

Course Specification

University: Menoufiya

Faculty: Science

Course Specifications:

Programme (s) on which the Course is given: Zoology, Vertebrates, Comparative Anatomy & Embryology.

Major or Minor Element of Programmes: Major.

Department offering the Program: Zoology.

Department offering the Course: Zoology.

Qualifying course for M.SC. Students

Date of Specification Approval: 2012

A- Basic Information

Title: Teratology

Code: Z649

Credit Hours: 3

Lecture: 2

Tutorial: 0

Practical: 2

Total: 3

B- Professional Information

1- Overall Aims of the Course: By the end of this course, the student should be able to:

- * Recognize the six principles of teratology.
- * Stand upon the mechanism of teratogenic action.
- * Exploring different adverse factors affecting the embryonic development.

2- Intended Learning Outcomes of Course (ILOs):

a Knowledge and Understanding:

Student should acquire knowledge and understanding of:

- a1- The normal embryonic development.
- a2- The related basic scientific facts, concepts, principles and techniques.
- a3- Different agents that have adverse effects on the vertebrate embryos.
- a4- The related terminology, nomenclature and classification systems.
- a5- Make clear conclusion about the consequences of toxic substances.
- a6- . The developmental progress of the program-related knowledge.
- a7- The relation between the studied topics and environment.

b- Intellectual Skills:

Student should be able to:

- b1- Deduce the superiority of the holy creator.
- b2- Assess and interpret qualitatively and quantitatively science relevant data.
- b3- Identify the teratogenic agents.
- b4- Develop lines of argument and appropriate judgments in accordance with scientific theories and concepts.
- b5- Think about getting healthy babies and factors behind that.

b6- Postulate and deduce mechanisms and procedures to handle scientific problems.

b7- Construct several related integrated information to confirm, make evidence and test hypotheses.

c- Professional and Practical Skills:

Student should be able to:

c1- Distinguish between the maternal and chemical teratogenic agents.

c2- Report on the investigated data, using appropriate techniques and considering scientific guidance.

c3- Write notes on teratogenic factors.

c4- Apply techniques and tools considering scientific ethics.

c5- Make clear, labeled drawings for affected cases.

c6- Identify and criticize the different methods used in addressing subject related issues.

d- General and transferable Skills:

Student should be able to:

d1- Enhance the capability of distinguish between different teratogenic factors.

d2- Use the internet for scientific research.

d3- Development of scientific writing skills.

d4- Use effectively information and communication technology.

d5- Identify roles and responsibilities, and their performing manner.

d6- Think independently, set tasks and solve problems on scientific basis.

d7- Work in group effectively; manage time, collaborate and communicate with others positively.

d8- Consider community linked ethics.

d9- Acquire self- and long life–learning.

d10- Apply effectively scientific models, systems, and tools.

d11- Deal with scientific patents considering property right.

3- Contents

Topic	No. of Hours	Lecture	Tutorial / Practical
Principles of teratology	6	2	2
Mechanism of teratogenic action	3	1	1
Inhibition of embryonic development	3	1	1
Infectious agents; Radiation; Chemical agents.	6	4	2
Other infectious agents: Maternal diseases; Nutritional	6	2	2

deficiencies; Hypoxia and smoking.			
Teratogenic effects of different drugs.	6	4	2
Teratogenic effects of taking excess vitamins and hormones on mammalian embryonic development	6	2	2
Teratogenic effects of different pesticides on amphibian embryonic development	6	4	2

4- Teaching and Learning methods

4.1- Lectures

4.2- Practical sessions.

4.3- Writing essays.

4.4- Oral presentation.

5- Student assessment methods

- 1-Essays to assess ability of writing.
- 2- Oral exam to assess the degree of understanding.
- 3- Mid-term to assess the degree of following up.
- 4-Final exam to assess the whole performance.

Assessment schedule

- Assessment 1 Essay 1essay/term
- Assessment 2 Oral exam Twice/ term
- Assessment 3 midterm Week 7 Midterm
- Assessment 4 final exam Week 15 final exam

Weighting of assessments

Weighting of assessments

Mid-term examination	20%
Final-term examination	40%
Oral examination	10%
Practical examination	20%
Semester work	10%
Other type of assessment	00%
Total	100%

Any formative only assessments

5- List of references

- 5.1- Recent books in Teratology.
- 5.2- Scientific papers related to the subject of Teratology.
- 5.3- Related web sites in the field of Teratology.

6- Facilities required for teaching and learning

- * Lecture room provided with a white board.
- * Dark room provided with a projector or data show.
- * Student laboratory provided with teratogenic pictures, teratogenic slides, specimens and other related laboratory facilities.

Course coordinator: Dr. Gamal M Badawy

Head of Department: Prof. Dr. Saber Sakr