KAAU
KING ABDULAZIZ UNIVERSITY
ACADEMIC ASSESSMENT UNIT

COURSE PORTFOLIO

FACULTY OF SCIENCE

DEPARTMENT of Biology

COURSE NAME: Teratology
COURSE NUMBER: Bio 660

SEMESTER/YEAR: Second semester 1434/1435

DATE: 26/1/2014 – 25/3/1435

PART II

COURSE SYLLABUS

Instructor Information

- Name of the instructor
  Fatma Al-|Qudsi
- Office location
  Building 7- Ground floor – Room 1-171
- Office hours

Sunday	***9-10, 12-2***
Monday	***9-10***
Tuesday	***9-10, 11-12***

- Contact number(s)
  Office Tel 26380
- E-mail address
  falqudsi@kau.edu.sa
- Instructor's profile (optional)
  Bsc in Zoology
  Msc in Experimental Biology
  PhD in Developmental Biology
- A welcome letter to the student (optional)
  I welcome you in the course of Teratology hoping that you will like it and benefit from it

Course Information

- Course name and number Teratology Bio 660 SA1 (26867)
- Course meeting times, places Monday 10:00-13:00 room TBA
- Course website address
  http://www.kau.edu.sa/falqudsi
- Course prerequisites and requirements Bio 355
- Description of the course (what, why, philosophy, teaching methodology)
  - By the end of this course the student should be able to
    - Define exactly the terminologies related to teratology.
    - Enumerate the known causes of congenital malformations
    - Analyses , tracks and predicts effects of different teratogens on embryos

Course Objectives

- **A statement of what the student will know and be able to do as the result of learning**
  - Define exactly the terminologies related to teratology.
  - Enumerate the known causes of congenital malformations
  - Analyses , tracks and predicts effects of different teratogens on embryos
  - Understand the levels of thinking and reach a higher level of thinking by the end of the semester
  - Conduct advanced search for reliable scientific material related to teratology, download it, store it in references databases
  - Read, understand and analyze the searched material.

✍ A statement on how students will be expected to demonstrate their learning

- Mid-term 30 marks
- Final exam 40 marks
- Assignments 30 marks (explanation below)

Development of Learning Outcomes in Domains of Learning
For each of the domains of learning shown below indicate:
A brief summary of the knowledge or skill the course is intended to develop;

Knowledge: Define exactly the terminologies related to teratology.
Enumerate the known causes of congenital malformations
Analyses, tracks and predicts effects of different teratogens on embryos

Skills: Train the students to conduct advanced search for reliable scientific material related to teratology, download it, and store it in references databases
Train the students to read, understand and analyze the searched material.

•A description of the teaching strategies to be used in the course to develop that knowledge or skill;
Thinking based learning methods, active learning, and PowerPoint presentations
a. Knowledge
(i) Description of the knowledge to be acquired
Define exactly the terminologies related to teratology.
Enumerate the known causes of congenital malformations
Analyses, tracks and predicts effects of different teratogens on embryos

(ii) Teaching strategies to be used to develop that knowledge
Active learning (Thinking based learning methods, read, discuss, compare relate, debate, analyse)
PowerPoint presentations
(iii) Methods of assessment of knowledge acquired
Mid-term 30 marks
Final exam 40 marks
b. Cognitive Skills
(i) Cognitive skills to be developed
Understand the levels of thinking and help the student reach a higher level of thinking by the end of the semester
(ii) Teaching strategies to be used to develop these cognitive skills
Thinking based learning methods
(iii) Methods of assessment of student's cognitive skills
From the second lecture till the end the students will be given material to prepare for next lecture and should be solving a thinking based learning exercise related to what they have prepared each of these exercises is graded out of one mark
Thinking based learning exercise 10 marks
c. **Interpersonal Skills and Responsibility**
(i) Description of the interpersonal skills and capacity to carry responsibility to be developed
Be on time for lecture or apologize if not able to come, be prepared as requested by the instructor for each lecture, the ability to present, explain and debate in a reasonable and polite way

(ii) Teaching strategies to be used to develop these skills and abilities
Attendance is taken for each lecture; the student is responsible for herself. No material is going to be repeated for careless students. Skills for explaining, debating and presenting are going to be taught through thinking based learning.

(iii) **Methods of assessment of student's interpersonal skills and capacity to carry responsibility**
Delay in handling required material will cause deduction of marks
Communication, Information Technology and Numerical Skills

(i) **Description of the skills to be developed in this domain**.
All work handed from the student to the instructor should be printed showing the student name and page number on each page.
Students have to conduct internet advanced search using scientific databases for reliable material related to the topics they are going to be given

✍ A list all of the materials needed for the course and where to obtain them (*i.e.*, text books, reading material, lab guide, and websites)

- الكريم صالح و القدسي فاطمة، (١٤٢٩- ٢٠٠٨)علم الاجنة الوصفي المقارن، مركز النشر العلمي جامعة الملك عبد العزيز، جدة
- Berg C., Halldin K., Fridolfsson A.K., Brandt I. And Brunstrom B. (1999) The avian egg as a test system for endocrine disrupters: effects of diethylstilbestrol and ethynylestradiol on sex organ development. *The science of the total environment* 233:57-66.
- Embryos, Genes and Birth Defects, Second Edition Edited by Patrizia Ferretti, Andrew Copp, Cheryll Tickle and Gudrun Moore © 2006 John Wiley & Sons, Ltd. ISBN: 978-0-470-09010-7
- Goh E.H. and Neff A.W. (2003) Effect of fluoride on *Xenopus* embryo development. *Food and Chemical Toxicology 41:1501-1508*
- Gupta C. (2000) Reproductive malformation of the male offspring following maternal exposure to estrogenic chemicals. *Experimental Biology and Medicine* 224:61-68.
- Jacqz-Aigrain, E. and Koren G. (2005) effects of drugs on the fetus *Seminars in fetal &neonatal medicine* 10:139-147
- Kalter H. (2003) Teratology in the 20th century environmental causes of congenital malformations in humans and how they were established. *Neurotoxicology and teratology*, 25:131-182
- Kalter H. (2010) Teratology in the Twentieth Century Plus Ten. Springer Dordrecht Heidelberg London New York. ISBN 978-90-481-8819-2.
- Khera K.S. and Whalen C. (1988), Detection of neuroteratogens with an *in vitro* cytotoxicity assay using primary monolayers cultured from dissociated foetal rat brains. *Toxicology in vitro* 2:257-273
- Lectures in teratology Dr. Donald Wilbur http://people.musc.edu/~wilburd/Teratology%20I/index.
- Moore, K. (1982) The developing Human, With Islamic additions Abdul-Majeed Al Zandani Third edition. Saunders. Dar Al-Qibla
- Rajan K.T. Human organ culture: applications in the screening of teratogenic drugs.

✍ If the course involves a computer, list usage and software needed

- Word, PowerPoint,

Course Requirements and Grading

✍ **Student assessment: A clear rationale and policy on grading**

- Mid-term 30 marks
- Final exam 40 marks
- Student assignment (table 1 and 2) 20 marks
- Thinking based learning exercises (table 3) 10 marks

Table 1

	Assessment task (e.g. essay, test, group project, examination etc.)	Proportion of Final Assessment
1	Used Scientific papers as references	1
2	Good structure and writing which include How the malformation originated (5 marks) The types of the malformation (5 marks) The causes of the malformation (5 marks)	15
3	Produced a word document containing the assignment	1
4	Produced a power point presentation containing the assignment	1
5	Write the references at the end of the document	1
6	The work was submitted on time	1

Table 2

Student name and ID	Task	Submission date
Gadeer Qurashi 0542424007	What are the congenital malformations associated with eye development? How did those congenital malformations develop or originate? What are their types? What are their causes? Mention any genetic of molecular cure under study?	Monday 3/3/2014 - 2/5/1435
Ashwaq Iskandar 0556521339	What are the congenital malformations associated with neural tube development, including brain development? How did those congenital malformations develop or originate? What are their types? What are their causes? Mention any genetic of molecular cure under study?	Monday 3/3/2014 - 2/5/1435
Najwa Sadr Aldin 0544877596	What are the congenital malformations associated with heart development? How did those congenital malformations develop or originate? What are their types? What are their causes? Mention any genetic of molecular cure under study?	Monday 3/3/2014 - 2/5/1435

Table 3

	Assessment task (e.g. essay, test, group project, examination etc.)	Proportion of Final Assessment
1	TBL in class top down classification of genetic causes	1
2	TBL in class Compare contrast types of radiation	1
3	TBL in class Brain storming kinds of drugs and their effects	1
4	TBL in class choosing pros and cons of drugs	1
5	TBL in class multiple effects of a given chemical	1
6	TBL in class problem solving the love canal	1
7	TBL in class multiple causes with hormones	1
8	TBL in class multiple effects of diseases	1
9	TBL in class sequencing by time intervals critical embryonic periods	1
10	TBL in class Flow chart how to know the cause of a given congenital malformation	1

- Expectations from students: Attitudes, involvement, behaviors, skills, and ethics
  Students are expected to attend lectures and participate and to behave according to the rules of the country and the University
- Student responsibilities to the course
  Students are expected to participate in the lecture in asking questions and responding to questions and handling work on time
- Expectations for each assignment and project
- Important rules of academic conduct

Course Schedule Model (meeting once a week)

Week #	Date	Topic	Reading Assignment	What is Due?
1	Monday 27/1/2014 - 26/3/1435	**Introduction (history of teratology, definitions, taxonomy of teratology)**	Please refer to Schedule of Assessment Tasks for Students During the Semester written earlier in this document	
2	Monday 3/2/2014 - 3/4/1435	Natural factors causing malformed embryos (Chromosomes abnormalities, mutant genes)		
3	Monday 10/2/2014 - 10/4/1435	Environmental factors causing malformed embryos - Radiation		
4	Monday 17/2/2014 - 17/4/1435	Environmental factors causing malformed embryos - drugs		
5	Monday 24/2/2014 - 24/4/1435			
6	Monday 3/3/2014 - 2/5/1435	Environmental factors causing malformed embryos - Chemicals		
7	Monday 10/3/2014 - 9/5/1435			
8	Monday 17/3/2014 - 16/5/1435	Mid-Term Exam		
9	Monday 31/3/2014 - 30/5/1435			
10	Monday 7/4/2014 - 7/6/1435	Environmental factors causing malformed embryos - Hormones		

Week #	Date	Topic	Reading Assignment	What is Due?
11	Monday 14/4/2014 - 14/6/1435	Environmental factors causing malformed embryos - Diseases		
12	Monday 21/4/2014 - 21/6/1435			
13	Monday 28/4/2014 - 28/6/1435	Use of tissue culture and animal tissue extracts to understand , predict and prevent congenital malformations		
14	Monday 5/5/2014 - 6/7/1435			
15	Monday 12/5/2014 - 13/7/1435			