

# General Biology - Biol 1010

## Fall 2013

### Course Information

Lecture: Biol 1010 40, 90

Laboratory: Biol L001 40, 90

Instructor availability specific for this course: T/Th 8:30– 10:00 am

Credit Hours: 4.0 – 6 hours of contact time per week

### Instructor Information

Coventry Dougherty-Woodin

Office: Douglas Campus; Room 7B

Office phone: 307.358.5622

Email: [coventry.dougherty@ewc.wy.edu](mailto:coventry.dougherty@ewc.wy.edu)

Office Hours: M/W 8:30 – 9:30 am, T/Th 2:30 – 4:00 pm or by appointment

### Course Content Information

#### Catalog Description:

A survey of the basic principles of biology. Units are included on the scientific method, the cell, genetics, evolution and diversity, and ecology. Prerequisite: Placement score for MATH 920 or better, HMDV 0640 or better, and no reading improvement required, or appropriate ACT score. Laboratory is **REQUIRED**. 3 hours lecture, 3 hours lab.

#### Introduction & Rationale:

This course can provide you with a fundamental understanding of life, literally. The effort you make here to acquaint yourself with the concepts and processes of biology will allow you to apply this knowledge far beyond the immediate requirements of this course. We will begin our study with the most basic characteristics shared by all living organisms, and move ahead to marvel at the diversity of such creatures. We will look at how structure defines function, how energy and matter are used, how growth and reproduction take place, and how all of this is interrelated. The scientific methods used for such a study have proven to be a reliable format for systematic observations and conclusions. So ponder what you learn here, integrate it with what you already know as well as what you learn in the future. Future decisions concerning medical treatment options, the ecology of our planet, legislative action on new scientific technology and countless other issues await you. You'll be able to make more informed decisions in your life as a result of your studies in this course. Let the quest begin! **Above all, remember that science is a fun, exciting adventure!** Biology 1010 will fulfill the general education category of Lab Science for the Associate of Arts and Associate of Science Degree.

#### Course Objectives:

This course will emphasize the unity and diversity of life, where you will be introduced to biological principles in a context such that you can learn to apply these concepts to novel situations. There are several common themes or principles that are important enough to repeat in a variety of contexts. These include, but are by no means limited to:

1. Describing the steps of the scientific method and its relationship to life processes. This includes the ability to develop hypotheses, design experiments and interpret the data.
2. Defining and describing the basic chemistry, anatomy, energetics and reproduction of living cells. This includes an defining and describing protein structure & function.
3. Comparing and contrasting the modes of inheritance, describing species diversity and natural selection.
4. Gain knowledge of the various laboratory applications and techniques. While this will be a virtual rather than a hands-on experience, you should be able develop a firm understanding on laboratory concepts.

Required Textbooks & Resources:

Lecture Textbook: Biology; Mader, Sylvia (11<sup>th</sup> ed) ISBN: 9780073525501

Laboratory Manual: There is no lab manual required for this course. I will provide the information necessary to complete laboratory assignments. While there is no cost for a lab manual or virtual lab, some labs will require general household items. As a result, I cannot predict the cost of lab materials that you may encounter.

The above material will be supplemented through Lecture Notes, podcasts & videos.

Your textbook's website: [http://highered.mcgraw-hill.com/sites/0073525502/student\\_view0/index.html](http://highered.mcgraw-hill.com/sites/0073525502/student_view0/index.html) (Some of your assignments will be found at this website.)

Additional Resources:

I often find that just reading the text and actively participating in lecture and lab are not enough for me to grasp a new concept. With this in mind, I am providing some web resources that have been useful to me throughout my academic career in biology!

A biological dictionary: <http://www.biology-online.org/dictionary>

Study tips: <http://abacus.bates.edu/~ganderso/biology/resources/studytips.html>

Tree of Life: <http://www.tolweb.org/tree/>

SmarThinking: This is an online resource that connects students with professional educators. This resource has online tutoring, writing services, and homework help. Tutors are available up to 24 hours a day, 7 days a week in a variety of subjects. This service is free to all EWC students.

LancerNet: [http://prod.campuscruiser.com/PageServlet?pg=home\\_welcome&cx=22.327](http://prod.campuscruiser.com/PageServlet?pg=home_welcome&cx=22.327)

**Course Requirements and Expectations:**

Grading Policy:

Unless otherwise stated, grades will be posted on LancerNet within two weeks of the assignment due date. Points are earned as follows:

ITEM	POINTS POSSIBLE
RAM Quizzes: 12 @ 10 pts each	120
Quest Proficiencies: 4 @ 100 pts each	400
Course Proficiency: 1 @ 150 pts	150
Lab Assignments: 12 @ 30 pts each	360
Weekly Discussions: 15 @ 10 pts each	150

Level Up Opportunities: TBD	
<b>Total Possible Points</b>	1180

Your grade will then be determined according to the following scale:

1062 - 1180 points	(90 – 100%)	= Master Biologist (A)
944 - 1062 points	(80 – 89%)	= Level 3 Biologist (B)
826 - 943 points	(70 – 79%)	= Level 2 Biologist (C)
708 - 825 points	(60 – 69%)	= Level 1 Biologist (D)
000 - 707 points	(0 – 59%)	= Newbie (F)

### **What to Expect From:**

#### Course Work & Preparation Time:

This may be your first college science course. As such, you may have some preconceived notions. “Biology is hard!” “I feel like I am learning a new language.” Both of these statements are true; however, you can master this course as well as any other course through your amount of effort. A general guideline for estimating study time, particularly in science courses, is two to three hours of preparation for each lecture/lab hour. This translates to 60 lecture/lab hours and 120 to 180 hours of preparation/study. Successful students (C or better) spend roughly 16 to 24 hours per week during the summer session **ACTIVELY** preparing for this course. What does **ACTIVELY** mean? This is a great question. **ACTIVELY** means: 1. reading the assigned text (underlining/highlighting important sections, maintaining a list of unfamiliar words, making outlines or concept maps, making connections between assigned readings and previously studied topics); 2. participation (note taking, asking/answering questions, participation in discussion, asking for clarification of concepts); 3. memorizing/analyzing/integrating terms and concepts in your individual study time (drawing pictures, devising clever memory hooks, verbally reciting concepts, working sample problems, etc.). You may think that you are not cut out for learning biology. This is nonsense! You can all learn biology, and I will do everything I can to help!

This may also be your first experience participating in a class using an online setting. You may have some preconceived notions regarding this as well. However, it is as imperative as it would be if you were attending lecture and lab on campus that you keep up with the material. Yes, you are working at your own pace, but do not let this turn you into a procrastinator. You will fall behind quickly if you "put off until tomorrow what you can do today". You need to set time aside to focus, participate & study to succeed in this course. Doing so will eliminate undue stress!

#### Attendance:

Regular attendance and steady progress are essential to success in this course. Keep in mind that you are expected to spend *at least* 12 hours per week on this class; however, this will be done on your own schedule since this course is online. Some of you may need to spend more time than this to “grasp” the material. If you were taking this class on campus, you would be coming to class six hours per week for lecture and six hours per week for labs. You do need to adhere to due dates for exams, quizzes and assignments, so log in frequently to keep up to date.

While You Are Studying (WYAS):

Think of WYAS as a study guide. It does **NOT** need to be turned in to me, so it is at your discretion as to whether or not you choose to use it. Quite simply, it is meant to give you guidance and direction for concepts you grasp vs. those you do not, i.e., "Did you get it"? You should be able to answer each of the questions after completing the chapters.

Quests and Missions:

This course is divided into four different quests. Each quest is comprised of a number of different missions designed to enhance your learning of the particular chapters within the quest. Missions will consist of both mandatory and optional activities for you to complete to help retain and maintain the information necessary to successfully navigate this course.

Retain And Maintain (RAM) Proficiencies:

Each week, you will be given a small proficiency to test your retention of the material from the previous week. This policy of having small proficiencies each week is intended for you to keep up your progress over the semester, and hopefully will ease your stress a bit by putting less pressure on you to excel on only Quest and Course proficiencies. Some of the RAM questions will be multiple choice, some will be activities. RAMs are intended to encourage you to keep up with the material (maintain) and to encourage study techniques that will make you successful in this class and beyond (retain). **Your grade will be based on the best 12 out of 14 RAMs collected.** Because your two lowest scores will be dropped, **RAMs cannot be made up.** Each RAM is worth 10 points, for a total of 120 points.

Quest Proficiencies:

There will be four Quest Proficiencies in this course. These proficiencies are listed in the "Tentative Lecture Schedule". Make note of these dates and times so you can adequately prepare. These proficiencies must be completed within the allotted time. The proficiencies will have questions based on the posted notes & the text. There will be a variety of question types including: multiple choice, matching, fill-in-the-blank and essay. Some questions will be rather straightforward in an effort to test your knowledge of the terminology, while others will require you to apply the concepts or solve problems based on the information you have learned. There will be practice quizzes and other resources available from the textbook publisher's website: [http://highered.mcgraw-hill.com/sites/0073525502/student\\_view0/index.html](http://highered.mcgraw-hill.com/sites/0073525502/student_view0/index.html). These are great practice as you prepare for your proficiencies. I will also try to make other links available to provide additional information to help you study.

Course Proficiency:

The course proficiency is comprehensive (all previous chapters). It is worth 150 points. I would also suggest that you do not discard of your notes, study guides, etc. until you have taken this proficiency.

Proficiency Make-up Policy:

Each proficiency takes hours to craft, balancing simple questions with more challenging problems. A make-up requires that a new proficiency be created, one completely equal, but totally different than the one your classmates received. If you should miss one of the scheduled proficiency, be aware that I rarely schedule make-up proficiency. To qualify for a make-up

proficiency, you have been: hospitalized, have a doctor's written documentation for an illness that **you** personally suffer, or there is a death of an immediate family member. In addition, you **must** contact me within 24h of the proficiency (preferably before, not after), or you will not be able to make up the proficiency. If it is decided that you can take a make-up proficiency, that proficiency must be taken prior to the results of that proficiency are returned to the general class. If this does not occur, you must make up the proficiency during finals week. While a reliable internet connection is vital for success in this course, it is especially important that you have a reliable internet connection during RAM & proficiency time. You may want to take your proficiencies at your local Outreach center to ensure uninterrupted internet service. Should your internet connection fail you during exam time, you will not be allowed to finish or make up the proficiency. **In the event of a complete EWC server failure, please notify me via email immediately. Except in extenuating circumstances, no provisions will be made for the final proficiency.**

Lab Assignments:

There will be 13 lab assignments in this class. The first lab assignment will be for bonus points, while the subsequent 12 are required and must be submitted by their due dates. Once again, please check the schedule to see when the labs will need to be completed as missing two or more labs constitutes failure of the course. Each lab assignment is worth 30 points.

Lab Make-up Policy:

There are no make-ups for lab assignments. Please make sure you adhere to the due dates as failure to submit more than two labs will result in failure of this course (this is a lab science).

Weekly Discussion:

Each week there will be a new discussion topics/questions posted on LancerNet. You will receive credit for each assigned discussion topic/question that you respond to. Please see the description of this assignment for more information about response criteria. There will be a total of 160 points possible for the discussion assignment this semester. I would like to think that each of us value the opinions, thoughts and comments of others. Therefore, in order to receive full credit each week, you must post your own answer and respond to at least two other posts within the due date of the topic post.

Extra Credit:

There is absolutely **NO** extra credit offered in this course. If you have time to do extra credit, you have time to study. I do however, offer bonus points on discussions and labs. In these cases, your performance is well beyond expectations! For many folks, these bonus points have increased their grade by one full letter!

Withdrawal Policy:

You may withdraw from the course with a grade of "W" (withdrawal); however, the decision must be made and the procedure accomplished ON OR BEFORE the College's official last day to drop classes. If the procedure is not completed before this day, you will receive a grade of "F". This is your responsibility.

After the College's official last day to drop classes, you cannot receive a "W" (withdrawal) for the course, except for very extenuating circumstances (serious illness, hospitalization, etc.).

**NOTE:** \*\* The instructor reserves the right to verify extenuating circumstances.

*Academic Integrity and Class Conduct:*

I consider the act of Academic Dishonesty to be an unethical behavior! Academic dishonesty (examples include, but are not limited to: cheating, plagiarism, copying from your neighbor, taking quizzes/exams in any way but yourself, etc.) will not be tolerated in any form. What constitutes cheating and plagiarism? Another great question! Cheating includes using your textbook, notes, internet resources, sharing answers, having someone else do your work, working together on individual assignments, etc. while completing RAMs, proficiencies and assignments unless otherwise indicated. The act of plagiarism is committed when one copies or uses ideas of another individual without giving that individual proper credit. This does include copying work from other students, copying and pasting information from the internet or taking information directly from your text or lecture notes. If your work is not in your own words, consider it plagiarism! It is not fair to your classmates, to me, or ultimately to you. Any student who is caught in any of these acts will receive an "F" for this course.

Students shall complete all assigned course work individually unless otherwise indicated. In addition, the instructor may refer the student to the appropriate EWC official for further discipline.

*Student Expectations:*

1. You are expected to spend a minimum of 12 hours per week on this course.
2. You are expected to turn in assignments, exams, and RAMs by the designated due dates.
3. You are expected to read the text book, notes and other materials supplied for the course.
4. You are expected to seek additional help as needed. Contact your instructor, a tutor, or a peer study group to get extra help. Do not wait until it is too late! If you cannot see/contact me during my office hours, schedule an appointment. For lab assignments, **DO NOT** submit any version of the answer, '**I don't understand**'. To me, this suggests that you are not interested in the learning process. Instead, contact me immediately, and I will do everything I can to help you work through the problem.
5. You are expected to respect the ideas of others and exhibit proper online etiquette.
6. You are expected to include the course number (BIOL 1010) in the subject line of any email correspondence you send to your instructor.
7. You are expected to include your name and the course number on any lab assignments or attachments that you submit. These assignments and attachments often get separated from your email, so make sure your name is on the assignment or attachment! **I deduct two points for failure to include your name!** You also need to keep a copy of the assignments you submit until you have received your final grade in the course... because things can disappear due to the "gremlins" that exist in cyberspace.
8. It is expected that you know how to communicate with others in writing. This means using proper English, using complete sentences with proper punctuation, no texting-type of abbreviations, and the correct spelling of words. Proof-read your work. **Failure to do so**

**will result in deductions of 0.5 points per infraction with a maximum deduction per assignment of 15 points!**

9. **Science & Religion:** For those of you that are deeply rooted in your faith and religion, realize that I certainly applaud and appreciate your passion and conviction. This course is in no way designed to challenge the root of your faith nor your beliefs. Quite simply, it is designed to introduce you to theories and concepts as well as test your comprehension of those theories and concepts. It is not meant nor designed for you to accept those theories, but rather acknowledge they exist, just as you would acknowledge there is more than one religion. With this in mind, you will not receive credit for answers or assignments that fail to answer the questions based on the presented course content. It is also unacceptable to ask for supplemental questions, assignments or exemptions as a result of religious beliefs.

**Disclaimer:**

Information contained in this syllabus was, to the best knowledge of the instructor, considered correct and complete when distributed for use at the beginning of class. However, this syllabus should not be considered a contract between Eastern Wyoming College and the student. The instructor reserves the right, acting within the policies and procedures of EWC, to make changes in course content or instructional technique without notice or obligation.

**General Education Requirements:**

The following are the General Education Requirements for all graduates of EWC:

*Communication Skills:* Graduates will be able to understand and communicate ideas and information in written and spoken English that reveals a mastery of terminology appropriate to their disciplines.

*Analytical and Quantitative Reasoning:* Graduates will be able to solve problems through critical thinking involving analytical and quantitative reasoning at a level appropriate to their disciplines.

*Technology Skills:* Graduates will be able to demonstrate competence using technology appropriate to their disciplines.

*Social Awareness:* Graduates will be able to demonstrate an awareness of the relationship between the individual and the world.

*Information Literacy:* Graduates will be able to locate, evaluate and use information effectively.

**Americans With Disabilities:**

Eastern Wyoming College is committed to providing reasonable accommodations for qualified individuals with disabilities. If a student has a disability and desires a reasonable accommodation for such disability, the student should contact Debbie Ochsner (532-8238) or Mr. Stuart Nelson (532-8330) as soon as possible so that arrangements may be made.

**College Mission:**

Eastern Wyoming College is a student-centered, comprehensive community college that responds to the educational, cultural, social, and economic needs of its communities with quality, affordable educational opportunities for dynamic lifelong learning.

**College Vision:**

Eastern Wyoming College will be a dynamic center for education, acting as a catalyst for individual growth, community engagement and global impact.

**Student Philosophy Statement:**

Eastern Wyoming College is committed to providing a student experience that promotes academic success in a challenging and supportive environment, facilitates the transition to college for first time students, and helps all students identify and achieve their individual goals. EWC's student experience is designed to foster personal growth by increasing independence, promoting ethical behavior and personal responsibility for learning, and affording opportunities for student involvement in campus activities to enhance social development.

## Tentative Lecture Schedule - Fall 2013

Week	Dates	Lecture Topic	Assigned Chapter	RAM & Dates
1	Aug 27 - Sept 1	A View of Life	1	Practice RAM: Sept 3
2	Sept 2-8	Basic Chemistry	2	CH 1 & 2: Sept 9
3	Sept 9-15	Organic Molecules	3	CH 3: Sept 16
4	Sept 16-22	Cell Structure & Function	4	CH 4: Sept 20
<b>Quest 1 Proficiency: Chapters 1-4</b> Available: Monday 23- Sept 8:00 am - 11:55 pm				
5	Sept 23-29	Membrane Structure & Function	5	CH 5: Sept 30
6	Sept 30-Oct 6	Metabolism: Energy & Enzymes	6	CH 6: Oct 7
7	Oct 6-13	Photosynthesis	7	CH 7: Oct 14
8	Oct 14-20	Cellular Respiration	8	CH 8: Oct 18
<b>Quest 2 Proficiency: Chapters 5-8</b> Available: Monday 21-Oct 8:00 am - 11:55 pm				
9	Oct 21-27	The Cell Cycle & Cellular Reproduction	9	CHs 9 & 10: Oct 28
		Meiosis & Sexual Reproduction	10	
10	Oct 28-Nov 3	Mendilian Patterns of Inheritance	11	CH 11: Nov 4
12	Nov 4-10	Molecular Biology of a Gene	12	CH 12: Nov 11
12	Nov 11-17	Regulation of Gene Activity	13	CH 13: Nov 15



<b>Quest 3 Proficiency: Chapters 9-13</b> Available: Monday 18-Nov 8:00 am - 11:55 pm				
13	<b>Nov 18-24</b>	Darwin & Evolution	15	CH 15: Nov 25
14	<b>Nov 25-Dec 1</b>	How Populations Evolve Speciation & Macroevolution	16 17	CHs 16 & 17: Dec 2
15	<b>Dec 2-8</b>	Origin & History of Life	18	CH 18: Dec 6
<b>Quest 4 Proficiency: Chapters 13-15</b> Available: Monday 09-Dec 8:00 am - 11:55 pm				
<b>Course Proficiency: Comprehensive</b> Available: Wednesday 11-Dec 8:00 am - 11:55 pm				

## Tentative Laboratory Schedule - Fall 2013

Due Dates Labs are due at 11:55 pm on the dates below	Lab Assignment
Sept 05	Practice Lab: Tuning the Senses
Sept 12	Scientific Method & Measurement
Sept 19	Acids & Bases
Sept 26	Survey of Cells
Oct 03	Membrane Transport
Oct 10	Enzyme-Controlled Reactions
Oct 17	The Cell Cycle
Oct 24	Exploring Meiosis
Oct 31	Genetics Problems
Nov 7	Ufroom Pollywoggles
Nov 14	DNA Fingerprinting
Nov 21	TBD
Dec 5	Natural Selection & Evolution