

BIOL 2311.001

Instructor : Uma Srikanth Ph.D.

Introduction to Modern Biology I Fall 2016

Email :ukrish@utdallas.edu

Section 001 TR 11:30 – 12:45PM FN 2.102

Office hours: Tuesday 10:15 – 11:15AM
FN 3.108

Telephone : 972-883-6570

Course Description:

Biology 2311 is the first of a two part course. This course presents some of the basic concepts of modern Biology with an emphasis on the molecular and cellular basis of biological phenomena. Topics include metabolism of biological macromolecules, cell structure and function, cell signaling, classical and molecular genetics, and DNA replication, transcription, and translation.

Student Learning Outcomes:

1. Students will be able to define the subcellular structures, macromolecules in a eukaryotic cell
2. Students will be able to explain and describe the basic functions of cells including energy production and utilization (in animal and plant cells), cell division, the basic mechanisms of genetic inheritance, structure of DNA, discovery of DNA, transcription and translation process, the regulation of gene expression, and selected aspects of the molecular basis of cancer.
3. Students will be able to understand basic cell signal transduction pathways and their final responses inside cells
4. Students will be able to develop hypotheses to interpret experimental observations and devise experiments to test these hypotheses.

Recommended Textbook for the course:

Foundations of Life – Chemistry, Cells, and Genetics, 10th edition- Units 1, 2, and 3, by Raven and Johnson.

The connect access code is highly recommended as well.

CONNECT COURSE LINK:

<http://connect.mheducation.com/class/u-srikanth-fall-2016>

CONNECT BIOLOGY WEB LINKS

Links:

<http://connect.customer.mcgraw-hill.com/student-start/>

<http://connect.customer.mcgraw-hill.com/students-how-to-order/>

Course Co-Requisite:

Registration in BIOL 2311 requires registration in BIOL 2111 and vice versa. If you do decide to drop BIOL2311, please be sure to drop the workshop you were registered for as well.

Please be sure that you have registered in one of the following workshop sections if you are attending **this section of Biology 2311**

BIOL 2111-007

BIOL 2111-008

BIOL 2111-009

BIOL 2111-010

BIOL 2111-011 or

BIOL 2111-012

WORKSHOP TIMES AND ROOM NUMBERS:

WORKSHOP	TIME AND DAY	ROOM #
BIOL 2111-007	Mo 4:00 - 4:50PM	FN 2.104
BIOL 2111-008	Fr 4:00 - 4:50PM	FN 2.104
BIOL 2111-009	Th 4:00 - 4:50PM	FN 2.106
BIOL 2111-010	Fr 9:00 - 9:50AM	SOM 2.803
BIOL 2111-011	Mo 11:0 - 11:50AM	FO 3.616
BIOL 2111-012	Fr 11:00 - 11:50AM	SLC 2.302

Workshops will begin the week of August 29, 2016.

TENTATIVE SYLLABUS

Lectures are 75 minutes each. You need not bring your textbook to the lectures. Please note that attendance is not mandatory but is highly recommended.

	Class Date	EXAMS	Lecture	Chapters #s	Quizzes
Week 1	23-Aug		Introduction and Chemical Building Blocks of Life	3	
	25-Aug		Chemical Building Blocks and Cell Structure	3 & 4	
Week 2	30-Aug		Cell Structure and Cell Membranes	4 & 5	
	1-Sept		Cell Membranes	5	1 (Chapters 3 and parts of 4)
Week 3	6-Sept		Energy	6	
	8-Sept		Energy and Review	6	2 (Chapters 4 and 5)
Week 4	13-Sept	EXAM 1		3,4,5,and 6	
	15-Sept		Cellular Respiration	7	
Week 5	20-Sept		Cellular Respiration	7	
	22-Sept		Respiration and Photosynthesis	7 and 8	
Week 6	27-Sept		Photosynthesis	8	3 (Chapter 7)
	29-Sept		Cell - cell communication	9	
Week 7	4-Oct		Cell – cell communication	9	4 (Chapters 8 and 9)
	6-Oct	EXAM 2		7,8,9	
Week 8	11-Oct		Cell cycle and Cell division	10	
	13-Oct		Mitosis	10	
Week 9	18-Oct		Meiosis	11	
	20-Oct		Meiosis	11	5 (Chapter 10)
Week 10	25-Oct		Mendelian Inheritance	12	
	27-Oct		Chromosomes , Mapping	13	
Week 11	1-Nov		Chromosomes	13	6 (Chapters 11 and 12)
	3-Nov	EXAM 3		10,11,12,and 13	
Week 12	8-Nov		DNA – The Genetic Material	14	
	10-Nov		DNA Replication	14	
Week 13	15-Nov		Genes and How they work	15	
	17-Nov		Genes and How they work	15	

Week 14	21-Nov to 25-Nov		Thanksgiving Holiday		
Week 15	29-Nov		Control of Gene Expression	16	
	1-Dec		Control of Gene Expression	16	
Week 16	6- Dec		Biotechnology	17	
	TBA	EXAM 4		14, 15, 16, and 17	

EXAM DATES:

<u>EXAM 1</u>	<u>Chapters 3,4,5,and 6</u>	<u>9/13/2016</u>
<u>EXAM 2</u>	<u>Chapters 7,8,and 9</u>	<u>10/6/16</u>
<u>EXAM 3</u>	<u>Chapters 10,11,12 and 13</u>	<u>11/3/16</u>
<u>EXAM 4</u>	<u>Chapters 14,15,16 and 17</u>	<u>TBA</u>

QUIZZES:

1. *There are a total of 8 quizzes.*
2. *Quizzes will be given in class at the beginning of the class session.*
3. *Graded quizzes will be returned in workshops and the correct answers will be discussed by teaching assistants.*
4. *No quizzes will be dropped*
5. *There is one surprise free quiz.*
6. *These quizzes will account for 10% of your final grade*

GRADE DISTRIBUTION

Grade for the course is calculated as follows:

The grades assigned to the lecture and workshop will be the same. Grade calculations are shown below. Although letter grades may be provided after each exam, these should be treated only as a reflection of your relative performance when compared to the rest of the class. The final course grade will be based not on these individual letter grades, but on the total of the numeric scores of all four exams and the quizzes.

	<i>Total #</i>	<i>points for each</i>	<i>Dropped</i>	<i>Maximum possible points</i>	<i>% of final grade</i>
Lecture Exams	4	100	0	400	90% (weighted)
QUIZZES	8	10	0	80	10% (weighted)
			TOTAL	480	100 (weighted)

Make-up Exams:

These exams will be scheduled on a need only basis. If you are unwell and unable to attend the exam, please email the instructor at the earliest available opportunity. Also, please remember to bring a copy of the doctor's note on the day your make-up exam is scheduled. These exams will be scheduled to the convenience of the teaching assistants (graduate) or the instructor.

EXAM viewing hours:

Instructors will send announcements on elearning about office hours for viewing exams after they have been graded. Please be sure to come and visit the instructor during these hours. If the allotted time is in conflict with your classes, please email instructor in advance for an alternate time. No grade changes will be made three weeks after the date of the exam.