

# COURSE REPORTS

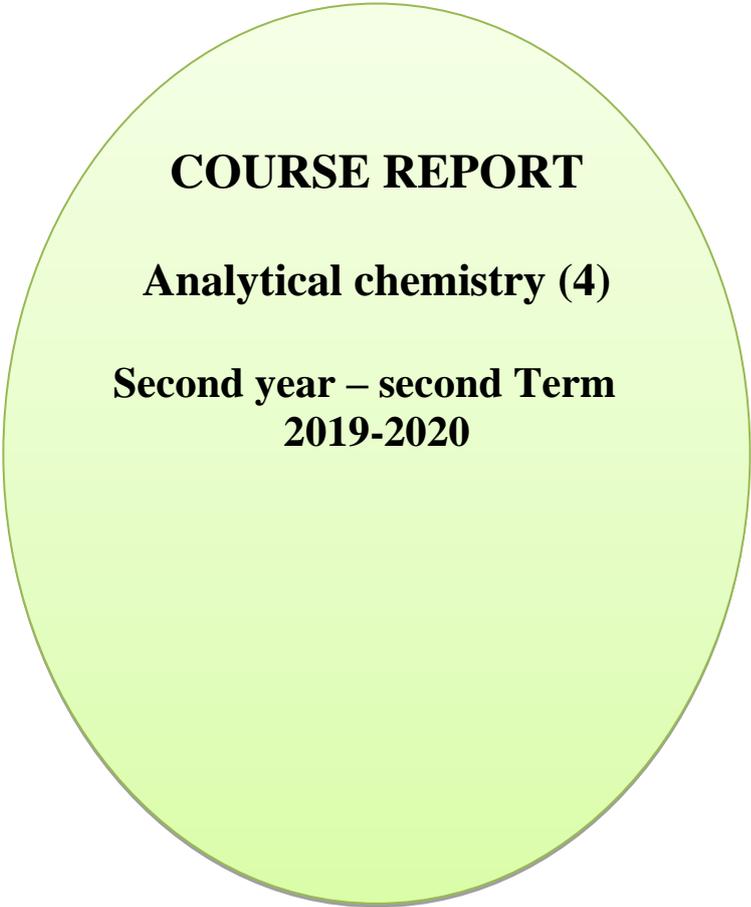
## Faculty of Pharmacy

Second Year – Second Term

2019-2020

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**COURSE REPORT**

**Analytical chemistry (4)**

**Second year – second Term  
2019-2020**

## Course Report

University: Zagazig  
Analytical chemistry

Faculty: Pharmacy

Department:

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### A- Basic Information

1. Title and code: Analytical chemistry (4) (AC224)
2. Program (s) on which this course is given: Bachelor of Pharmacy.
3. Year/ Level of program: second year (second semester)
4. Units/Credit hours:

Lectures  Tutorial/Practical  Total

5. Names of lecturers contributing to the delivery of the course

1. Prof. Dr. Hanaa Saleh
2. Prof. Dr. Magda Elhenawee
3. Prof. Dr. Mervat Hosny.
4. Assoc. Prof. Soad Selem
5. Assoc. Prof. Heba Elsayed

- Course coordinator: Prof. Dr. Hanaa Saleh
- External evaluator: Prof. Dr. Yasser Shaker Ibrahim Elsharty

### B- Statistical Information

No. of students attending the course: No.  %

No. of students completing the course: No.  %

Results:

Passed: No.  % 97.85 Failed:  %   
No.

Grading of successful students:

Excellent: No.  %  Very Good:  %   
 No.   
 Good : No.   Pass:    
 No.

## C- Professional Information

### 1 - Course teaching

Week No.	Topics taught	No. of hours	Lecturer
1	- Introduction to oil and fat (physical properties, composition and classification)	2hrs	• Prof. Dr/ Hanaa Saleh
2	- Chemical properties of oil and fat	2hrs	
3	- Rancidity, hydrogenation and analysis of butter fat	2hrs	
4	- Physical and chemical examination of water	2hrs	• Prof. Dr/ Magda Elhenawee
5	- Metals in water and interpretation of analytical results	2hrs	
6	<b>Midterm Exam</b>		
7	- Water pollution and purification	2hrs	• Prof. Dr/ Magda Elhenawee
8	- Theory of gravimetry, contamination and purification of precipitate	2hrs	Prof. Dr. Mervat Hosny.
9	- Application of gravimetric analysis	2hrs	
10	- Theory of potentiometry and types of electrodes	2hrs	• Assoc. Prof. Heba Elsayed
11	- Application of potentiometry	2hrs	
12	- Conductometry (theory & application)	2hrs	
13	- Theory of spectroscopy	2hrs	Assoc. Prof. Soad Selem
14	- Instrumentation	2hrs	
15	- Application of spectrophotometry	2hrs	

Topics taught as a percentage of the content specified:

>90%  70-90%  <70%

**Reasons in detail for not teaching any topic:**

If any topics were taught which are not specified, give reasons in detail:

**2- Teaching and learning methods:**

Lectures:	<input checked="" type="checkbox"/>
Practical training/ laboratory:	<input checked="" type="checkbox"/>
Seminar/Workshop:	<input type="checkbox"/>
Class activity:	<input type="checkbox"/>
Case Study:	<input type="checkbox"/>
Problem solving	<input checked="" type="checkbox"/>

Other assignments/homework:

If teaching and learning methods were used other than those specified, list and give reasons:

Because of Corona pandemic and suspension of the study since 15 March, the **lectures** and **laboratory** were delivered to the students **through telegram channel**

**3- Student assessment:**

Because of Corona Pandemic, the assessment methods were modified according to the decision of Supreme Council of Universities as follows:

The final written exam was replaced by preparation of project in a topic related to the course. Each project objectives were announced to the students through orientation lecture as well as rules for preparation and assessment of the project. - After

receiving and assessing the projects, feedback about students performance was announced to the students as well. All the projects were evaluated according the the scale of pass or fail and so no marks or grades were recorded.

<b>Teaching staff / Student no.</b>	<b>List of projects (3 different topics for each student)</b>
<b>Prof. Hanaa Saleh</b> 4001-4148	<ul style="list-style-type: none"> <li><b>A.</b> Water pollution: sources, effects and control</li> <li><b>B.</b> Determination of heavy metals pollution in water</li> <li><b>C.</b> Nitrogenous compounds in water</li> <li><b>D.</b> Acidity and basicity of water</li> <li><b>E.</b> Water sterilization methods</li> <li><b>F.</b> Dissolved gases in water and their effect</li> <li><b>G.</b> Absorbed gases in water and their significance</li> <li><b>H.</b> Natural and mineral water</li> <li><b>I.</b> Hardness of water</li> <li><b>J.</b> Parameters for water quality</li> <li><b>K.</b> Electromagnetic spectrum and its characteristics.</li> <li><b>L.</b> Light interaction with matter and compare between chromophores &amp; auxochromes?</li> <li><b>M.</b> Types of shifts of absorption maxima and types of electronic transitions?</li> <li><b>N.</b> What is the effect of pH on absorption spectra giving examples?</li> <li><b>O.</b> Describe different laws of light absorption?</li> <li><b>P.</b> Describe different types of deviations from Beers law</li> <li><b>Q.</b> How to measure the concentration of a coloured substance?</li> <li><b>R.</b> Draw a sketch for the spectrophotometer and give a brief information about each part?</li> <li><b>S.</b> Different types of monochromator?</li> <li><b>T.</b> Different types of spectrophotometer detectors and its essential characteristics?</li> <li><b>U.</b> Types of light source and sample cells in spectrophotometer?</li> <li><b>V.</b> Write short notes on applications of UV-VIS Spectrophotometry</li> </ul> <ol style="list-style-type: none"> <li><b>1)</b> Ion selective electrode for determination of benzydamine</li> <li><b>2)</b> Potentiometric determination of prasugrel using drug selective membranes.</li> <li><b>3)</b> Ion selective electrode for determination of sulphuride in pharmaceuticals and urine.</li> <li><b>4)</b> Ion-selective electrode for the determination of iron(iii) in vitamin formulations.</li> <li><b>5)</b> Ion-selective electrodes with solid contact for heavy metals determination.</li> </ol>
<b>Prof. Dr. Magda Elhenawee</b> 4149-4296	
<b>Prof. Dr. Mervat Hosny</b> 4297-4444.	
<b>Assoc. Prof. Soad Selem</b> 4445-4593 + 4738-4785	
<b>Assoc. Prof. Heba Elsayed</b> 4594-4737 + 4786-4834	

	<p>6) Conductometric determination of diphenhydramine hydrochloride</p> <p>7) Conductometric method for the determination of losartan in pharmaceutical products</p> <p>8) Conductometric determination of tiemonium methylsulfate</p> <p>9) Conductometric determination of dextromethorphan hydrobromide</p> <p>10) Conductometric determination of betahistine dihydrochloride</p>
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#### 4- Facilities and teaching materials:

Totally adequate

Adequate to some extent

Inadequate

List any inadequacies

Slow internet speed that hinder uploading and downloading lectures video  
No appropriate site for making online open discussion

#### 5- Administrative constraints

Absence of well-equipped computer lab with good internet connection and IT technician to help teaching staff if there is any difficulty in preparing and uploading lectures

#### 6- Student evaluation of the course:

<b>List any criticisms</b>	<b>Response of course team</b>
1. Unsuitability of online learning for some students.	The university is planning to establish a formal platform for e-learning services.
2. Course content is not consistent with the time specified for it.	This is the last time to teach this course, and this comment was considered in preparing the new program (Pharm D) courses of Anal. Chem.
3. Requests for uploading lectures to a YouTube channel for better internet service.	Lectures were uploaded to the following YouTube channel as requested by students: <a href="https://www.youtube.com/channel/UCdyjc8vv_0Xh3LBmvagwi2Q?view_as=subscriber">https://www.youtube.com/channel/UCdyjc8vv_0Xh3LBmvagwi2Q?view_as=subscriber</a>
4. Preparing more than one periodic exam for the course	A trial online exam was prepared, and 355 students responded. <a href="https://docs.google.com/forms/d/1gY6mJzAiriWoS8AHpYjCiYyYkxwa4jL9gMi2rdtmfKM/edit?usp=sharing">https://docs.google.com/forms/d/1gY6mJzAiriWoS8AHpYjCiYyYkxwa4jL9gMi2rdtmfKM/edit?usp=sharing</a>
5. Taking more practical sessions.	The practical hours are specified according to the program specification.

### **7- Teaching staff evaluation of online learning and student assessment by projects:**

- Generally, staff members were satisfied about online learning, but they mentioned problems that students may face like unavailability of computers or weak internet connection
- Unavailability of formal platform for the faculty to organize the interaction process with students
- Unavailability of teaching studio equipped with audiovisual facilities for

recording lectures.

**8- Comments from external evaluator(s):**

- The course was well designed

- ILOs were properly written

-spectrofluorimetry, atomic absorption and chromatography are recommended to be included.

**Response of course team:** In preparing course content of Instrumental Analysis –Pharm D program, spectrofluorimetry, atomic absorption and HPLC were included.

**9- Course enhancement:**

Progress on actions identified in the previous year’s action plan:

Actions recommended from the most recent course report(s)	Action Taken	Action Results
The suggested course contents of Instrumental Analysis –Pharm D program is designed to contain spectrofluorimetry, atomic absorption and HPLC.	achieved	No results yet, since Instrumental Analysis course (Pharm D program) will be taught the second semester of the new
ILO's of new Pharm D courses will be competency-based	achieved	academic year.

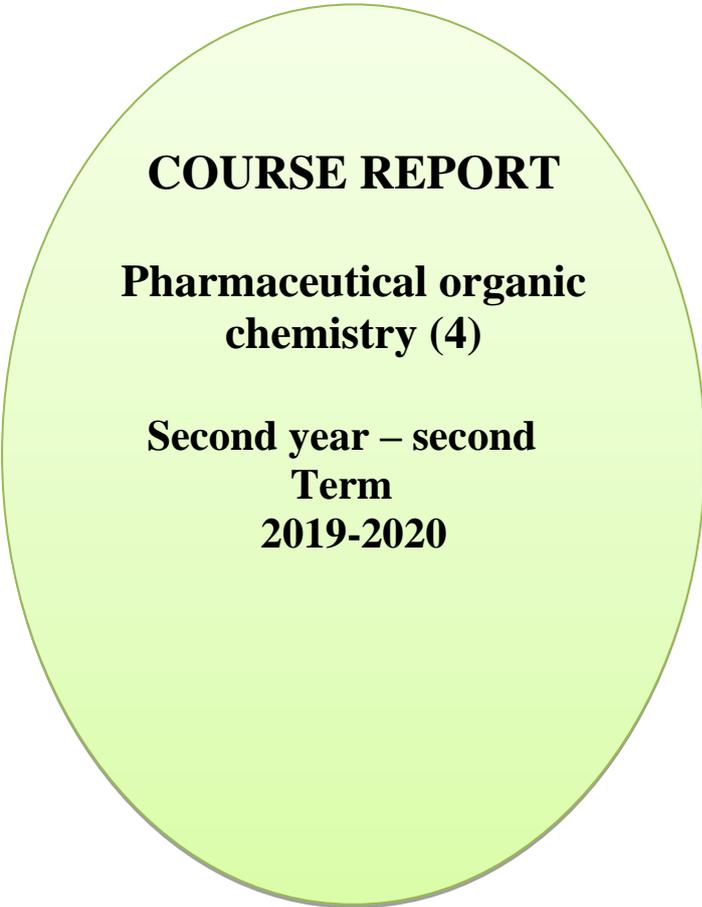
**9- Action plan for academic year**

No action plan was mentioned as Instrumental Analysis will be delivered instead in the new pharm D program

Course coordinator: Prof. Dr. Hanaa Saleh

Signature:

Date: 13/9/2020



**COURSE REPORT**

**Pharmaceutical organic  
chemistry (4)**

**Second year – second  
Term  
2019-2020**

## Course Report of Pharmaceutical Organic Chemistry-4

**University:** Zagazig                      **Faculty:** Pharmacy  
**Department:** Pharmaceutical Organic Chemistry

### A- Basic Information:

- 1. Title and code:** Pharmaceutical Organic Chemistry-4 (POC 223)
- 2. Programme(s) on which this course is given:** Bachelor of Pharmacy.
- 3. Year/ Level of programme:** second year – semester-2
- 4. Units/Credit hours:**

Lectures  Tutorial/Practical  Total

### 5. Names of lecturers contributing to the delivery of the course:

- Prof. Dr/ Eatedal Hassan Abd El-aal.
- Asst. Prof/ Nermin Awni Osman

**6. Course coordinator:** Prof. Dr/ Eatedal Hassan Abd El-aal.

**7. External evaluator:** Prof. Dr. Ashraf Bayoumy

### B- Statistical Information:

No. of students attending the course:                      No.  %

No. of students completing the course:                      No.  %

Results:

Passed:      No.  %       Failed:      No.  %

Grading of successful students:

Excellent:      No.  %       Very Good:      No.  %

Good :      No.  %       Pass:      No.  %

## C- Professional Information:

### 1 - Course teaching:

Topics actually taught	No. of hours	Lecturer
<ul style="list-style-type: none"><li>• <b>HETEROCYCLIC CHEMISTRY</b> Classification of heterocyclic compounds, nomenclature</li></ul>	2	Prof.Dr. Eatedal Hassan Abd El-aal
<ul style="list-style-type: none"><li>• <b>HETEROCYCLIC CHEMISTRY:</b> Five membered rings</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>HETEROCYCLIC CHEMISTRY:</b> Five membered rings</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>HETEROCYCLIC CHEMISTRY:</b> Five-membered heterocyclic rings with two heteroatoms</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>HETEROCYCLIC CHEMISTRY:</b> Six-membered heterocyclic rings</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>HETEROCYCLIC CHEMISTRY:</b> Six-membered heterocyclic rings with two nitrogen atoms</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>HETEROCYCLIC CHEMISTRY:</b> Fused six membered ring Quinoline, isoquinoline, purine and valium</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>Spectroscopic Methods Of Structural Determination:</b> Introduction of spectroscopy. Visible and UV spectroscopy</li></ul>	2	Asst. Prof./ Nermin Awni Osman.
<ul style="list-style-type: none"><li>• <b>Spectroscopic Methods Of Structural Determination:</b> IR spectroscopy: introduction and principles</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>Spectroscopic Methods Of Structural Determination:</b> IR spectroscopy: applications</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>Spectroscopic Methods Of Structural Determination:</b> Mass spectroscopy</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>Spectroscopic Methods Of Structural Determination:</b> • H<sup>1</sup>NMR</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>Spectroscopic Methods Of Structural Determination:</b> C<sup>13</sup>NMR</li></ul>	2	
<ul style="list-style-type: none"><li>• <b>Application of spectroscopy</b></li></ul>	2	

**Topics taught as a percentage of the content specified:**

>90%  70-90%  <70%

**Reasons in detail for not teaching any topic:**

**Because of Corona pandemic and change of assessment method, students' activity through the course was cancelled**

**If any topics were taught which are not specified, give reasons in detail:**

**2- Teaching and learning methods:**

Lectures:	<input type="text" value="√"/>
Practical training/ laboratory:	<input type="text" value="√"/>
Seminar/Workshop:	<input type="text" value="-"/>
Class activity:	<input type="text" value="-"/>
Case Study:	<input type="text" value="-"/>

**Other assignments/homework:**

**If teaching and learning methods were used other than those specified, list and give reasons:**

- Because of Corona pandemic and suspension of the study since 15 March, the lectures and laboratory were delivered to the students through telegram channel.

**3- Course learning outcome assessment:**

Because of Corona Pandemic, the assessment methods were modified according to the decision of Supreme Council of Universities.

The final written exam was replaced by preparation of project in a topic related to the course. Each project objectives were announced to the students through orientation lecture as well as rules for preparation and

assessment of the project. After receiving and assessing the projects, feedback about students' performance was announced to the students as well. All the projects were evaluated according the scale of pass or fail and so no marks or grades were recorded.

### List of projects:

Teaching staff	List of projects
<b>Prof.Dr. Eatedal Hassan Abd El-aal</b>	<ol style="list-style-type: none"> <li>1. Synthesis, reactions and drugs containing furan</li> <li>2. Synthesis, reactions and drugs containing thiophene</li> <li>3. Synthesis, reactions and drugs containing pyrrole</li> <li>4. Synthesis, reactions and drugs containing indole</li> <li>5. Synthesis, reactions and drugs containing pyrazole</li> <li>6. Synthesis, reactions and drugs containing imidazole</li> <li>7. Synthesis, reactions and drugs containing oxazole</li> <li>8. Synthesis, reactions and drugs containing isoxazole</li> <li>9. Synthesis, reactions and drugs containing pyridine</li> <li>10. Synthesis, reactions and drugs containing quinoline</li> <li>11. Synthesis, reactions and drugs containing isoquinoline</li> <li>12. Synthesis, reactions and drugs containing acridine</li> <li>13. Synthesis, reactions and drugs containing coumarin</li> <li>14. Synthesis, reactions and drugs containing pyrazine</li> <li>15. Synthesis, reactions and drugs containing pyridazine</li> <li>16. Synthesis, reactions and drugs containing pyrimidine</li> <li>17. Synthesis, reactions and drugs containing purine</li> </ol>
<b>Asst. Prof./ Nermin Awni Osman.</b>	<ol style="list-style-type: none"> <li>1. Infrared spectroscopy</li> <li>2. Mass spectroscopy</li> <li>3. <sup>1</sup>HNMR spectroscopy</li> </ol>

	4. <sup>13</sup> CNMR spectroscopy 5. Ultraviolet & visible light spectroscopy
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### Evaluation of course content and final exam :

#### 4- Facilities and teaching materials:

Totally adequate

-
---

Adequate to some extent

√
---

Inadequate

-
---

List any inadequacies:

- Poor internet and difficulty of lecture download for some students

#### 5- Administrative constraints:

Absence of well-equipped computer lab with good internet connection and IT technician to help teaching staff if there is any difficulty in preparing and uploading lectures

#### 6- Student evaluation of the course:

List any criticism	Response of course team
<p>Generally students were satisfied about the course but they complained from assessment through projects preparation in the following point:</p> <ul style="list-style-type: none"> <li>-No follow up from some staff members</li> <li>- No determination of list of references for each project</li> <li>- Not enough time for projects preparation</li> </ul>	<ul style="list-style-type: none"> <li>- Insert preparation of projects as a tool for assessment.</li> <li>- Good planning for students projects regarding time, follow up, determination of objectives, references and assessment criteria</li> </ul>

#### 7- Teaching staff evaluation of online learning and student assessment by projects:

- Generally, staff members were satisfied about online learning but

they mentioned problems that students may face like unavailability of computers or weak internet connection.

- Unavailability of formal platform for the faculty to organize the interaction process with students
- Unavailability of teaching studio equipped with audiovisual facilities for recording lectures

**8- Comments from external evaluator(s):**

- The course was well designed
- ILOs were properly written

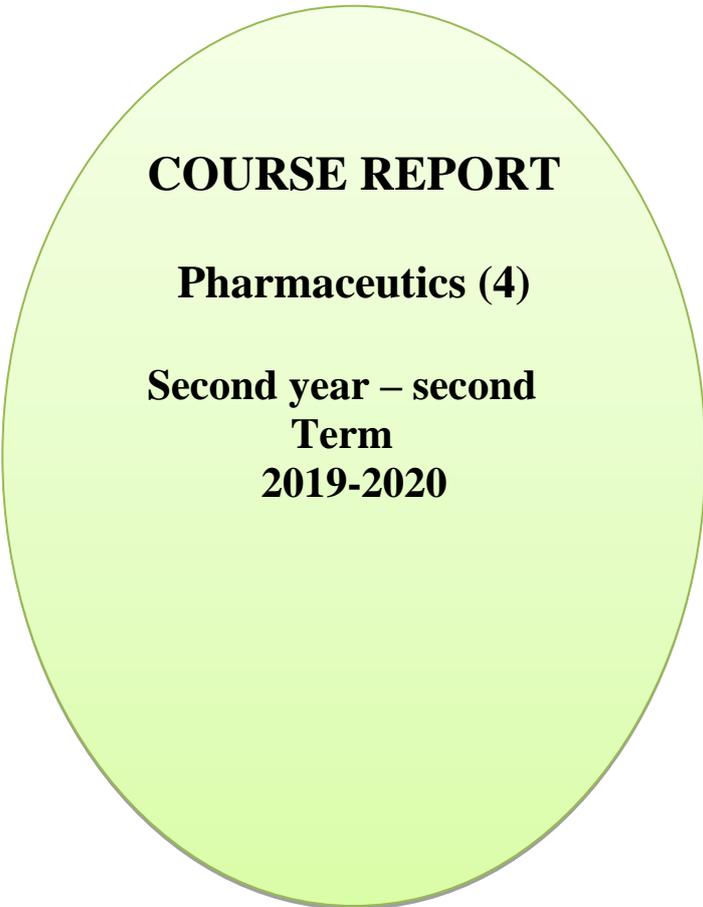
**9- Course enhancement:**

<b>1. Progress on actions proposed for improving the course in previous course reports (if any).</b>			
<b>Actions recommended from the most recent course report</b>	<b>Actions Taken</b>	<b>Action Results</b>	<b>Action Analysis</b>
a.Addition of formatives for frequent evaluation of the students	Students had different questions about the lecture topic	Frequent evaluation of the students during the course till 15 march	The formatives are marked and the course understanding of the students is measured
b.Addition of activities to enhance developing self learning abilities	Charts in spectroscopy	Incomplete due to corona pandemic	

<b>2. Action Plan for Next Semester/Year</b>				
<b>Actions Recommended for Further Improvement</b>	<b>Intended Action Points (should be measurable)</b>	<b>Start Date</b>	<b>Completion Date</b>	<b>Person Responsible</b>
Taken into consideration the:				
Student reports to develop writing and presenting skills.	Asking students for making a research in the course-related topics	2020 - 2021	2021	Course team

Signature:

Date: / 10 /2020



**COURSE REPORT**

**Pharmaceutics (4)**

**Second year – second  
Term  
2019-2020**

## Annual Course Report

**University:**Zagazig

**Faculty:** Pharmacy

**Department:** Pharmaceutics

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### A – Basic Information:

- **Title and Code:** pharmaceutics 4 ( Code : PC 223)
- **Program(s) on which this course is given:** Bachelor of pharmacy
- **Year / Level of programs:** second year (second semester)
- **Units / Credit hours:**3 hrs/week

<b>Lectures</b>	2 hrs.	<b>Practical sessions</b>	2 hr.	<b>Total</b>	3 hrs.
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- **Names of lecturers contributing to the delivery of the course:**

- Prof .Dr.Hanaa Elghamry
- **Assistant Prof. Dr. Azza Ali Hassan**
- **Dr Margret Ayoub**

- **Course coordinator:**
- **Assistant Prof. Dr. Azza Ali Hassan**

- **External evaluators:**
  - Prof. Dr. Ahmed Mahmoud Samy (Azhar University)

### B- Statistical Information:

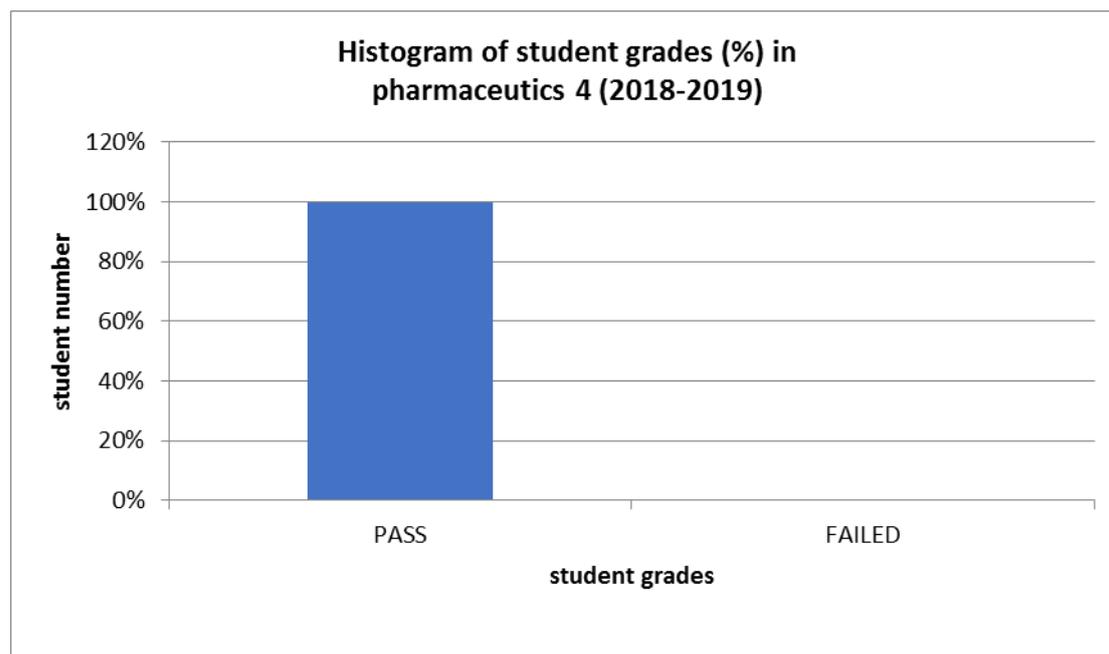
<b>No. of students attending the course</b>	759	100 %
<b>No. of students completing the course</b>	742	97.76 %

### **Results:**

<b>Passed</b>	742	100%	<b>Failed</b>	0	0%
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### Grading of successful students:

Grade	Student Number	Percent
PASS	742	100%
FAILED	0	0%



### C- Professional Information:

#### 1-Course teaching:

Lecture contents (2hrs/week)	No of Hours	Lecturers
- Powders: definition, advantages and disadvantages, powder dosage forms, particle size reduction, size reduction methods	2	<b>Ass. Prof. Dr. Azza Ali Hasan</b>
- Flow properties, blending of powders, packaging, special problems arises during manufacture, granules (definition, advantages, and	2	

effervescent granules).		
- Capsules: definition, types (hard and soft gelatin capsules), advantages and disadvantages of capsules	2	
- Quality control test of capsules, methods of preparations	2	
- Vegicaps soft gelatin capsules, enteric coated capsules, sustained release capsules, spansules and medules.	2	
- Microencapsulation: Definition, applications and advantages of microcapsulation, classification, methods of preparations of microcapsules and microspheres, release mechanisms.	2	
- Incompatibility: definition, types, examples, importance, intentional incompatibilities.	2	
- Types of suppository bases	2	<b>Prof. Dr/ Hanaa El Ghamry</b>
- Testing of suppositories - Vaginal suppositories	2	
-Other rectally administered dosage forms	2	
-التشريعات الصيدلانية	2	
-التشريعات الصيدلانية	2	
-Preformulation studies: definition, solubility, partitioning coefficient,	2	<b>Dr/ Margret Ayoub</b>
- Dissolution rate, physical parameters, stability.	2	

**Topics taught as a percentage of the content specified:**

>90 %	√	70 – 90 %		<70%	
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- **Reasons in detail for not teaching any topic: -----**

- **If any topics were taught which are not specified, give reasons in detail: -----**

- 

### **2-Teaching and learning methods:**

Lectures	√
Practical Training / Laboratory	-
Seminar / Workshop	-
Class activity	-
Case study	-
Other assignment / homework	√

- **If teaching and learning methods were used other than those specified, list and give reasons:**

Because of the outbreak of corona virus pandemic ,the study was postponed since 15<sup>th</sup> March and the remanent of scheduled study was attempted through Telegram channel and the intended student's activity was cancelled.

### **3-Student Assessment:**

Because of the Corona virus pandemic , all assessment methods were changed responding to the decision of The supreme council of universities.

The final written exam was replaced by a project related to a specific subject in the course .Each project objectives were announced through an orientation lecture which also contained the requirements of good project design and research.

Each student deliver his project to the specified member of the course examination committee whom, in return, gave a feedback about student performance which was in form of PASS or FAILED and no grades were recorded as usual.

## **List of projects: Project 1**

**1. Particle size reduction (comminution), advantages, different apparatuses used for size reduction with explanation for mechanisms of each apparatus. (Explain with sketches)**

**2. Types of suppositories**

**3. Preformulation**

- Definition
- Objectives
- Molecular optimization
- Preformulation studies

## **Project 2**

**1. Hard gelatin capsules; advantages, disadvantages, composition of shell and excipients used, small scale and large scale preparations methods, problems in production, limitations in properties of materials for filling into capsules, Types of materials for filling into hard gelatin capsules.**

**2. Different types of suppository bases**

**3. Preformulation**

- Definition
- Objectives
- Molecular optimization
- Assay studies

## **Project 3**

**1. Different types of Coacervation – Phase Separation techniques for preparation of microcapsules; schematic diagram, advantages, disadvantages, applications in pharmacy.**

**2. The factories affecting drug absorption from rectal suppositories**

**3. Preformulation**

- Definition
- Objectives
- Bulk characterization

## **Project 4**

- 1. Quality control tests for hard and soft gelatin capsules. (Draw different instruments used in these tests)**
- 2. Types of suppositories bases**
- 3. Preformulation**
  - Definition
  - Objectives
  - Molecular optimization
  - Solubility studies

## **Project 5**

- 1. Different forms of dispensed powders in pharmacy and their packaging.**
- 2. The different methods of preparation of suppositories**
- 3. Preformulation**
  - Definition
  - Objectives
  - Molecular optimization
  - Stability studies

## **Project 6**

- 1. Spray techniques; Spray drying and spray congealing; apparatus, advantages, disadvantages, applications.**
- 2. Other dosage forms use rectal and vaginal instead of suppositories**
- 3. Preformulation**
  - Definition
  - Objectives
  - Solid characterization

## **Project 7**

- 1. Soft gelatin capsules; advantages, disadvantages, composition of shell and excipients used, methods of manufacture,**

**limitations in properties of materials for filling into capsules,  
Types of materials for filling into soft gelatin capsules.**

**2. Compressed tablet suppository**

**3. Preformulation**

- Definition
- Objectives
- Molecular optimization
- Hygroscopicity studies

## **Project 8**

**1. Granules; Advantages, disadvantages, types, preparation and dispensed forms in pharmacy.**

**2. Quality control of suppositories**

**3. Preformulation**

- Definition
- Objectives
- Determination of powder flow properties

## **Project 9**

**1. Solvent evaporation technique for preparation of microspheres; procedure, advantages, disadvantages, applications.**

**2. How can you make evaluation of suppositories**

**3. Preformulation**

- Definition
- Objectives
- Molecular optimization
- Preformulation studies

## **Project 10**

**1. Special forms of capsules; e.g. enteric coated, sustained release, vegicaps, aplicaps, suckable, chewable, meltable .....etc.**

**2. How can you choose the suppositories bases**

**3. Preformulation**

- Definition
- Objectives
- Molecular optimization
- Assay studies

## **Project 11**

- 1. Blending of powders; methods, advantages, disadvantages and applications.**
- 2. Types of suppositories**
- 3. Preformulation**
  - Definition
  - Objectives
  - Bulk characterization

## **Project 12**

- 1. Incompatibilities; types, Importance of Determining Incompatibility, Methods of Rectifying.**
- 2. Different types of suppository bases**
- 3. Preformulation**
  - Definition
  - Objectives
  - Molecular optimization
  - Solubility studies

## **Project 13**

- 1. Pan coating technology; apparatus, advantages, disadvantages, applications.**
- 2. The factors affecting drug absorption from rectal suppositories**
- 3. Preformulation**
  - Definition
  - Objectives
  - Molecular optimization
  - Stability studies

## **Project 14**

- 1. Flow properties of powders; factors affecting, Methods of improving, measurement and applications in pharmaceuticals. (Explain with drawing)**
- 2. Types of suppositories bases**
- 3. Preformulation**
  - Definition
  - Objectives

- Solid characterization

## **Project 15**

- 1. Air-suspension technique of coating; apparatus, advantages, disadvantages, applications.**
- 2. The different methods of preparation of suppositories**
- 3. Preformulation**
  - Definition
  - Objectives
  - Molecular optimization
  - Hygroscopicity studies

## **Project 16**

- 1. Intentional Incompatibilities; types, applications.**
- 2. Other dosage forms use rectal and vaginal instead of suppositories**
- 3. Preformulation**
  - Definition
  - Objectives
  - Determination of powder flow properties

## **Project 17**

- 1. Special Problems arises during powder manufacture, solving these problems, applications.**
- 2. Compressed tablet suppository**
- 3. Preformulation**
  - Definition
  - Objectives
  - Molecular optimization
  - Preformulation studies

### **Members of examination committee:**

- Prof.Dr. Hanaa Elghamry
- **Assistant Prof. Dr. Azza Ali Hassan**
- **Dr/ Margret Ayoub**

#### 4-Facilities and Teaching Materials:

Totally adequate	
Adequate to some extent	√
Inadequate	

#### List any inadequacies:

- Poor internet and the difficulty of lectures download for some student
- Difficulties in communication between students and teaching staff.....

#### 5- Administrative Constraints:

Absences of well-equipped computer lab with good internet connection and IT technicians to help the staff to prepare and upload the lectures.

#### 6- Comments from external evaluator(s):

Due to The corona virus pandemic ,there was no ability for course checking and exam evaluation by external evaluation committee.

#### 7-Students evaluation of the course:

Generally, the students were satisfied with the course except for few matters:

List any criticism	Response of course team
<ul style="list-style-type: none"> <li>• The practical content should be more the related to the theoretical courses</li> <li>• Specification of u tube channel for the courses to avoid defects of the PowerPoint show</li> <li>• To take into consideration the unavailability of E-learning facilities for all students</li> <li>• Short time for project design and deliver.</li> </ul>	<p>Course team will improve practical contents</p> <p>U tube videos will be taken into consideration by course team</p> <p>Good planning for students projects regarding time, follow up, determination of objectives</p>

#### 7- Teaching staff evaluation of online learning and student assessment by projects:

Generally, staff members were satisfied about online learning but they

mentioned problems that students may face like unavailability of computers or weak internet connection

Unavailability of formal platform for the faculty to organize the interaction process with students

Unavailability of teaching studio equipped with audiovisual facilities for recording lectures

### 8- Course Enhancement:

Action required	State whether or not complete and give reasons for any non completion
a. Use balanced questions cards for oral exam	Not Completed due to corona pandemic
b. External examiner for evaluation of the student during oral exam	Not completed due to corona pandemic

### 9- Action plan for academic year 2020– 2021:

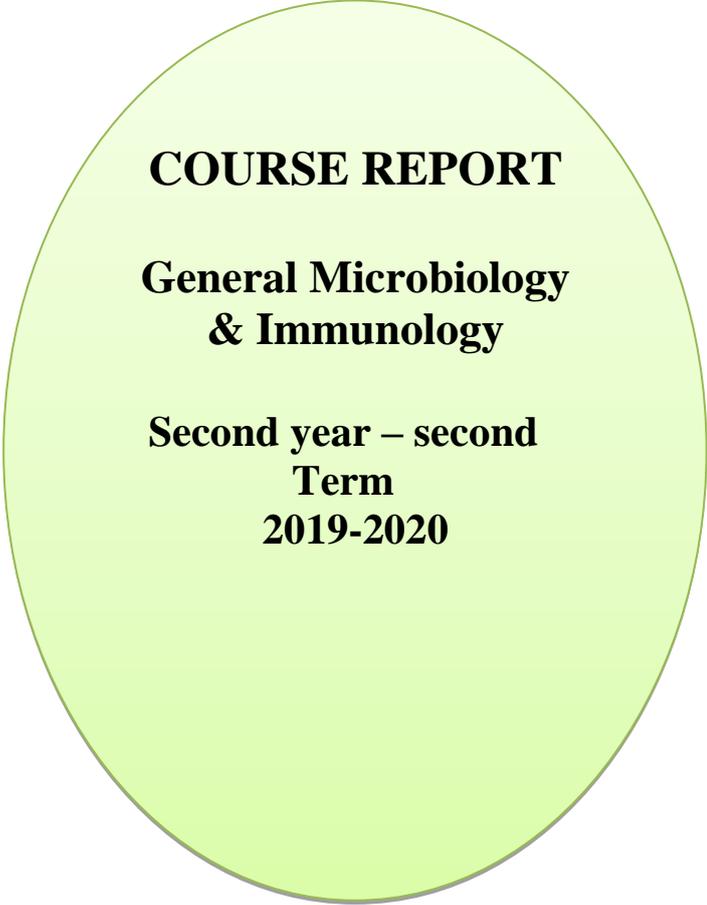
Action required	Completion date	Person responsible
Revision of the course references	2020/2021	Course instructors
Update of course content	New curriculum will be applied 2020-2021	Faculty administration and course instructors

### Course Co-ordinators:

- Assistant Prof. Dr. Azza Ali Hassan

**Signature:**

**Date:** Course report is approved on /10/2020



**COURSE REPORT**

**General Microbiology  
& Immunology**

**Second year – second  
Term  
2019-2020**

## Course report of General Microbiology and Immunology

Institution: Zagazig University
Faculty : Pharmacy

### A- Basic Information:

1. Program (s) on which the course is given: Bachelor of pharmacy
2. Major or Minor element of programs: Major
3. Code: <b>M122</b>
4. Department offering the course: Microbiology & Immunology
5. Academic year Level: Second year -Semester 2

4. Units/Credit hours:

Lectures  Tutorial/Practical  Total

5. Names of lecturers contributing to the delivery of the course

- i) Prof. / Hammat Abdellatif
- ii) Prof. / Nehal El-sayed
- iii) Ass. Prof. / Amira El-Ganiny
- iv) Ass. Prof. /Hisham Abbas

**Course coordinator:** iii) Ass. Prof. / Amira El-Ganiny

**External evaluator:** Prof. Mohamed Abdel Halim Ramadan–  
Microbiology –Cairo University

### B- Statistical Information:

No. of students **attending** the course: No.  %

No. of students **completing** the course: No.  %

#### Results:

Passed: No. **756** %  Failed: **0** %   
No.

#### Grading of successful students:

Excellent: No.  %  Good:  %

Good : No.  No.  No.

**C- Professional Information:**

**1 - Course teaching**

<b>Topics actually taught</b>	<b>No. of hours</b>	<b>Lecturer</b>
General introduction to microbiology and historical review Classification and types of Microorganisms •Brief description of viruses, fungi and protozoa •Bacteria: description and classification •Anatomy and structure of bacterial cells •Growth and cultivation of bacteria, bacterial growth curve	10	Prof. Nehal Elsayed Yossef
• <b>Microbial metabolism</b> • <b>Anabolism</b> • <b>catabolism</b> • <b>Microbial genetics</b> •Transcription and Protein synthesis •Genetic variation ••Genetic Transfer among bacteria	11	Ass. Prof. Amira El-Ganiny
• <b>Introduction to immunology</b> • <b>Immunity – innate immunity</b> <b>Immune system</b> • <b>Cells of immune response</b> • <b>Immunogens or antigens</b> • <b>Acquired immune response</b> • <b>Serological reactions</b>	11	Ass. Prof. Hisham Abbas
Cell mediated immunity • Humoral immune response And Cytokines • Immunologic mechanisms of tissue damage • Hypersensitivity reactions • Transplantation immunology • Autoimmune diseases • Tumour immunology • Immunoprophylaxis	10	Prof. Hemmat Kamal

Topics taught as a percentage of the content specified:

>90%  70-90%  <70%

Reasons in detail for not teaching any topic

Because of Corona pandemic and change of assessment method, students' activity through the course was cancelled

If any topics were taught which are not specified, give reasons in detail

## 2- Teaching and learning methods:

Lectures	<input type="text" value="√"/>
Practical training/ laboratory:	<input type="text"/>
Seminar/Workshop:	<input type="text"/>
Class activity:	<input type="text"/>
Case Study:	<input type="text"/>
Others: videos	<input type="text"/>

If teaching and learning methods were used other than those specified, list and give reasons:

Because of Corona pandemic and suspension of the study since 15 March, the lectures and laboratory were delivered to the students through telegram channel.

## 3- Course learning outcome assessment:

Because of Corona Pandemic, the assessment methods were modified according to the decision of Supreme Council of Universities.

The final written exam was replaced by preparation of project in a topic related to the course. Each project objectives were announced to the students through orientation lecture as well as rules for preparation and assessment of the project. After receiving and assessing the projects, feedback about students performance was announced to the students as well. All the projects were evaluated according to the scale of pass or fail and so no marks or grades were recorded.

## Evaluation of course content and final exam :

### 4- Facilities and teaching materials:

Totally adequate	-
Adequate to some extent	√
Inadequate	-

List any inadequacies:

- Poor internet and difficulty of lecture download for some students

### 5- Administrative constraints:

Absence of well-equipped computer lab with good internet connection and IT technician to help teaching staff if there is any difficulty in preparing and uploading lectures

### 6- Student evaluation of the course:

List any criticism	Response of course team
<p>-Generally students were satisfied about the course but they complained from assessment through projects preparation in the following point:</p> <p>- No determination of list of references for each project</p> <p>- Not enough time for projects preparation</p>	<p>Insert preparation of projects as a tool for assessment</p> <p>Good planning for students projects regarding time, follow up, determination of objectives, references and assessment criteria</p>

### 7- Teaching staff evaluation of online learning and student assessment by projects:

Generally, staff members were satisfied about online learning but they mentioned problems that students may face like unavailability of computers or weak internet connection

Unavailability of formal platform for the faculty to organize the interaction process with students

Unavailability of teaching studio equipped with audiovisual facilities for recording lectures

**8- Comments from external evaluator(s):**

- The course was well designed
- ILOs were properly written

**9- Course enhancement:**

Progress on actions identified in the previous year's action plan:

<b>Action</b>	<b>State whether or not completed and give reasons for any non-completion</b>
Updating Students Notes	Completed

**10- Action plan for academic year 2020 - 2021**

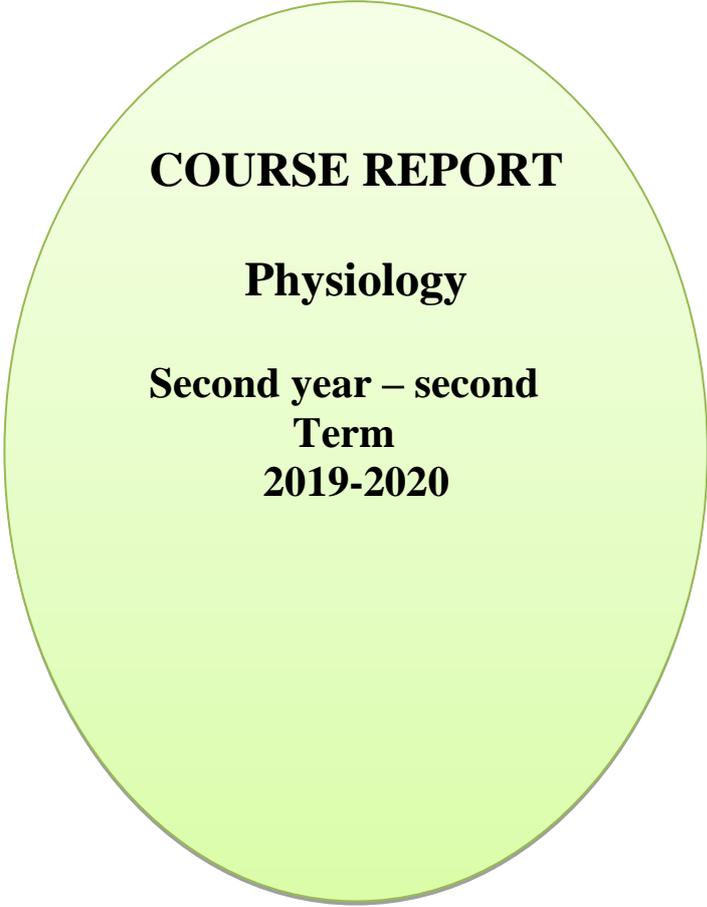
<b>Actions required</b>	<b>Completion date</b>	<b>Person responsible</b>
Revision of the course references	2020-2021	Course team
Apply electronic practical exam	2020-2021	Course team
Apply blended learning strategy	2020-2021	Course team
Development of search skills through course assignments	2020-2021	Course team
Arrangements for platform creation	2020-2021	Faculty administration

Course Coordinator: Ass. Prof. Dr/ Amira El-Ganiny

Head of Department: Prof. Dr. Nehal Elsayed Youssef

Date: 2020/ 9 / 30 تم مناقشة و اعتماد تقرير المقرر من مجلس القسم بتاريخ

م



**COURSE REPORT**

**Physiology**

**Second year – second  
Term  
2019-2020**

## Annual Course Report

University: Zagazig  
Pharmacology

Faculty: Pharmacy

Department:

### Course Report

A- Basic Information

1. Title and code: **Physiology** (PT220)
2. Programme(s) on which this course is given: **Bachelor of Pharmacy**
3. Year/ Level of programme: **Second year (second term)**
4. Units/Credit hours:

Lectures  Tutorial/Practical  Total

5. Names of lecturers contributing to the delivery of the course:

Prof.Dr/Hany El-Bassosy

Prof.Dr/Shaimaa Elshazly

DR/Shaimaa Samy

Course co-ordinator: Prof.Dr/Hany El-Bassosy

External evaluator: prof.Dr/ Alaa Elsissy

### B- Statistical Information

No. of students attending the course:	No.	<input type="text" value="813"/>	%	<input type="text" value="100"/>
No. of students completing the course:	No.	<input type="text" value="795"/>	%	<input type="text" value="97.8"/>
Results:				
Passed:	No.	<input type="text" value="795"/>	%	<input type="text" value="97.8"/>
Failed:	No.	<input type="text" value="18"/>	%	<input type="text" value="2.2"/>
Grading of successful students:				
Excellent:	No.	<input type="text"/>	%	<input type="text"/>
Very Good:	No.	<input type="text"/>	%	<input type="text"/>
Good :	No.	<input type="text"/>	%	<input type="text"/>
Pass:	No.	<input type="text" value="795"/>	%	<input type="text" value="97.8"/>

### C- Professional Information

## 1 - Course teaching

Topics actually taught	No. of hours	Lecturer
Physiology of the membrane, nerve and muscle	2	Prof.Dr/Hany ElBassosy
Physiology of the autonomic nervous system	2	DR/Shaimaa Samy
Physiology of the somatic nervous system	2	
Physiology of the central nervous system (1)	2	
Physiology of the central nervous system (2)	2	
Physiology of the cardiovascular system (1)	2	Prof.Dr/Hany ElBassosy
Physiology of the cardiovascular system (2)	2	
Physiology of the renal system	2	Prof.Dr/Shaimaa Elshazly
Physiology of the pulmonary system	2	
Physiology of the gastrointestinal system	2	DR/Shaimaa Samy
Physiology of the endocrine system (1)	2	Prof.Dr/Shaimaa Elshazly
Physiology of the endocrine system (2)	2	
Physiology of the endocrine system (3)	2	

Topics taught as a percentage of the content specified:

>90% 
                         
 70-90% 
                         
 <70%

If any topics were taught which are not specified, give reasons in detail

2- Teaching and learning methods:

Lectures:	<input style="width: 80%; height: 20px;" type="text" value="√"/>
Practical training/ laboratory:	<input style="width: 80%; height: 20px;" type="text" value="-"/>
Seminar/Workshop:	<input style="width: 80%; height: 20px;" type="text" value="-"/>

Class activity:

-

Case Study:

-

Other assignments/homework:

If teaching and learning methods were used other than those specified, list and give reasons: --

### 3- Course learning outcome assessment:

Because of Corona Pandemic, the assessment methods were modified according to the decision of Supreme Council of Universities.

The final written exam was replaced by preparation of project in a topic related to the course. Each project objectives were announced to the students through orientation lecture as well as rules for preparation and assessment of the project. After receiving and assessing the projects, feedback about students performance was announced to the students as well. All the projects were evaluated according to the scale of pass or fail and so no marks or grades were recorded.

<b>Teaching staff</b>	<b>List of projects</b>
<b>Prof.Dr/Hany ElBassosy</b>	<b>1</b> Cell membrane
	2 Simple diffusion, Osmosis, Endocytosis and Exocytosis
	3 Facilitated diffusion, Primary active transport and Secondary active transport
	4 Nerve impulses
	5 Synaptic transmission
	6 Neuromuscular junction
	7 Skeletal muscle Excitation–contraction coupling
	8 Smooth muscle Excitation–contraction coupling
	9 Cardiac conduction, action potential and ECG
	10 Cardiac contractility; mechanism, factors and regulation
	11 Vascular system; arteries, veins, capillaries and circulations
	12 Blood pressure; definitions, values and regulation
	13 Blood components and functions
<b>Prof.Dr/Shaimaa</b>	<b>1</b> Posterior pituitary gland hormones

<b>Elshazly</b>	2	Growth hormone and its disorders	
	3	Pancreatic hormones	
	4	Adrenal cortex and it's disorders	
	5	Thyroid gland and it's disorders	
	6	Parathyroid gland and it's disorders	
	7	Gonadal hormones	
	8	Mechanisms of breathing and it's types	
	9	Regulation of breathing	
	10	Formation of urine	
	11	Elimination of urine	
	12	Assessment of renal function	
	<b>DR/Shaimaa Samy</b>	<b>1</b>	<b>Nerve Tissue (neuron and glial cells)</b>
2		Sensory-somatic Nervous System	
3		Reflex Arc	
4		Sympathetic and parasympathetic nervous system nerves and Neurotransmitters	
5		Sympathetic and parasympathetic nervous system receptors and functions	
6		Central nervous system (Brain)	
7		Central nervous system (Spinal cord)	
8		Regulation of Gastrointestinal Activities	
9		Gastrointestinal Motility	
10		Gastrointestinal Secretions	
11		Digestion	
12		Absorption	

Method of assessment	Percentage of total
Written examination -	
Oral examination-	
Practical/laboratory work -	
Other assignments/class work - Topic projects	
Total	1

Members of examination committee

Prof.Dr/Hany El-Bassosy  
 Prof.Dr/Shaimaa Elshazly  
 DR/Shaimaa Samy

4- Facilities and teaching materials:

Totally adequate	-
Adequate to some extent	√
Inadequate	-
List any inadequacies	-

-poor intrnet and difficulty of lecture download for some students

5- Administrative constraints

Absence of well equipped computer lab with good internet connection and IT technician to help teaching staff if there is any difficulty in preparing and uploading lectures

**6- Student evaluation of the course:**

List any criticism	Response of course team
Generally students were satisfied about the course but they complained from assessment through projects preparation in the following point: -No follow up from some staff members -No determination of list of references for	-insert preparation of projects as a tool for assessment  -Good planning for students projects regardig time, follow up, determination of objectives, references and assessment criteria

each project -Not enough time for projects preparation	
---	--

**7- Teaching staff evaluation of online learning and student assessment by projects:**

Generally, staff members were satisfied about online learning but they mentioned problems that students may face like unavailability of computers or weak internet connection

Unavailability of formal platform for the faculty to organize the interaction process with students

Unavailability of teaching studio equipped with audiovisual facilities for recording lectures

7- Comments from external evaluator(s):

Response of course team

Well designed course with clear ILOs

**8- Course enhancement:**

1. Progress on actions proposed for improving the course in previous course reports (if any).			
Actions recommended from the most recent course report(s)	Actions Taken	Action Results	Action Analysis
Introducing new topic: medical terminology	Completed		

**9- Action plan for academic year 2020-2021**

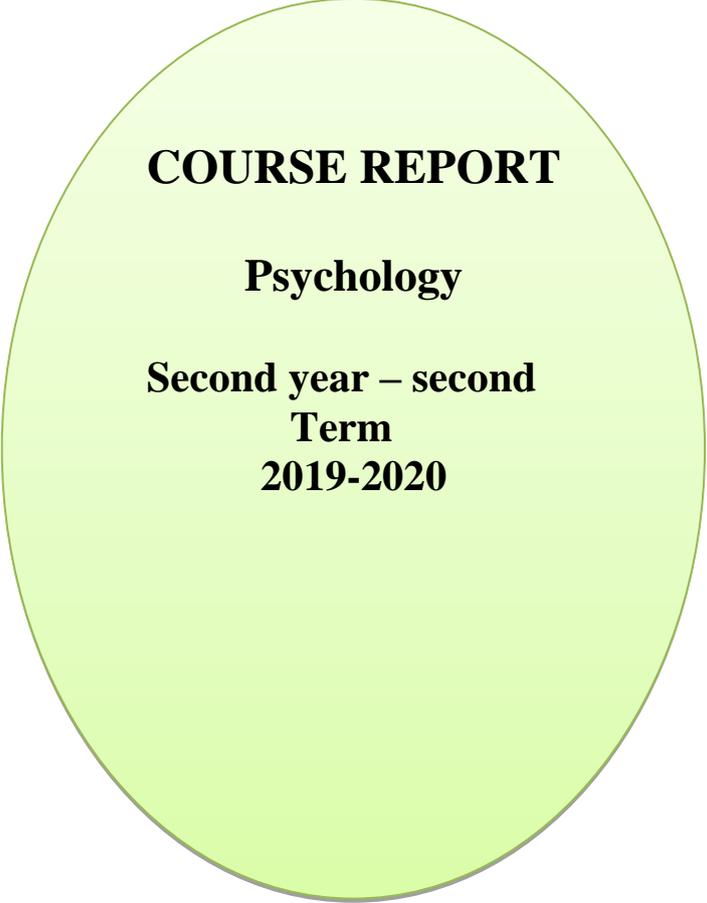
Actions Recommended for Further Improvement	Intended Action Points (should be measurable)	Start Date	Completion Date	Person Responsible
Requesting use of professional academic learning platforms like blackboard, moodle or Microsoft teams and the use of electronic exams for any the hybrid learning methods		2020	2020-2021	-Faculty dean -Vice dean for education & student affairs

Holding periodical exam in the sixth week		2020	2020-2021	-Faculty dean - Vice dean for education & students affairs
Using additional learning and teaching methods such as group discussion to encourage students to interact effectively with lecturers		2020	2020-2021	Course team
Requesting changes in the mark distribution to include practical and oral exams		2020	2020-2021	- Faculty dean - Vice dean for education & students affairs
Measurement of ILOS of course		2020	2020-2021	Course team

Course coordinator:

Signature:

Date:                    /       /



**COURSE REPORT**

**Psychology**

**Second year – second  
Term  
2019-2020**

## Course Report of Psychology

Institution: Zagazig University
Faculty : Pharmacy

### A- Basic Information:

1. Program (s) on which the course is given: Bachelor of pharmacy
2. Major or Minor element of programs: Major
3. Code: PS220
4. Department offering the course: Psychology department (Faculty of Education)
5. Academic year Level: second year-second term

Units/Credit hours:

Lectures  Practical  Total

### 5. Names of lecturers contributing to the delivery of the course:

**Prof. Adel Khedr**

**Prof. Elsayed Fadaly**

**6. Course coordinator: Prof. Adel Khedr**

**7. External evaluator:**

### B- Statistical Information:

No. of students attending the course:

No.  %

No. of students completing the course:

No.  %

Results:

Passed:  No.

Failed:  %   
No.

Grading of successful students:

Excellent:  No.  %

Very Good:  %

Good :  No.  %

Good: No.

Pass:  %

No.

### C- Professional Information:

### 1 - Course teaching:

Topics actually taught	No. of hours	Lecturer
مدخل إلى علم النفس ما هو التعلم؟ التعلم الشرطي و الوقائع التجريبية و تفسيره القواعد الأساسية للتعلم الشرطي و تطبيقاته الدافعية و تعريفاتها و أهمية الدوافع و خصائصها أنواع الدوافع و خصائصها و أهميتها في التعلم الشخصية و تعريفاتها و محدداتها و مكوناتها الشخصية و نظرياتها و طرق قياسها الذاكرة و تعريفاتها و نماذجها و أنواعها معنى التنشئة الاجتماعية و ديناميات السلوك و أنواع العلاقات الاجتماعية الجماعة و خصائصها و أهميتها للفرد و المجتمع و أنواع الجماعات التوجيه و الاختيار المهني و الفروق الفردية الذكاء و حل المشكلات العمليات العقلية النفسية (الإحساس- الانتباه- الإدراك- التذكر- التفكير) خطواتها و خصائصها و أنواعها الصحة النفسية و الأمراض النفسية و العقلية	6 hours	<b>Prof. Adel Khedr</b>
	7 hours	<b>Prof. Elsayed Fadaly</b>

#### Topics taught as a percentage of the content specified:

>90%  70-90%  <70%

#### Reasons in detail for not teaching any topic:

Because of Corona pandemic and change of assessment method, students' activity through the course was cancelled.

#### If any topics were taught which are not specified, give reasons in detail:

#### 2- Teaching and learning methods:

Lectures:

Practical training/laboratory:

Seminar/Workshop:

Class activity: role play

-
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Case Study:

-
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Other assignments/homework:

If teaching and learning methods were used other than those specified, list and give reasons:

Because of Corona pandemic and suspension of the study since 15 March, the lectures and laboratory were delivered to the students through telegram channel.

### **3- Course learning outcome assessment:**

Because of Corona Pandemic, the assessment methods were modified according to the descision of Supreme Council of Universities.

The final written exam was replaced by preparation of project in a topic related to the course. Each project objectives were announced to the students through orientation lecture as well as rules for preparation and assessment of the project. After receiving and assessing the projects, feedback about students performance was announced to the students as well. All the projects were evaluated according the the scale of pass or fail and so no marks or grades were recorded.

### **List of projects:**

<b>Teaching staff</b>	<b>List of projects</b>
-----------------------	-------------------------

<p><b>Prof. Adel Khedr</b></p> <p><b>Prof. Elsayed Fadaly</b></p>	<p>اكتب في أحد الموضوعات التالية:</p> <p><b>الموضوع الأول</b></p> <p>تعد دراسة السلوك الإنساني هي الموضوع الأساسي لعلم النفس... في ضوء هذه العبارة وضح مفهوم علم النفس وأهدافه وأنواع السلوك الإنساني وعلاقة علم النفس بالعلوم الأخرى' ثم اكتب خمسة أمثلة على مجالات علم النفس النظرية والتطبيقية موضحا من خلال رأيك الشخصي علاقتها بجائحة كورونا التي يمر بها العالم في الوقت الحالي.</p> <p><b>الموضوع الثاني</b></p> <p>تهتم دراسة الشخصية بمعرفة الصفات المميزة للفرد والتي تجعله وحدة فريدة في ذاته وتميزه عن غيره من حيث العوامل الوراثية والعوامل المكتسبة... ناقش هذه العبارة موضحا مفهوم الشخصية ومحددات بناء الشخصية مع تحديد كيفية قياس الشخصية وكتابة مثال لطريقة قياسها موضحا رأيك الشخصي في الأساليب العلمية والأساليب غير العلمية في قياس الشخصية... مع كتابة مثال تطبيقي حول دور الشخصية في التعامل مع بعض الأزمات الطارئة ومثال عليها أزمة جائحة كورونا.</p> <p><b>الموضوع الثالث</b></p> <p>يقصد بالفروق الفردية هي تلك الفروق في النواحي والخصائص والاستعدادات والقدرات... ناقش هذه العبارة موضحا تعريفات الفروق الفردية والخطوات المتبعة للكشف عن الفروق الفردية ومظاهر الفروق الفردية وأنواعها والخصائص العامة للفروق الفردية موضحا بأمثلة دور الفروق الفردية الصحية والجسدية في مواجهة جائحة كورونا.</p> <p><b>الموضوع الرابع</b></p> <p>يعتبر الذكاء هو القدرة العقلية العامة... وضح من خلال العبارة السابقة تعريفات الذكاء والفروق بين الجنسين في الذكاء ثم وضح العلاقة بين الذكاء والابتكار... موضحا خصائص الإبداع مع كتابة أمثلة ابتكارية حول آلية التعامل مع جائحة كورونا من وجهة نظرك.</p> <p><b>الموضوع الخامس</b></p> <p>يعد التفكير من أبرز الصفات التي تميز الإنسان عن غيره من المخلوقات... اشرح هذه العبارة موضحا تعريفات التفكير وخصائص عملية التفكير ومستويات التفكير والفرق بين التفكير الفعال والتفكير غير الفعال... مع كتابة رأيك الشخصي بأمثلة في استخدام التفكير الفعال في التعامل مع الأزمات الطارئة مثل جائحة كورونا.</p>
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### Evaluation of course content and final exam :

#### 4- Facilities and teaching materials:

Totally adequate

-
---

Adequate to some extent

√
---

Inadequate

-
---

List any inadequacies:

- Poor internet and difficulty of lecture download for some students

#### 5- Administrative constraints:

Absence of well equipped computer lab with good internet connection and

IT technician to help teaching staff if there is any difficulty in preparing and uploading lectures.

**6- Student evaluation of the course:**

<b>List any criticism</b>	<b>Response of course team</b>
The need to use more videos Improvement of online learning	Increase the use of modern teaching methods like videos

**7- Teaching staff evaluation of online learning and student assessment by projects:**

- Generally, staff members were satisfied about online learning but they mentioned problems that students may face like unavailability of computers or weak internet connection
- Unavailability of formal platform for the faculty to organize the interaction process with students
- Unavailability of teaching studio equipped with audiovisual facilities for recording lectures

**8- Comments from external evaluator(s):**

**9- Course enhancement:**

Actions Recommended for Further Improvement	Start Date	Completion Date	Person Responsible

- Provide more electronic facilities for education such as computers , good internet connection and creating an electronic platform	2020- 2021	2020-2021	Faculty administration
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Signature: Prof. Dr. **Prof. Adel Khedr**

Date:                    /        /



