**Course Description**

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| **Faculty** | **Pharmacy** |
| **Department**  |  | **Level** | 7 |
| **Course**  | pharmaceutics TECHNOLOGY LAB  | **Code** | 1701305 | **Prerequisite** | 1701304 |
| **Credit hours** | 1 | **Theoretical**  | 3 | **Practical** | 1 |
| **Coordinator** |  | **Email** |  |
| **Teachers** | Dr. areegawadalah | **Emails** |  |
| **Lecture Time** |  | **Place** |  | **Attendance mode** | Face to face  |
| **Semester**  |  | **Preparation date**  |  | **Modification Date** |  |

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|  **Abstracted Course Description**  |
| This course complements the theoretical material of industrial and pharmaceutical technology courses. The course is designed to give the student a detailed knowledge concerning powders used in pharmaceutical formulations including: powder mixing, milling, characterization of flowability, compressibility and particle size analysis. Also the course covers the granulation of powders as one of the main prerequisite steps for tablet compression . Quality control of some solid dosage forms are also covered in the course. The process of tablet film coating and problems encountered during the process is also included  |
| **Course Goals** |
| 1. To be able to conduct pre-formulation studies: Solubility and Solubilization 2. To recognize the preformulation and formulation of small volume Parenteral Dosage Forms. 3. To recognize the manufacturing process and formulation of coatings of solid dosage forms. 4. To recognize the applications, manufacturing process and formulation of emulsions. |

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| **CILOs** |
| **Knowledge** |
|  A.1 Gain knowledge to operate equipments and techniques used in formulation and compression of solid dosage forms A.2 Gain knowledge related to the application and interpretation of quality control tests of solid dosage forms.  |
| **Skills** |
| . B.1 Practice operating equipments and techniques related to the formulation, production and quality control of solid dosage formsB.2 To be able to adapt and accommodate team workingB.3 To be able to identify problems encountered during granulatiom , tablet compression and coating procedures. |
| **Competencies** |
| C.1 Practical skills of mixing liquid C.2 Practical skills Written/oral communicationC3 . Information data collection |
| **Learning Methods** |
| * Lectures
* Oral discussion
* Assignment
 |
| **Evaluation Tools** |
| **Exams****quiz**  |
| **Week** | Lecture  | **Learning methods** | **Evaluation tool** | **ILOs** | **Hours** |
| **1.** | Vision and Mission of faculty of lecture pharmacy Course Syllabus Introduction to safety rules | Textbook and handouts | QUIZ | **A 2** | **3** |
| **2.** | Supposotries1 | **A3** | **3** |
| **3.** | Suppsotories 2 | Textbook and handouts | Exam | **B2** | **3** |
| **4.** | Suppsotories evaluation  | Textbook and handouts | Exam | **B1** | **3** |
| **5.** |  Tabletb Uniformity of weight B.P. Disintegration test B.P Uniformity of thickness Friability, crushing strength | **A3** | **3** |
| **6.** | Revision Quality control of tablets part 2 : Uniformity of content test BP Uniformity of dosage units USP of Acetaminophen tablets | Textbook and handouts | Assignment  | **A2** | **3** |
| **3.** | Mid exam  | Textbook and handouts | Exam | **C 1** | **3** |
| **8.** | Dissolution test of paracetamol 500 mg tablets USP Determination of dissolution profile of immediate release paracetamol tablets Quality control of capsules :indomethacin 25 mg capsules Dissolution test USP | Textbook and handouts | **B 3** | **3** |
| **9.** |  Capsules Uniformity of weight B.P. Disintegration test B.P Uniformity of thickness Friability, crushing strength | Textbook and handouts | Quiz  | **A2** | **3** |
| **10.** | Revision Quality control of capsules part 2 : Uniformity of content test BP Uniformity of dosage  | Textbook and handouts | **B1** | **3** |
| **12.** | Revision Quality control of capsules part 2 : Uniformity of content test BP Uniformity of dosage | Textbook and handouts |  | **A2** |  |
| **13.** | Efferverent  | Textbook and handouts | Exam | **A3** | **3** |
|  | Efferverent | Textbook and handouts |  |  |  |
| **12.** | Final exam  |  |  |  | **2** |

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| **Plan of Course Evaluation** |
| **Evaluation Tools** | **Mark** | **ILOs** |
| **A1** | **A2** | **A3** | **B1** | **B2** | **B3** | **C1** | **C2** | **C3** |
| **First Exam (Mid-term)**  | **30%** | \* | \* | \* |  |  |  |  |  |  |
| **Second Exam (If available)** |  |  |  |  |  |  |  |  |  |  |
| **Final Exam** | **50%** |  |  | \* |  | \* | \* |  |  |  |
| **Activities** | **20%** |  |
| **Activities Evaluation** | Homework/Tasks | 10% |  |  |  |  |  | \* | \* | \* | \* |
| Case Study  |  |  |  |  |  |  |  |  |  |  |
| Discussion and Interactions |  |  |  |  |  |  |  |  |  |  |
| Group Activities |  |  |  |  |  |  |  |  |  |  |
| Laboratory Exams |  |  |  |  |  |  |  |  |  |  |
| Presentations |  |  |  |  |  |  |  |  |  |  |
| Quizzes | 10% |  |  |  |  | \* | \* |  |  | \* |
| Others |  |  |  |  |  |  |  |  |  |  |
| **Total** | 100% |  |  |  |  |  |  |  |  |  |

 **Components**  |
| **Book** | 1. Manual of pharmaceutical technology practical from the UniversityBookshop.
2. 1. Aulton's Pharmaceutics : the Design and Manufacture of Medicines, Edit.: Michael E.aulton and KevinM.G.Taylor.Pub.: Churchill Livingstone, 4th edition 2013 ISBN: 978-0-7020-4290-4
3. 2. Electronic database of practical courses
4. 3. British pharmacopoeia edition 2015 ISBN : 978-011-3229-888
5. 4. The United States Pharmacopeia: USP 29 The by authority of the United States Pharmacopeial National Formulary: NF 24 Convention (2005)
 |
| **References** | 1. Manual of pharmaceutical technology practical from the UniversityBookshop.
2. 1. Aulton's Pharmaceutics : the Design and Manufacture of Medicines, Edit.: Michael E.aulton and KevinM.G.Taylor.Pub.: Churchill Livingstone, 4th edition 2013 ISBN: 978-0-7020-4290-4
3. 2. Electronic database of practical courses
4. 3. British pharmacopoeia edition 2015 ISBN : 978-011-3229-888
5. 4. The United States Pharmacopeia: USP 29 The by authority of the United States Pharmacopeial National Formulary: NF 24 Convention (2005)
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| **Recommended Readings** |  |
| **Electronic materials** |  |
| **Other websites** |  |

**Subject Coordinator:**

**Head of Curriculum Committee:**

**Department Head:**

**Faculty Dean:**

**Last update date:**