

## **BIOLOGY 112**

### **BIOLOGY OF THE CELL**

#### **A. Calendar Description**

“The principles of cellular and molecular biology using mainly bacterial examples. Cellular processes, evolution and the impact of microbial life on the environment.”

#### **B. Prerequisites**

One of Chemistry 12 or CHEM 111 **and** one of Biology 11 or Biology 12 or BIOL 111. Please ensure you have the full set of prerequisites. You cannot retake a course for a higher grade. This means that if you already have taken BIOL112 and passed it, you cannot take it again for credit.

#### **C. Required Course Materials for Purchase at the UBC Bookstore.**

1. “Biological Sciences” 3<sup>rd</sup> Canadian Edition by Scott Freeman (2013- 2014 Custom Edition for UBC)
2. MasteringBiology 2013 – 2014 access code (included with the text)
3. iClicker classroom response system (ask at Cashier).

#### **D. Topics**

Each unit is approximately 1 month or 12 hours of lecture material.  
Students attend 3 hours of lecture per week in a 13 week term.

##### **Unit 1: Cell Structure and Function of Cells**

Cells and self-replication  
Cell growth and populations  
Membranes and transport  
Proteins and enzymes

##### **Unit 2: Genetics**

Genomes and nucleic acids  
Prokaryotic transcription  
Prokaryotic translation  
Eukaryotic transcription and translation  
Gene Regulation- lactose operon, maltose operon, galactose regulation in yeast  
Eukaryotic gene expression, PCR and genetic engineering  
DNA replication, mutations

##### **Unit 3 Metabolism**

Energy generation, redox and glycolysis  
Krebs cycle, chemiosmosis, fermentation  
Photosynthesis, endosymbiosis

### E. Assessment of Learning – Grading scheme

The following grading scheme will be used for **all sections** of BIOL112 and reward you for taking advantage of all offered support. This grading scheme is final and will **not** be changed. BIOL112 grades are **not** scaled:

#### Grading Scheme

Assessment Method	Component	Percentage of Total Grade
<b>Examinations<sup>1</sup></b>	<b>Midterm 1 Exam</b>	<b>10%</b>
	<b>Midterm 2 Exam</b>	<b>30%</b>
	<b>Final Exam</b>	<b>40%</b>
<b>Learning Activities</b>	iClicker Questions	3%
	Pre-class Reading Quizzes	10%
	In-class Activities	4%
	PeerWise Assignment	3%

<sup>1</sup>A student **must** obtain a grade of  $\geq 40/80$  on the exams to pass the course. Students must write both midterm exams to be eligible to write the final examination.

### F. Course Instructor Information

The instructors for the 2013W sessions of BIOL112 are:

Dr. Sunita Chowrira

Dr. Carl Douglas

Dr. Marcia Graves

Mrs. Ehleen Hinze

Mrs. Karen Smith

### Coordinator/Student Inquiries

All inquiries regarding the coordination and administration of BIOL112 (e.g., registration, examination scheduling, grading, and iClickers) should be directed to:

#### Karen Smith, Coordinator for BIOL112.

Office: Wesbrook 115

Phone: 604-822-6251

e-mail: bacteria@interchange.ubc.ca

### G. Website Access Required

#### 1. “Connect” Learning Management System (LMS) - accessible via your Campus-Wide Login (CWL)

*This is your course resource website where you will find almost everything you need for BIOL 112!*

<http://resources.connect.ubc.ca/>

#### 2. PeerWise – create your own login using course code for BIOL 112 (#7905)

*This website will allow you to create your own multiple choice questions and practice answering others!*

[http://peerwise.cs.auckland.ac.nz/at/?ubc\\_ca](http://peerwise.cs.auckland.ac.nz/at/?ubc_ca)

### H. Other Resources

#### Learning Centre

The Learning Centre is located in Wesbrook room 200 and will be open Monday through Friday, 8 am – 5 pm. The Learning Centre can be used for individual or group study.

The Learning Centre will be staffed with teaching assistants and peer tutors throughout the term to help answer any questions you may have about the course material. Hours for T.A.'s will be posted on **Connect**.