***College: Pharmacy***

***Department: Pharmaceutics***

***Stage: Fifth***

***Stage:***

***Republic of Iraq***

***Ministry of Higher Education and scientific research***

***University of Baghdad***

***Quality Assurance and Academic***

***Performance Department***

**Course Syllabus**

**Name of the First Teacher of the Course:** Nawal Ayash Rajab

**Accademic Rank:** Professor

**Degree:** PhD pharmaceutics

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**Name of the Second Teacher of the Course:** Nawar Michael Toma

**Accademic Rank:** Lecturer

**Degree:** PhD pharmaceutics

**E-mail:** **nawwar.elias@copharm.uobaghdad.edu.iq**

**Name of the Third Teacher of the Course: Hala Talal Solaiman**

**Accademic Rank: Asisstant Professor**

**Degree: Msc. pharmaceutics**

**E-mail:hala.solaiman@copharm.uobaghdad.edu.iq**

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| **Industrial Pharmacy II** | | | | | **Course Title** | |
| **Annual** | | **Semester System** | | | **Academic System** | |
| The course enable technical setup for coordination of standards for formulation of typical dosage forms and the principles needed to learn mass production of different pharmaceutical dosage forms. The syllabus includes different dosage forms like tablets, capsules, aerosols, emulsion, etc, besides the advanced techniques like enteric coating and micro-encapsulation**.** | | | | | **Course Objectives** | |
| Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems by [Loyd Allen](https://www.amazon.com/s/ref=dp_byline_sr_book_1?ie=UTF8&text=Loyd+Allen&search-alias=books&field-author=Loyd+Allen&sort=relevancerank)The Theory and Practice of Industrial Pharmacy: Lachman/Lieberman's | | | | | **Textbooks** | |
|  | | | | | **Reference Books** | |
| **End Semester Examination** | **Project** | **Quizzes** | **Laboratory work** | **Theoretical Content Exam** | **Course Assessment for Semester System**  **(100%)** | |
| **50 %** |  | **5 %** | **25 %** | **20 %** |
| **Final Examination** | **Laboratory Work** | **Second Term** | **Midterm Exam** | **First Term** | **Course Assessment for Annual System**  **(100%)** | |
|  |  |  |  |  |
| None | | | | | | **Additional Information** |

**Weekly Schedule**

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| **Notes** | **Laboratory Work** | **Theoretical Content** | **week** |
|  | Preformulation studies: physicochemical parameters. | Pharmaceutical dosage forms: Tablets; role in therapy; advantages and disadvantages; formulation; properties; evaluation; machines used in tableting; quality control; problems; granulation, and methods of production; excipients, and types of tablets. | **1** |
|  | Direct compression method for preparation of tablets. | Pharmaceutical dosage forms: Tablets; role in therapy; advantages and disadvantages; formulation; properties; evaluation; machines used in tableting; quality control; problems; granulation, and methods of production; excipients, and types of tablets. | **2** |
|  | Dry granulation method for preparation of tablets. | Pharmaceutical dosage forms: Tablets; role in therapy; advantages and disadvantages; formulation; properties; evaluation; machines used in tableting; quality control; problems; granulation, and methods of production; excipients, and types of tablets. | **3** |
|  | Formulation of metronidazole tablets by dry granulation method. | Pharmaceutical dosage forms: Tablets; role in therapy; advantages and disadvantages; formulation; properties; evaluation; machines used in tableting; quality control; problems; | **4** |
|  | Wet granulation method for preparation of tablets. | Tablet coating; principles; properties; equipments; processing; types of coating (sugar and film); quality control, and problems. | **5** |
|  | Formulation of sulfadiazine tablets by wet granulation method. | Tablet coating; principles; properties; equipments; processing; types of coating (sugar and film); quality control, and problems. | **6** |
|  | Evaluation of tablets dosage form | Micro-encapsulation; core and coating materials; stability; equipments and methodology. | **7** |
|  | Evaluation of tablets dosage form | Micro-encapsulation; core and coating materials; stability; equipments and methodology. | **8** |
|  |  | Modified (sustained release) dosage forms; theory and concepts; evaluation and testing; formulation. | **9** |
|  |  | Capsules: Hard gelatin capsules; materials; production; filling equipments; formulation; special techniques. | **10** |
|  |  | Capsules: Hard gelatin capsules; materials; production; filling equipments; formulation; special techniques. | **11** |
|  |  | Pharmaceutical aerosols: Propellants; containers; formulation; types and selection of components; stability; manufacturing; quality control and testing. | **12** |
|  |  | Pharmaceutical aerosols: Propellants; containers; formulation; types and selection of components; stability; manufacturing; quality control and testing. | **13** |
|  |  | Transdermal dosage forms | **14** |
|  |  | Transdermal dosage forms | **15** |
|  |  |  | **16** |
|  |  |  | **17** |
|  |  |  | **18** |