



| Paramedical program | |
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| Specialization | Pharmacy |
| Course number | 020805233 |
| Course title | Pharmaceutics 3 |
| Credit hours | 2 |
| Theoretical hours | 2 |
| Practical hours | 0 |



Brief Course Description:

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∞ To study semi solid and solid pharmaceutical dosage forms . Also the course deal with drug incompatibilities.

Course Objectives:

Upon the completion of the course, the student will be able to:

1. Identify the properties of semi solids and solid state of matter.
2. To realize semi solid and solid pharmaceutical dosage forms in addition to their features of deterioration
3. To acquaint students with drug incompatibilities – different kinds of incompatibilities (Physical, Chemical, Therapeutic).

Detailed Course Description:

| Unit number | Unit name | Unit content | Time needed |
|-------------|--|---|-------------|
| 1. | Semisolid Pharmaceutical dosage forms | <ul style="list-style-type: none"> ▪ Ointment <ul style="list-style-type: none"> ○ Kind of bases and Properties for each ○ Methods of preparations of ointment. ○ The Q. C test ▪ Ophthalmic ointment ▪ Creams: (Cold cream, Vanishing cream) ▪ Pastes ▪ Liniments ▪ Suppositories <ul style="list-style-type: none"> ○ Kind of bases and their properties (cacao butter, PEG, witepsol base, glycerogelatin) ○ Methods of Preparation | |
| 2. | Solid State : | <ul style="list-style-type: none"> ▪ Type of solid forms (crystalline ,amorphous) <ul style="list-style-type: none"> ○ Effect of polymorphism on stability of drugs ○ Factors affecting dissolution of solid substances | |
| 3. | Solid-Pharmaceutical dosage form | <ul style="list-style-type: none"> ▪ Powders <ul style="list-style-type: none"> ○ Problems in preparation and mixing powders (Eutectic mixtures -oxidation-reduction absorption of moisture) ▪ Effervescent Powders <ul style="list-style-type: none"> ○ Main composition of this dosage form ○ Test evaluation ▪ Capsules <ul style="list-style-type: none"> ○ Types (hard, soft, enteric, spansules) ○ The Q. C. test ▪ Tablets <ul style="list-style-type: none"> ○ Methods of preparation ○ Importance & types of granulation ○ Excipients (role &examples) | |



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| | | <ul style="list-style-type: none"> ▪ Types of tablets <ul style="list-style-type: none"> ○ (sublingual, chewable, compound, pellets, lozenges, pastilles, effervescent, sustained & controlled release tablet) ○ Coating of tablets (enteric, sugar, film) ○ Tablet problems (sticking ,mottling lamination, capping, chipping ,hardness, weigh variation) ○ The Q.c. test of tablets. | |
| 4. | Drug incompatibilities | <ul style="list-style-type: none"> ▪ Physical incompatibility <ul style="list-style-type: none"> - Immiscibility - Insolubility - Liquefaction ▪ Chemical incompatibility <ul style="list-style-type: none"> - Oxidation - Hydrolysis - Polymerization - Isomerization ▪ Therapeutic incompatibility <ul style="list-style-type: none"> - Change in extent and rate of gastric and enteric absorption - Replacement of drugs with plasma protein - Induction of liver enzyme - Change in rate and extent of drug elimination | |

Evaluation Strategies:

| | Exams | Percentage | Date |
|--|--------------|-------------------|-------------|
| | Mid Exam | 40% | --/--/---- |
| | Final Exam | 50% | --/--/---- |



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| | Homework and Projects Discussions and lecture Presentations | 10% | --/--/---- |
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Teaching language:

- English

Teaching Methodology:

Lectures , visits for a pharmaceutical industry fields

Text Books & References:

- 1- Martin's Physical pharmacy and pharmaceutical sciences, Patric J .Siko, fifth edition, 2006, Lippincott (Williams & Wilkens)
- 2- Pharmaceutical practice , A.J. Winfield, R.M.E. Richards, 3d. edition, 2005, Churchill Livingstone
- 3- Physical pharmacy, Alfred Martin, Bustamante, 4th edition,1993, Lippincott William & Wilkins
- 4- Remington ,The science and practice of pharmacy 21st edition,2004, Lippincott William & Wilkens
- 5- British Pharmacopoeia 2008, British pharmacopoeia Commission, TSO.
- 6- The Science of dosage form design, Edin burgh, 2002, New Yourk, Churchill Livingston
- 8- Gilbert & Christopher Rhodes , Modern Pharmaceutics, third edition ,1995, Publisher Marcel Dekker, Madison Avenue , New York Morton publishing company.