Course Specification

1-Basic Information

Title: Recent approaches in design of Pharmaceutical formulations
Code: DIP 061
Level :Ph.D.
Department of Industrial Pharmacy
Unit:
Lecture: 2hr/week Tutorial Practical: Total:

2- Aims of Course

… Aims of the course are to provide the students with the basic principles, and concepts of recent advances in design of pharmaceutical formulations; such as transdermal systems, liposomes, ophthalmic preparations and intra-utrine drug delivery systems, etc, ……

3- Intended Learning Outcomes of Course(ILOs)

a- Knowledge and Understanding:

a1- Illustrate the basic principles of dosage form design.

a2-Describe the concepts of recent developments in pharmaceutical formulations.

a3-Recognize well to the ethics of scientific research in drug delivery systems.

b- Intellectual Skills:

b1- analyze and evaluate the data obtained from the design of new pharmaceutical formula.

b2-reconstruct and solve the research problems related to dosage form design according to the available data

b3- write and publish the scientific researches in international journals with high impact factor.

c- Professional and practical Skills:

c1-design and write scientific research project.

c2- perform the well designed experiments under laboratory safety conditions.

c3- apply the GMP in laboratories of drug industry, and manage the time efficiency.

d- General and Transferable Skills:

d1- Attend in the scientific meetings and conferences.

d2- Use the data base to serve the enhancement of researches in drug technology.

d3- Do well in scientific team work under various conditions.

4- Course Contents

Topic	No. of hours	Lecture	Tutorial / Practical
Transdermal drug delivery systems	4	2	
Liposomes as drug carriers	4	2	
Preformulations aspects in dosage form design	4	2	
Ophthalmic preparations	2	1	
Intrautrine drug delivery	2	1	
Osmotic pump drug delivery	2	1	
Formulation of mini tablets	2	1	

5- Teaching and Learning Methods

5.1-Computer and data show
5.2- Overhead projector.
5.3- Group discussion
5.4- Scientific trip

6- Teaching and learning methods for disables

…none……
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7- student Assessment

7.1-Reports to assess knowledge and understanding skills..

7.2- Final written exam to assess intellectual, professional and general skills.

7.3- Seminars to assess transferable skills.

b- Student Assessment Schedule

No.	Assessment	week
1.	reports	5 and 10
2.	seminars	15
3.	Written exam	30
4.		

c- Weighting of Assessments

No.	Exam.	Mark	%
1.	Mid-Term Examination		
2.	Final-Term Examination	100	100
3.	Oral Examination		
4.	Practical Examination		
5.	Semester Work		
6-	Other types of assessment		
	Total	100	100%

8- List of References

a-Course Notes

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b- Essential Books (Text Books)

1-Modern Pharmaceutics

2- Pharmaceutics, science of dosage form design, M.Aulton.

3- Modern drug delivery systems.

c-Recommended Books

1- Remington, Pharmaceutical sciences

2- Periodicals,

3- Relevant web sites .

Course Coordinator: Prof. Dr. Mahrous Osman Ahmed

Head of Department: Prof .Dr. Sayed Ibrahim Abdel-Rahman

Program Coordinator: Prof. Dr.Ahmed Abu-Taleb and Prof. Dr. Mahrous Osman Ahmed.

University	**..Assiut.....**	**Course Title**	**Recent ..... Approaches in design of pharmaceutical formulation .....**
Faculty	**Pharmacy.....**	**Course Code.**	
Department	**Industrial Pharmacy.**		

Matrix of the Intended Learning Outcomes (ILOs) of the Course

Topic	Week	Knowledge and Understanding	Intellectual Skills	Professional and Piratical Skills	General and Transferable Skills
Transdermal drug delivery systems	**2**	**a1, a3, a4**	**b3, b4, b5, b7**	**c2, c4,c5, c7**	**d1,d2, d5**
Liposomes as drug carriers	**2**	**a1, a3, a4,**	**b3, b4, b5, b7**	**c2, c4,c5, c7**	**d1,d2, d5**
Preformulations aspects in dosage form design	**2**	**a1, a3, a4**	**b3, b4, b5, b7**	**c2, c4,c5, c7**	**d1,d2, d5**
Ophthalmic preparations	**1**	**a1, a3, a4**	**b3, b4, b5, b7**	**c2, c4,c5, c7**	**d1,d2, d5**
Intrautrine drug delivery	**1**	**a1, a3, a4**	**b3, b4, b5, b7**	**c2, c4,c5, c7**	**d1,d2, d5**
Osmotic pump drug delivery	**1**	**a1, a3, a4**	**b3, b4, b5, b7**	**c2, c4,c5, c7**	**d1,d2, d5**
Formulation of mini tablets	**1**	**a1, a3, a4**	**b3, b4, b5, b7**	**c2, c4,c5, c7**	**d1,d2, d5**

Course Coordinator : **Prof. Dr. Mahrous Osman Ahmed.**

Head of Department : Prof. Dr. Sayed Ibrahim Abdel-Rahman

Course Specification

1-Basic Information

Title: Stability of pharmaceutical formulations Code: DIP 062
Level : Ph.D of pharmaceutical science (Industrial Pharmacy)
Department: Industrial pharmacy Unit:
Lecture: 2h/week Tutorial:- Practical:- Total: 2h/week

2- Aims of Course

1- Adding new knowledge in the industrial field of drugs.
2- Finding solutions for industrial problems during drug manufacturing.
3- Gained the ability on scientific dialogue and acceptance of logical criticism.

3- Intended Learning Outcomes of Course(ILOs)

a- Knowledge and Understanding:

al- acquire the basis and theories in the field of drug manufacturing.

a3-define the basis of quality on industrial practice and specific quality of pharmaceutical products.

b- Intellectual Skills:

b2-solve the scientific problems related to drug stability according to the available data.

b3- suggest solutions of different bioequivalence and stability studies.

c- Professional and practical Skills:

C2- perform scientific research project.

C4- treat the available data and results using recent statistical methods.

d- General and Transferable Skills:

d3- collect the information to serve the development of scientific researches of drugs.

d4- work in one research group under different conditions.

4- Course Contents

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction	2	1	
Regulatory aspects	4	2	
FDA and ICH guidelines	8	4	
Photosensitivity	6	3	
Stability versus excipients	6	3	
Stability versus processing	6	3	
Stabilization of dosage forms	8	4	
Accelerated stability testing	10	5	
Forced stability testing	10	5	

5- Teaching and Learning Methods

4.1-lectures
4.2- Data show and power point
4.3- Discussion
4.4-participation with professionals in order to gain experience.
4.5-attendance of scientific meetings and conferences.

6- Teaching and learning methods for disables

…no……
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7- student Assessment

a- Student Assessment methods

6.1-Reports to assess intellectual skills.
6.2- final written exam to assess knowledge and understanding skills

b- Student Assessment Schedule

No.	Assessment	week
1.	Reports	5 and 10
2.	Final exam	30
3.		
4.		

c- Weighting of Assessments

No.	Exam.	Mark	%
1.	Mid-Term Examination		
2.	Final-Term Examination	100	100%
3.	Oral Examination		
4.	Practical Examination		
5.	Semester Work		
6-	Other types of assessment		
	Total	100	100%

8- List of References

a-Course Notes

b- Essential Books (Text Books)
Pharmaceutical stability by Conner.

c-Recommended Books
Physical pharmacy by Martin

d- Periodicals, Web Sites, …. etc
International journal of pharmaceutics
FDA org. stability program.

Course Coordinator: Prof.Dr.Sayed Ibrahim Abdel-Rahman and Dr.Jelan Abdel-Razek

Head of Department: Prof.Dr.Sayed Ibrahim Abdel-Rahman

Program Coordinator: Prof. Dr. Ahmed Abu-Taleb and Prof. Dr. Mahrous Osman Ahmed

University	.....	**Course Title**	**Stability of pharmaceutical formulations**
Faculty	.....	**Course Code.**	.....
Department	.....		

Matrix of the Intended Learning Outcomes (ILOs) of the Course

Topic	Week	Knowledge and Understanding	Intellectual Skills	Professional and Piratical Skills	General and Transferable Skills
Introduction	**1**	**a1**			
Regulatory aspects	**2,3**	**a1,a3**	**b2,b3**	**C2,c4**	**d3,d4**
FDA and ICH guidelines	**4-7**	**a1,a3**	**b2,b3**	**C2,c4**	**d3,d4**
Photosensitivity	**8-10**	**a1,a3**	**b2,b3**	**C2,c4**	**d3,d4**
Stability versus excipients	**11-13**	**a1,a3**	**b2,b3**	**C2,c4**	**d3,d4**
Stability versus processing	**14-16**	**a1,a3**	**b2,b3**	**C2,c4**	**d3,d4**
Stabilization of dosage forms	**17-20**	**a1,a3**	**b2,b3**	**C2,c4**	**d3,d4**
Accelerated stability testing	**21-25**	**a1,a3**	**b2,b3**	**C2,c4**	**d3,d4**
Forced stability testing	**26-30**	**a1,a3**	**b2,b3**	**C2,c4**	**d3,d4**

Course Coordinator
Head of Department