

Planning and Quality Assurance Affairs

Form (A)

Course Specifications

General Information

Course name	Pharmaceutics II
Course number	PHTC3209
Faculty	
Department	
Course type	Major Needs
Course level	3
Credit hours (theoretical)	2
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - Understanding the principles of the solid dosage forms production and formulation

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * To understand the components of the solid dosage forms * Describe physico-chemical properties of different substances (active/inactive/natural/radioactive) used in preparation of medicines.
Intellectual Skills	<ul style="list-style-type: none"> * Handle the pharmaceutical preparations safely * Operate pharmaceutical equipment and instruments effectively
Professional Skills	<ul style="list-style-type: none"> * Conduct research studies and analyze results for the different formulations
General Skill	<ul style="list-style-type: none"> * Apply pharmaceutical knowledge in the formulation of safe and effective medicines and new drug delivery systems as well as dealing with new drug delivery systems. * Recognize and control potential physical and/or chemical incompatibilities that may occur during drug formulation and dispensing

Course Contents

- 1 - Particle size reduction: advantages and disadvantages. Objectives. Noyes-Whitney equation. Mechanisms of size reduction.
- 2 - Micromeritics: Definition, factors affecting the particle size. Particle size characterization.
- 3 - Sieving: size separation efficiency
- 4 - Granules and reasons for granulation, methods for granulation, granulation mechanisms.
- 5 - Powders: Classification and Properties, Adhesion and Cohesion forces, Flowability, Angle of repose, Packing Geometry, Porosity and Bulk Density.
- 6 - Granulation: Definition, Reasons for granulation, Methods for Granulation, Dry and Wet granulation, Mechanism of granule formation and Pharmaceutical Granulation Equipment used.
- 7 - Tablets: advantages and disadvantages, types and classes of tablets.
- 8 - Stages of tablet formation, tableting machines (single and rotary machines for tableting)
- 9 - Production of tablets, wet granulation method for tableting, dry granulation method and direct compression.
- 10 - Tablet testing: content, hardness, disintegration and dissolution tests of tablets.
- 11 - Tablet coating: reasons for coating, types of tablet coating, functional coating.
- 12 - Capsules: advantages and disadvantages, types of capsules, hard and soft gelatin capsules.

Teaching and Learning Methods

- 1 - lectures
- 2 - Training

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
medterm	week 8	40

Books and References

Essential books	Pharmaceutical Dosage forms and Drug delivery systems. Howard C. Ansel Martins Physical Pharmacy and Pharmaceutical Pharmacy. Sixth edition
Recommended books	. Pharmaceutics: the science of dosage form design. Second edition (Michael Aulton). . Pharmaceutical dosage forms: Tablets Volume 1. Lachman and Lieberman. Pharmaceutical dosage forms: Tablets Volume 2. Lachman and Lieberman. Pharmaceutical dosage forms: Tablets Volume 3. Lachman and Lieberman.