Analytical chemistry 4	2	2	3	A1, A11, A36,B2, B7, B15, C6,C10,C18,D3, D7, D9, D10
ʾOC223	Pharmaceutical Organic Chemistry-4	2	2	3	A1, A15, B2, B6,C10, D3,D7,D9, D10
ʾC223	Pharmaceutics-4	2	2	3	A2, A16, A40, B2, B4, B21,C1, C8, D3, D11
ʃI22	General Microbiology + Immunology	3	2	4	A2, A4, A27, B1, B2, B11, C18, D1, D3, D5, D10
ʾT220	Physiology	2	-	2	A4, A24, B1, C14, D9
ʾS220	Psychology	1	-	1	A5, C19, D3, D8, D11
	Total	12	8	16	

جدول رقم (5): الفرقة الثالثة الفصل- الدراسي الأول

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
PC314	Biopharmaceutics and Pharmacokinetics	2	2	3	A2, A19, A36,C15, C18,D3,D5, D9,D11
PG313	Chromatography of Natural Products	2	2	3	A2 ,A12, B2, B6, B15,B19, C9,C18, D1, D3,D10
PT312	Pharmacology 1	3	2	4	A2,A4, A29, A30, B2, B6,C14, C18, D3, D10
BC310	Biochemistry 1	2	2	3	A4, A25, B2, B10, B11,C6, C18,D3, D6,D9,D10
MC310	Medicinal Chemistry-1	2	2	3	A2, A15,A30, B2, B6, B19,C3,C6, C7, D3, D10, D11
MI311	Pharmaceutical Microbiology	2	2	3	A2, A18, A22, A23, B1,B2, B16, C3, C13,D1,D2,D11
	Total	13	12	19	

جدول رقم (6): الفرقة الثالثة – الفصل الدراسي الثاني

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
PC325	Sterile Products and Controlled Drug Delivery Systems	2	2	3	A2, A16, A17, A23, B21,C2, C18, D3, D5,D11
PG324	Phytochemistry-1	2	2	3	A12,A30 , B2, B6,B19,B22,C3,C9,D2, D3, D4, D10, D11
PT323	Pharmacology 2	2	2	3	A27,A29, A30, B3, B6, C14, C18, D3, D4,D10
BC321	Biochemistry 2	3	2	4	A4, A25, B2, B11, C18, D3,D6,D10
MI322	Parasitology and Pathology	2	1	2.5	A4, A27, A28,A29,B1, B8,B10, B11, C14,C18, D1,D2,D11
MC321	Medicinal Chemistry-2	2	2	3	A2, A15, A30, B2, B6,B19, C3,C7,D3, D10,D11
	Total	13	11	18.5	

جدول رقم (7): الفرقة الرابعة – الفصل الدراسي الأول

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
PG415	Phytochemistry 2	2	2	3	A12, A30, B2, B6, B19, C3,C9 , D2,D3, D4, D10, D11
BC412	Clinical Biochemistry 1	2	2	3	A4, A25, A27, A28, B2, B11,C3, C12, C18, C19,D1, D2,D3, D10,D11
PT414	Bioassay 1	2	2	3	A2, A7, A13, A35, A39, B2, B7,B19, C10, C18,D3,D4, D9, D10
PT415	Toxicology 1	2	2	3	A7, A33, A34, B2,B13,B14, C14, D3, D11
MC412	Medicinal Chemistry 3	2	2	3	A15,A30, B2, B7,C3,C6, C7,D2, D3, D10
MI413	Medical Microbiology	3	1	3.5	A4,A27, A28, B10, C13, C18, D1, D5, D10, D11
	Total	13	11	18.5	

جدول رقم (8): الفرقة الرابعة – الفصل الدراسي الثاني

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
PP420	Hospital Pharmacy and Clinical Pharmacy	2	1	2.5	A8, A20, A31, B2, B4, B5, B18, B21,C5, , C16, D1, D3, D11
PG426	Biotechnology of Natural Product	2	2	3	A2, A10,B1, B2, B7,C10, D3, D5, D11
BC423	Clinical Biochemistry 2	2	2	3	A24, A25, A26, A27, A28, B2, B12,C3,C5, C18, C19,D1,D2,D3, D10, D11
PT426	Bioassay 2	2	2	3	A24,A27,A28,A29,A36, B7, B19 ,B21, C10,C14, D10, D11
PT427	Toxicology 2	2	2	3	A7,A33, A34, B2,B13,B14, C14,C16,D3, D11
MC423	Medicinal Chemistry 4	2	2	3	A11,A14, A15, A19, A36, B15,B19,C3, C6, D3,D7, D10, D11
MI424	Biotechnology	2	-	2	A2, A10, A15, A26,B1, C10, C18, D1,D3,D5, D7,D10
	Total	14	11	19.5	

جدول رقم (9): الفرقة الخامسة – الفصل الدراسي الأول

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
PP511	Community Pharmacy	2	1	2.5	A8, A29, B16, B17, C14, D1, D3, D10
PC516	Industrial Pharmacy 1	2	1	2.5	A2, A18,B15, B21, B22,C4,D11
PG517	Applied Pharmacognosy	2	2	3	A11, A12, B7 ,C6, C7,D2, D3, D10, D11
PT518	Clinical Pharmacology	3	2	4	A27, A28,A29,A31,B1, B8 , C14, D3, D10,D11
	Elective 1	1	2	2	
PT519	Pharmacotherapy	2	2	3	A27,A28, A29,A31, B8, B18, C14, C16, D1, D2 D3,D6, D10
MI515	Public Health	1	1	1.5	A7, A21,A24, B16, B21, C13,C18,D1,D5, D11
	Total	13	12	18.5	

جدول رقم (10): الفرقة الخامسة – الفصل الدراسي الثانى

Course code	Course title	No. Of hours per week			PROGRAM ILO'S COVERED
		Lect	Pract.	Total	
PC527	Industrial Pharmacy 2	2	1	2.5	A2, A18, B4, C4, D3,D5,D11
PG528	Phytotherapy	2	2	3	A8, A32, B8, B17, C14, C19,D2, D3, D10,D11
AC525	Quality Control	2	2	3	A9,A11, A12,A36, B2, B6, C3,C6, C7, D2, D3, D7, D10
	Elective 2	1	2	2	
MC524	Drug Design	2	2	3	A9, A14, A15, A19,B19, C6,C11,C16, D2, D3, D4,D11
OC314	Production of Raw Materials	2	2	3	A9,A14,A15, B2, B7, C10,C11, D3, D5,D7, D9, D10
BA510	Accounting and Business	1	-	1	A6, A37, A38,C17,D3,D5,D7,D8,D9,D11

	Administration				
RP520	**Research project**	**1**	**-**	**1**	**B19, C18,C19, D2,D3,D4, D5, D9, D10, D11**
	Total	**13**	**11**	**18.5**	

Elective Courses

Course code	**Course Title**	**No. of hours per week**			**PROGRAM ILO'S COVERED**
		Lect.	**Pract.**	**Total**	
BC524	**Clinical nutrition**	**2**	**2**	**3**	**A8,A24,A25,A27,A28,A32,B8, B18, C14,D1,D3,D4,D6,D10,D11**
PT529	**Advanced Pharmacology**	**2**	**2**	**3**	**A4, A30, B2, B3, C16, C18, D6, D7, D10, D11**
POC525	**Heterocyclic synthesis of drugs**	**2**	**2**	**3**	**A12,A14,A15, B2, B7, C10, ,D3,D7, ,D10,D11**
PG529	**Manufacturing and production of crude drugs of natural origin**	**2**	**2**	**3**	**A11,A12 ,B1,B6, C9, C10, D2, D3, D10,D11**
PC528	**Good manufacturing practice (GMP)**	**2**	**2**	**3**	**A2, A18, B4, B15, B20,C3, C4,D11**
MC525	**Forensic chemistry**	**2**	**2**	**3**	**A7, A12, A13, B6, C6,C12,C19, D2, D10, D11**

	Total contact hours	**PROGRAM ILO'S COVERED**
Summer training	**300 hr**	**A5, A6, A8 ,A32, A37, A38,A39,A40, B1, B2, B16,B17,B18,C14,C15,C16,C19, D1, D2, D3, D4,D7, D8, D11**

Appendix 2

Course reports of 2019/2020