**Syllabus**

**Winter/2016 (01/11/2016 🡪 05/11/2016)**

**General Biology 1 – BIOL1000 – C1623 (4-Credits)**

**Lab (CJ - 107): Monday & Wednesday: 8:40 am 🡪 9:55am**

**Lecture (CN - 145): Monday & Wednesday: 10:00 am 🡪 11:55 am**

Name of Instructor: Dr. Mohamad H. Termos Office Location: Bldg. J 205-1 E-mail Address: [termosm@macomb.edu](mailto:termosm@macomb.edu)

Web Site: [www.mohamadtermos.weebly.com](http://www.mohamadtermos.weebly.com)

Office Hours: By Appointment

Required Textbooks and materials:

* Biology, 11th edition, Sylvia, S. Mader. McGraw Hill Co., Boston, 2010.
* Inquiry Into Life, 14th edition, Sylvia, S. Mader.
* These books are available at the Center Campus bookstore and should be brought to each class session.
* Scranton’s for each lecture and laboratory exam plus #2 Pencils. You need 8 Scranton’s and they are also available at bookstore.

Resources**:**

Student study guide accompany textbook, library, multimedia, Internet, and Biology Computer Lab.

Catalog Course Description:

An introductory course (lecture and laboratory) in basic biological principles aimed at an understanding of the life processes common to all living things. The major areas of emphasis include the chemical and cellular basis of life, reproduction, growth, development, heredity, evolution, and ecology.

Learning Outcomes:

After successfully completing this course, the student will be able to:

1. Demonstrate knowledge of the chemical and cellular organization of life.
2. State, in writing, the mechanisms by which substances enter and exit cells.
3. Identify the basic principles of energy as they relate to the cell.
4. Explain the importance of cell growth, reproduction, and the processes involved.
5. Understand the basic concepts of Mendelian and molecular genetics.
6. Describe the principles of ecology and evolution.

**Course Intellectual Competencies**

Reading**:** Students will read, analyze and interpret the chapters in the text and lab manual covered in class as well as assigned journal articles and master both general methods of analyzing printed materials and specific methods for analyzing the subject matter of individual disciplines.

Writing: Students will produce clear, correct and coherent prose adapted to purpose, occasion and audience. Students will discover a topic and develop and organize it and phrase it effectively for their audience through practice and reflection.

Computer Literacy: Students will use computer based technology in communicating, solving problems, and acquiring information. Students should have an understanding of the limits, problems, and possibilities associated with the use of technology, and should have the tools necessary to evaluate and learn new technologies as they become available.

Speaking: Students will use clear, coherent, and persuasive language when speaking, using language appropriate to purpose, occasion, and audience. Students will acquire pose and develop control of the language through experience in making presentations to small groups, to large groups, and through the media.

Listening: Students will analyze and interpret various forms of spoken communication.

Critical Thinking: Students will embrace methods for applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternatives strategies. Students will do problem solving as one of the applications of critical thinking, used to address an identified task

Evaluation:

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| *Your final grade will be based on the following* | |
| **4 Lecture Exams (100 points each)**  **Assignments, Quizzes & Group Works**  **4 Lab Exams (100 points each)**  **Presentations** | 400  100  400  100 |
| **Total** | **1000** |

Exams:

* Lecture exams are based on multiple-choice questions.
* Laboratory exams are of practical type with multiple-choice questions based on demonstrations of lab exercises and materials.
* When an exam starts you should not leave the classroom for any reason until you are done with the exam. If you are late arriving to a lecture exam you will not be allowed to take the exam after a student has finished it and left the room.
* **Students must be present on time during the laboratory exams. No late entry once the exam time starts**.
* **Students will be given one week after an exam is handed back to discuss their grades.**

Important notes:

1. Read lab objectives for each exam and make a personal plan to finish a part of it at each session before the respective exam date. I am not going to lecture during lab sessions; it is your responsibility to find the names. I will help in case you can’t find a structure. NO MAKE UP EXAMS
2. In the laboratory, the dissection of persevered specimens will be utilized to reinforce the learning of anatomical structures.
3. A grade of incomplete will only be given if discussed with the instructor and approved prior to the end of the semester. Incompletes are only given under extenuating circumstances and at the discretion of the instructor.
4. Average that a student check on ANGEL may be inaccurate and it is student’s responsibility to know how to add up current earned points and divide them by the total points finished till the time of calculation to get the current average. Average is usually updated to be current and accurate toward the end of the semester (around two weeks from the end).

Make-Up/Late Work Policies:

* Assignments are due at the beginning of the class. Late work will not be accepted. If you are going to be absent on the day an assignment is due you may discuss this with the instructor ahead of time and for the possibility of turning the assignment early.
* If you are absent, you are responsible for the materials missed including obtaining any assignments that were given. There will be no extension on the due date for the missed assignments. The instructor will not be responsible for providing you with the missed lecture notes, you will need to get these materials from another student. Labs and lab test will not be made up.

Learning Center:

The learning center offers seminars for note taking and other skills as well as tutoring for students. Please contact or visit the learning center for more information (C-116).

Academic Behavior:

* “Macomb Community College students have the right to receive a quality education. Likewise, Macomb students have the responsibility not to interfere with the education of others.” (Macomb Community College Handbook on Rights and Responsibilities). You are expected to interact with other students and the instructor in a courteous, cooperative, and respectful manner.
* The classroom and lab are to be left in the same condition in which they were found.
* The work you turn in should be your own. If you submit work that is not your own or cheat during an exam or quiz, you will receive a 0 for that assignment (this will not count as one of your dropped grades). A second incident of cheating will result in a grade of 0 for the course (F).
* Sleeping in class will not be tolerated. Sleeping students will be asked to leave the classroom for the remaining class time.

Academic misconduct:

Looking at others exams or letting others look at your exam are forms of cheating. Cheating will at least result in getting ZERO for the exam.

The Laboratory is to be left in the same condition in which it is found. Models taken apart during the course of the lab must be reassembled before leaving the lab.

**Cell phones must be turned off during lectures. Violation will be considered conduct disruptive to the class and may result in the student’s dismissal from class for the remainder of the scheduled class period.**

Grading Scale: A 🡪 93-100%, A- 🡪 90-92%, B+ 🡪 87-89%, B 🡪 83-86%, B- 🡪 80- 82%, C+ 🡪 77-79%, C 🡪 73-76%, C- 🡪 70-72%, D+ 🡪 67-69%, D 🡪 63-66%, D- 🡪 60-62%, E 🡪 Less than 60%

Statement of Equal Opportunity: No person shall be excluded from participation in, denied the benefits of, or be subject to discrimination under any program or activity sponsored or conducted by Macomb Community College on the basis of race, color, national origin, religion, sex, age, veteran status or disability.

**ADA Students with Disabilities Statement:** Reasonable accommodations may be made that allow disabled student to be successful at Macomb Community College including those affected by the American with Disabilities Act. Please contact the Special Services Department at CTR-G 131. The instructor will be informed of any special conditions to learning by the Special Services Department. All exams are to be taken the same day as the rest of the class unless other arrangements are made with the instructor.

**Tentative Schedule for Winter/2016\***

Laboratory Lecture

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| Monday 01/11  Wednesday 01/13 | Introduction, Lab 2: Orientation, Lab Safety, Assignment of Microscopes, Introduction to Microscopes  Lab 2: Metric Measurement & Microscopy | Ch: 1- A view of Life  Ch: 2 Basic Chemistry |
| Monday 01/18  Wednesday 01/20 | **OFF; MLK Day Holiday (College Closed)**  Lab 3: Chemical Composition of Cells  Lab 4: Cell Structure and Function (p. 41-46) | **OFF; MLK Day Holiday (College Closed)**  Ch: 3 – The Chemistry of Organic Molecule |
| Monday 01/25  Wednesday 01/27 | Lab 4 Cell Function (p. 47-56)  Lab 9: Organization of Flowering Plants | Ch: 4 – Cell Structure and Function  Ch: 5 – Membrane Structure and Function, |
| Monday 02/01  Wednesday 02/03 | Lab 11, 6: Animal Organization, How Enzymes Function  Lab 8, 7: Photosynthesis, Cellular Respiration (Fermentation). | Ch: 24 – Flowering Plants: Structure and Organization, Ch: 31 – Animal Organization and Homeostasis (**Assignment**)  Ch: 6 – Metabolism: Energy and Enzymes Ch 7, 8: Photosynthesis, Cellular Respiration (**Assignment**) |
| Monday 02/08  Wednesday 02/10 | **Lecture Exam – 1**  **Review** | **Review**  **Lab Exam-1** |
| Monday 02/15  Wednesday 02/17 | Lab 12: Basic Mammalian Anatomy 1 (fetal pig dissection)  Cardiovascular System (fetal pig continued) | Ch: 34 – Digestive Systems and Nutrition,  Ch: 32 – Circulation and Cardiovascular Systems (**Assignment**) |
| Monday 02/22  Wednesday 02/24 | Basic Mammalian Anatomy 2 (heart)  Basic Mammalian Anatomy 2 (Pig continued – urogenital) – Last day for pig dissection and review. | Ch: 35 – Respiratory Systems  Ch: 36 – Body Fluid Regulation and Excretory Systems |
| Monday 02/29  Wednesday 03/02 | Lab 16: Homeostasis  Lab 17: Nervous System & Senses (Sheep eye/brain) | Ch: 37 – Neurons and Nervous System  Ch: 38 – Sense Organs (**Assignment**) |
| Monday 03/07  Wednesday 03/09 | **OFF (Spring Break – College Closed).**  **OFF (Spring Break – College Closed).** | **OFF**  **OFF** |
| Monday 03/14  Wednesday 03/16 | **Lecture Exam- II**  **Review** | **Lab Review**  **Lab Exam - 2** |
| Monday 03/21  Wednesday 03/23 | Lab 5: Mitosis (p. 57-64), Lab 22: DNA Biology and Technology, DNA Structure and Replication (p. 303-306)  **OFF (Easter Break)** | Ch: 41, 42 – Reproductive Systems, Animal Development  **OFF** |
| Monday 03/28  Wednesday 03/30 | Lab 5: Meiosis (chromosome simulation beads (p. 65-76). DVD: Why Sex? (60 mins) + Worksheet  Lab 20, 21: Patterns on Inheritance/ Human Genetics. Genetics problems – packet for students | Ch: 9 – The Cell Cycle and Cellular Reproduction  Ch: 12 – Molecular Biology of the Gene (**Assignment**) |
| Monday 04/04  Wednesday 04/06 | Lab 20, 21: Patterns on Inheritance/ Human Genetics. Genetics problems – packet for students  Lab 20, 21: Patterns on Inheritance/ Human Genetics. Genetics problems – packet for students | Ch: 10 – Meiosis and Sexual Reproduction (**Assignment**)  Ch: 11 – Mendelian Patterns of Inheritance |
| Monday 04/11  Wednesday 04/13 | Lab 19: Development (use the 13th edition version). DVD: Life’s Greatest Miracle (60 mins) + worksheet. **END of Unit-3**  **This lab is part of unit-4**. Lab 22: DNA Biology and Technology, Transcription and Translation (pp. 307-311).DVD: DNA: The Secret of Life (32 mins) + Worksheet. | Ch: 11 – Mendelian Patterns of Inheritance  Ch: 11 – Mendelian Patterns of Inheritance |
| Monday 04/18  Wednesday 04/20 | **Exam- III**  **Review** | **Review**  **Lab Exam - 3** |
| Monday 04/25  Wednesday 04/27 | Distribute Paternity Testing Sheets. Start DNA finger printing exercise equipment studying and practice loading gel. (p. 312-316). Start Taxonomy.  Lab 22: DNA Biology and Technology. Perform DNA fingerprinting exercise (p. 312-316). Taxonomy (continued). | Ch: 12, 14 – Molecular Biology of the Gene, Biotechnology and Genomics  Ch: 19, 20 – Systematics and Phylogeny, Viruses, Bacteria, and Archaea (**Assignment**)  Ch: 21, 22 – Protist Evolution and Diversity, Fungi Evolution and Diversity (**Assignment + presentation**) |
| Monday 05/02  Wednesday 05/04 | Read gels. Lab 24-29: Taxonomy (continued).  Read gels. Lab 24-29: Taxonomy (continued). | Ch: 23, 28 – Plant Evolution and Diversity, Invertebrate Evolution (**Assignment + presentation**)  Ch: 29, 45 – Vertebrate Evolution, Community and Taxonomy (continued) (**Assignment + presentation**) |
| Monday 05/09  Wednesday 05/11 | **Exam-IV**  Grades | **Review**  **Lab Exam-4** |
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**\*Instructor reserves the right to change anything in this schedule anytime during the semester with or without notice.**