



# Diploma in clinical pharmacy

## Program Report

(2017 – 2018)



# **Diploma in clinical pharmacy**

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**Teaching Institution:** Faculty of Pharmacy, Zagazig University,  
Egypt

**Awarding Institution:** Zagazig University

**Degree Award :** Diploma in clinical pharmacy

**Length and Mode :** 1 year (30 CU)

**Program Coordinators:**

Prof. Hanan El Nahas (Vice dean for postgraduate affairs and scientific research)

Prof. Salah Ghareeb (Diploma coordinator)

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## **A- Basic Information:**

1- **Program Title:** Diploma in clinical pharmacy

2- **Program Type:** single

3- **Departments:**

The program is under the supervision of vice dean for postgraduate affairs and scientific research.

4- **Co-coordinator:**

Prof. Hanan El Nahas (Vice dean for postgraduate affairs and scientific research)

Prof. Salah Ghareeb (Diploma coordinator)

5- **External evaluator:**

## **B- Statistics:**

1. **No. of students admitting the program (2017/2018):** 206

2. **Percentage of students admitting the program this year (relative to the previous year)**

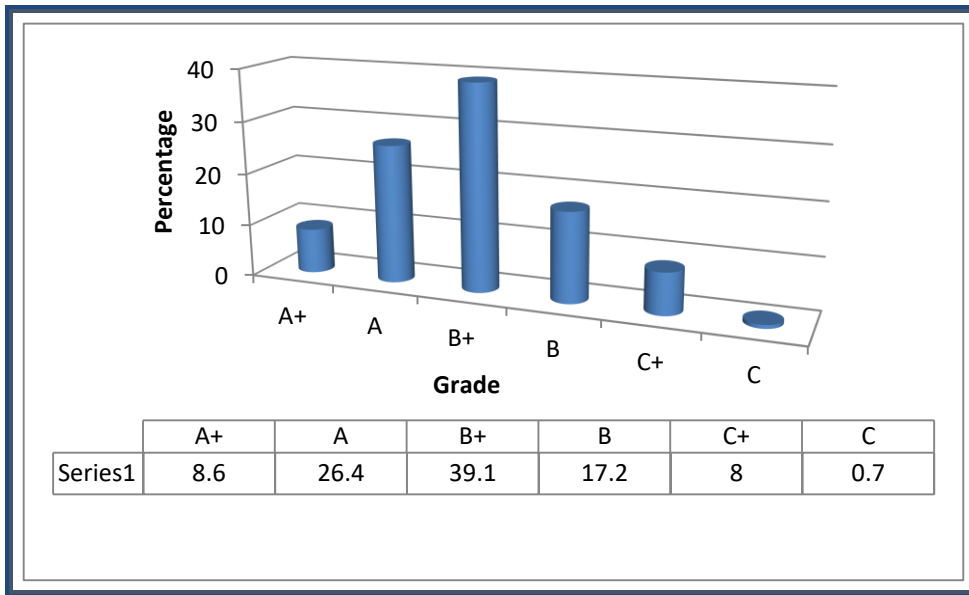
No. of students this year	No. of students last year
206	0
This is the first time for the program delivery	

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

No. admitting the program	No. of students completed the program this year	Percentage
206	174	84.5%

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

	Grade						Total
	A+	A	B+	B	C+	C	
No	15	46	68	30	14	1	
%	8.6	26.4	39.1	17.2	8	0.7	



**C- Professional Information:**

**Academic Standards:**

**1. Achievement of Programme Intended learning Outcomes.**

i- The following table presents the courses taught in the program and the covered ILOs`:

ILO		Clinical Laboratory Tests (D1001)	Drug interactions (D1002)	Advanced Pharmacotherapy-1	Advanced Pharmacotherapy-2	Advanced Pharmacotherapy- (D1005)	Advanced Pharmacotherapy- (D1006)	Nutrition & Anaemia (D1007)	Cardiovascular Evaluation (D1008)	Clinical Pharmacokinetics (D1009)	Elective 1 (D1010)	Hospital microbiology Elective 2 (D1011)	Selected topics (D1012)	Project
ARS, 2009	<b>A. Knowledge and Understanding:</b>													
Theories, principles and knowledge relevant to professional practice	A1 Enumerate the signs and symptoms of different neurologic, GIT, bone, eye, ear, pulmonary, dermatological and cardiovascular disorders.			*	*	*	*							
	A2 Identify the evidence based medicine for treating different diseases including neurologic,			*	*	*	*							

	GIT, bone, eye, and ear, pulmonary, dermatological and cardiovascular disorders.													
	A3 Recognize the pharmacotherapy of some infectious diseases.													
	A4 State the principle of kidney function and disorders													
	A5 Describe the principles of tumor diagnosis and staging													
	A6 Outline different patient laboratory data including electrolytes and minerals, heart, hematology, acid-base disorders, kidney function and rheumatic diseases.	*												

Principles and basics of quality in professional	A7 Identify different types of drug- drug interactions.		*											
	A8 Classify adverse drug reactions and management procedures.		*											
Theories, principles and knowledge relevant to professional practice	A9 Explain the basic concepts of clinical pharmacokinetics including clearance, apparent volume of distribution, half-life, elimination rate constant and compartmental model and their applications in therapeutic drug monitoring and dose modification.									*				

Ethical and legal principles of professional practice	A10 Outline different pharmaceutical services in hospital pharmacy											*		
	A11 Describe the guidelines for safe handling and dispensing of special classes of medicines such as hazardous drugs, vaccines, biopharmaceuticals, etc.											*		
The impact of professional practice on the development of the environment	A12 Outline infection control programs in different health care facilities									*				



Theories, principles and knowledge relevant to practice	A13 Outline different types of anemia, causes, symptoms and management							*						
	A14 Interpret different cardiovascular evaluation tests including heart sounds, heart rate, electrocardiogram, exercise stress test and others								*					
	A15 Describe different causes, complications and management of metabolic syndrome and insulin resistance											*		

ILO		Clinical Laboratory Tests (D1001)	Drug interactions (D1002)	Advanced Pharmacotherapy-1	Advanced Pharmacotherapy-2	Advanced Pharmacotherapy (D1005)	Advanced Pharmacotherapy (D1006)	Nutrition & Anaemia	Cardiovascular Evaluation (D1008)	Clinical Pharmacokinetics	Elective 1 (D1010)	Hospital microbiology Elective 2 (D1011)	Selected topics (D1012)	Project
ARS, 2009	<b>B. Intellectual Skills:</b>													
Take decisions using available information	B1 Select the best method for drug distribution in hospitals										*			

Identify, analyze and prioritize problems in the field of practice	B2 Interpret laboratory tests and clinical data for patients	*						*	*					
Solve problems in the field of practice	B3 Manage drug therapy problems effectively		*	*	*	*	*	*					*	
Take decisions using available information	B4 Individualize dosage in response to plasma drug concentrations									*				

Identify, analyze and prioritize problems in the field of practice	B5 Identify different drug related problems and medication errors		*											
Risk assessment in the field of practice	B6 Evaluate goals, measurable objectives, and action plans for an infection control program									*				
Critical thinking of research in the field of practice	B7 Construct a research study and analyze the results													*

ILO		Clinical Laboratory Tests (D1001)	Drug interactions (D1002)	Advanced Pharmacotherapy-1 (D1003)	Advanced Pharmacotherapy-2 (D1004)	Advanced Pharmacotherapy-3 (D1005)	Advanced Pharmacotherapy-4 (D1006)	Nutrition & Anaemia (D1007)	Cardiovascular Evaluation (D1008)	Clinical Pharmacokinetics (D1009)	Elective 1 (D1010)	Hospital microbiology Elective 2 (D1011)	Hospital Pharmacy	Selected topics (D1012)	Project
ARS, 2009	<b>C. Professional and Practical Skills:</b>														
Apply professional skills in the field of practice	C1 Individualize therapy for different patients.	*		*	*	*	*	*		*			*		
	C2 Detect Drug – drug drug-food interactions		*												
	C3 Modify drug dosage in case of presence of drug interaction		*												
	C4 Design a self-patient monitoring system to ensure achievement of the	*		*	*	*	*	*		*					

	desired therapeutic outcomes													
	C5 Perform an infection-control oriented risk assessment for all procedures undertaken in the hospital and for all categories of workers, including pregnant and immuno-compromised.										*			
	C6 Suggest the appropriate methods to prevent infections & promote health care										*	*		
	C7 Choose the proper drug in various disease conditions based on knowledge of drug-drug interaction and adverse drug reactions.			*	*	*	*							

	C8 Analyze and integrate a wide information including scientific and library based material in practice.								*					*
Write professional reports	C9 Implement writing and presentation skills													*

ILO		Clinical Laboratory Tests (D1001)	Drug interaction (D1002)	Advanced Pharmacotherapy	Advanced Pharmacotherapy	Advanced Pharmacotherapy	Advanced Pharmacotherapy	Nutrition & An (D1007)	Cardiovascular Evaluation	Clinical Pharmacokinetics	Elective 1 (D1010)	Elective 2 (D1011)	Selected topics	Project
ARS, 2009	A. General and transferable skills:													
Effective communication	D1 Communicate effectively verbally and nonverbally with other health care providers and patients	*						*				*		
	D2 Counsel patient or caregiver while establishing rapport and rapport											*		



Use different resources for data collection	D3 Work effectively with team	*						*						*
	D4 Appraise treatment options													*
	D5 Reprocess and evaluate information from different sources to improve professional abilities.													*

Use of technology for profession development	D6 Practice computer skills in word and internet communications	*						*						*
Self assessment and determination of learning needs	D7 Update pharmaceutical knowledge for development of pharmacy profession through independent lifelong continuous education.	*						*						*
show teamwork and time management skills	D8 Manage time evidenced by the to plan and efficient mode of working.													*

**Strong points:**

- Presence of graduation project that develops research skills in addition to problem solving, critical thinking, time management and team work abilities in the students
- Application of modern teaching methods such as self learning, case study, videos and others

**Weakness:**

- Absence of formative assessment to follow up students' progress within the program

**2. Achievement of Program Aims:**

The aim as well as the intended learning outcomes of the program have been evaluated regarding; student achievement which indicated that these goals are achieved. Regarding employer satisfaction about the program and knowledge and skills achieved by the employee (clinical pharmacists), employer surveys will be distributed after 3 months of graduation.

**3. Assessment Methods:**

- \* Each course of the program is routinely assessed, a number of different assessment methods are being traditionally used, including:-
- Written exam.
  - Practical exam.
  - Oral exam.

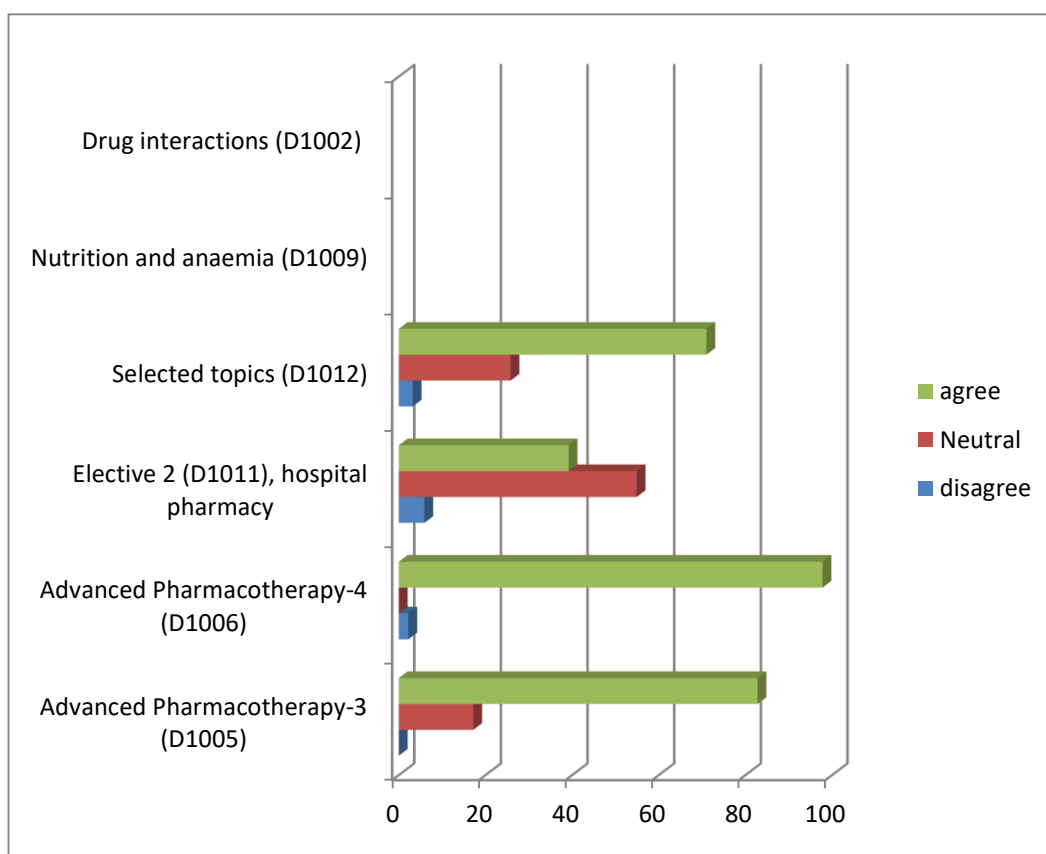
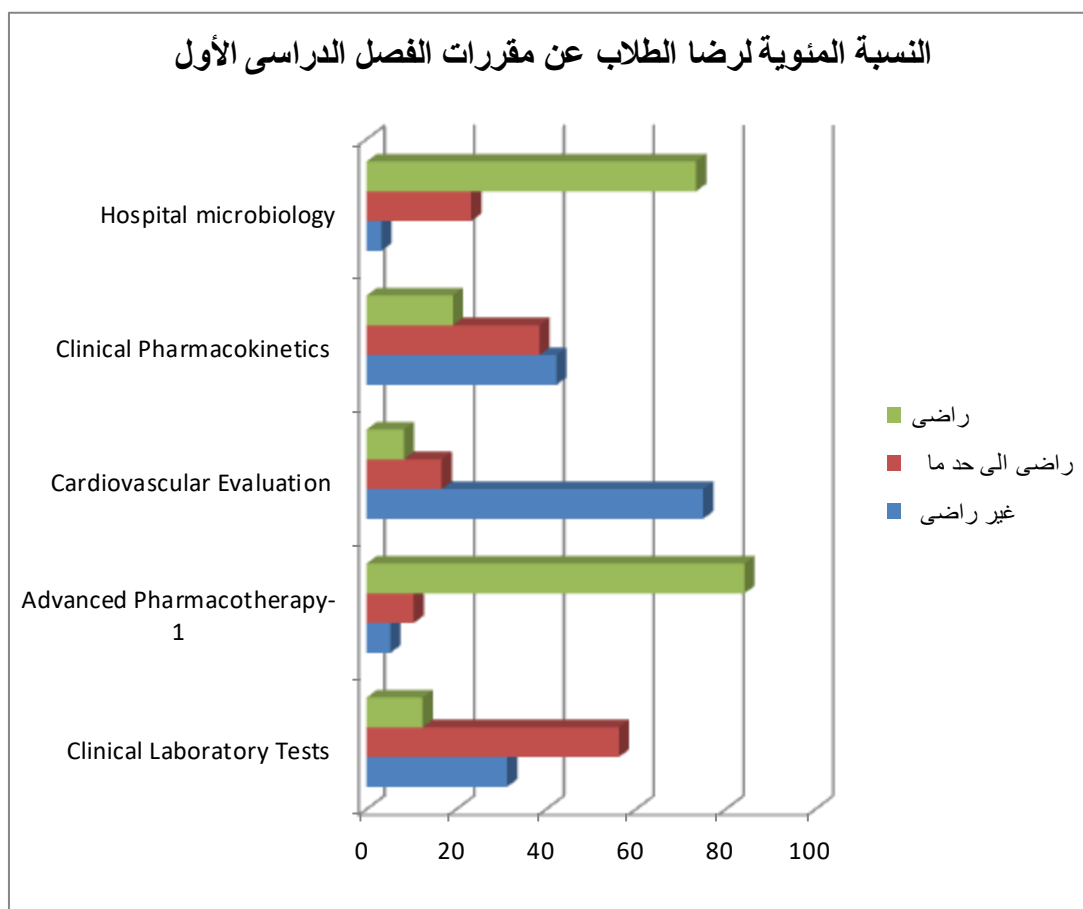
**4. Student Achievement:**

**Section B "Statistics"** demonstrates normal distribution of grades and reasonable achievement of students.

**Quality of learning opportunities****5-Quality of Teaching and Learning:**

The quality of teaching and learning was evaluated at the end of each semester through questionnaires directed to students. The results of these questionnaires mostly showed a high degree of satisfaction in Therapeutic and Hospital microbiology courses. On the other hand, the students complained from the condensed content in Clinical Laboratory Tests and Nutrition & anemia which is inconsistent with the short contact hours of

theory part (1 contact hour). The students were highly unsatisfied (> 70%) about Cardiovascular evaluation course.



## **6. Learning Resources:**

### **A-Adequacy of the specialties of the faculty members to the requirements of the program:**

The specialties of the faculty members involved in teaching are adequate for the requirements of the program.

### **B-Availability and adequacy of program handbook.**

In fact, a program handbook is available for most of students containing courses intended learning outcomes and student assessment methods as well. In addition, there is a list of references at the end of each handbook.

## **7. 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

### 3- Students evaluation of the program

Surveys were distributed and the response rate was = 34%

The survey was designed to measure students satisfaction about three areas namely: overall quality of learning, adequacy of learning facilities and availability of support. In addition the overall satisfaction about the program was measured.

#### أولاً: تقويم التعليم الذي حصلت عليه:

أُسئلة الاستبيان	غير راضى (%)	راضى الى حد ما (%)	راضى (%)
1- ما تعلمته في هذا البرنامج ساعدنى على تطوير عملى المهني	8.8	50	41.2
2- لقد ساعدني البرنامج في تطوير المعارف و المهارات اللازمة لعملى المهني	8.8	50	41.2
3- لقد طور البرنامج قدراتي على استقصاء و حل المشكلات الجديدة	8.8	67.6	23.6
4- لقد طور البرنامج على العمل بفاعلية مع المجموعات	8.8	55.9	35.3
5- لقد حسن البرنامج مهاراتي فى الاتصال	8.8	52.9	47.1
6- لقد ساعدني البرنامج في تطوير مهاراتي في استخدام التقنية لدراسة القضايا و التعبير عن النتائج	14.7	50	35.3
7- كل المقررات التى تمت دراستها لها علاقة بالبرنامج	11.7	39.2	49.1
8- تتميز المقررات بالتكامل و عدم تكرار المعلومات	7.8	52.9	39.3
9- تم استخدام طرق تدريس حديثة و متنوعة فى تقديم البرنامج	17.6	47.1	35.3

#### ثانياً. تقويم المصادر الخاصة بدعم تعليمي:

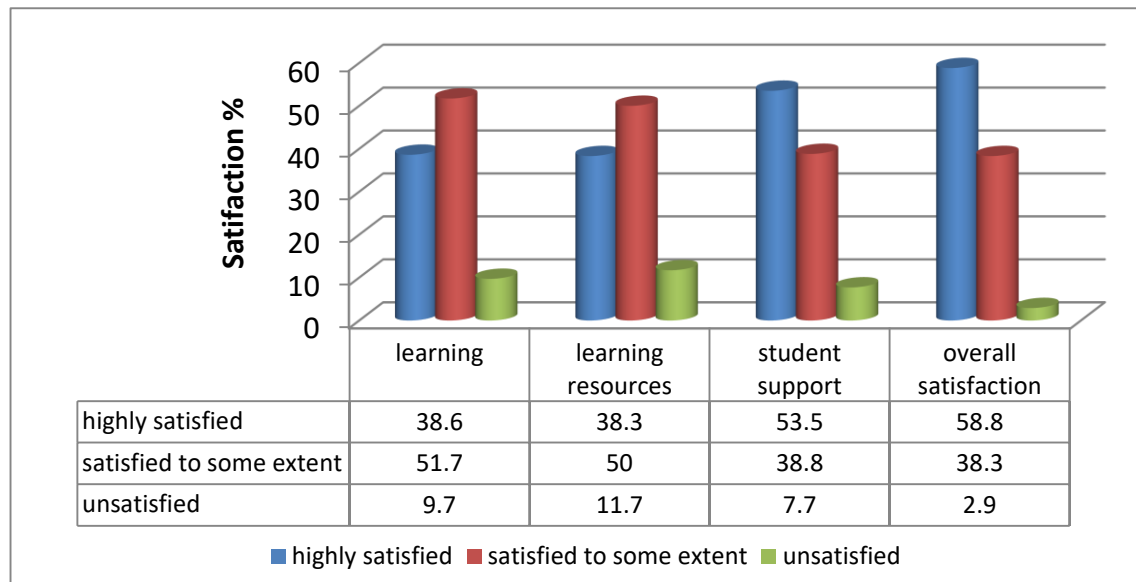
أُسئلة الإِستبيان	غير راضى (%)	راضى الى حد ما (%)	راضى (%)
1- مصادر التعلم التى أحتاجها فى دراسة المقررات متاحة	14.7	50	35.3
2- اتسمت تجهيزات قاعة المحاضرات بالجودة	8.8	50	41.2

#### ثالثاً. تقويم المساعدة و الدعم اللذان قدما لتعليمي:

راضى (%)	راضى الى حد ما (%)	غير راضى (%)	أسئلة الإستبيان
58.8	32.4	8.8	1- المسئولين عن ادارة البرنامج متواجدين للارشاد و المشورة عندما كنت احتاج للتحدث اليهم
47	41.2	11.8	2- لدى الفرصة الكاملة للتعبير عن رأيي
52.9	35.3	11.8	3- يتم الاستماع الي مقترحات الطلاب و احترام آرائهم
58.9	38.2	2.9	4- لدى اعضاء هيئة التدريس بالبرنامج معرفة كبيرة بمحتوى المقررات التي يدرسونها
50	47.1	2.9	5- اهتم اعضاء هيئة التدريس بمدى التقدم الدراسي لطلبتهم

#### رابعاً. التقييم العام للبرنامج:

راضى (%)	راضى الى حد ما (%)	غير راضى (%)	أسئلة الإستبيان
58.8	38.3	2.9	أشعر بالرضا العام عن مستوى جودة البرنامج



**b. Effectiveness of the system.**

No administrative constraints present that may hinder achieving program ILOs.

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

The system effectively supports the students in a manner that fairly facilitates the progression and completion of the degree.

Administrative and academic leader members (Vice dean of postgraduate studies and program coordinator) apply the rules regarding student attendance percentage and staff member performance evaluation (course specification, and report).

**d. Faculty Response to Students and External Evaluations|:**

- OTC drugs course was added among the elective courses
- Courses that do not have practical part, will have learning activities instead (assignments & presentation) that contribute 20% of the assessment

**8. Action plan for improvement:**

Action	Person responsible	Completion date
Completion of the quality management process of the program including internal & external program evaluation in addition to program evaluation by the employers	<ul style="list-style-type: none"> <li>• Program coordinator</li> <li>• quality management coordinator</li> </ul>	2018 - 2019
Proper selection of qualified staff members	<ul style="list-style-type: none"> <li>• Vice dean of postgraduate studies</li> <li>• Program coordinator</li> </ul>	2018 - 2019
Contact the biochemistry department for refining the course content according to the determined theoretical hours	<ul style="list-style-type: none"> <li>• Vice dean of postgraduate studies</li> <li>• Program coordinator</li> </ul>	2018 - 2019

- Vice dean of postgraduate studies.....
- Program coordinator.....



