Biol 1001 – Introduction to Biology
Dixie State College of Utah
Spring 2008

Professor: Lyle Pack
Office: SCI
Office hours: 11-12 am, Mon, Wed, Fri, or by appointment
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Course times: Tues and Thurs from 1:00 – 1:50 pm in SCI 117

Course description and objectives

Biol 1001 is an orientation course created to help students succeed in the biology major. It is also designed to help new freshman and returning students to make a successful transition to being a college student.

The primary objective of this course is to provide you with the resources you will need to succeed in your college career, and particularly in your biology courses. At the end of this semester, you should:

• Know and be able to apply strategies for success in college activities such as managing their time, taking notes, reading textbooks, writing papers, participating in study groups, taking exams, talking to their professors, staying healthy and safe, and so on.

• Know about and be comfortable using campus resources that can help them succeed, such as the Library, Financial Aid Office, Tutoring Center, Writing Center, Advisement Center, Employment Office, Career Center, and the Disability Resource Center.

• Know some other biology students, understand some principles related to peer interactions and professional networking, and have developed their people skills by interacting with other students, professors, and some biology professionals.

• Be prepared for further biology courses through a basic knowledge of biology terminology, laboratory equipment, ethics, the scientific method, types of experiments, how to recognize pseudo science, and how to deal with conflicts between religious beliefs and scientific principles.

• Be registered for next semester’s courses, and have a plan for all of the courses they need to take at Dixie State College to earn a B.S. degree in biology, as well as
have an understanding of the areas of biology and some career paths they can take in biology.

- Have participated in a variety of non-academic activities on campus which can enrich their experience as a student as well as an alumnus.

**Required Materials**

You need to purchase the following items:

- a notebook in which to create short journal entries
- a suitable folder or notebook in which to place all course materials
- *What Smart Students Know: maximum grades, optimum learning, minimum time* by Adam Robinson, published by Three Rivers Press
- *How to Win At College*, by Cal Newport, published by Broadway Books
- a copy of one of the books from a list given out in class

**Grades**

Your grade will be assigned based your attendance, participation in class discussions, short reading, writing, and other assignments which will be given regularly throughout the course, in-class journal writing, and an open book midterm exam and final exam. An individualized grade report will be given out after the midterm. You may also come to my office to ask about your grade.

<table>
<thead>
<tr>
<th>Assignments</th>
<th>points</th>
<th>% of grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>10 pts each, 8 if you are late</td>
<td>20%</td>
</tr>
<tr>
<td>In-class journal entries</td>
<td>10 pts each</td>
<td>10%</td>
</tr>
<tr>
<td>Participation</td>
<td>5 pts each</td>
<td>10%</td>
</tr>
<tr>
<td>Course assignments</td>
<td>variable</td>
<td>40%</td>
</tr>
<tr>
<td>Midterm and final exam</td>
<td>approx 100 pts</td>
<td>20%</td>
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**Attendance:** Since this is a discussion course, your attendance will be vital, and there isn’t any way to make up for a discussion you have missed. However, to allow for unforeseen circumstances, you miss any two days without penalty. Roll will be taken at the beginning of the class, so make sure to come on time. If you are late, please let me know that you are here; however, you will then lose two attendance points. If you miss class, you are responsible to see me to turn in assignments or find out about assignments that have been made.

**In-class journal entries:** For the first 10 minutes of every Tues class, you will write a brief journal entry describing how college is going for you, or responding to questions I will provide. You will turn them in during class on Tues, or at the beginning of class on Thurs, and I will read and return them to you the following Tues. You may miss two journal entries without penalty. Late journal entries will be accepted with a 10% penalty.
Participation: Many class periods will begin with a discussion based on thought questions or a survey handed out the day before. Participation points will be based on your completion of these surveys and answers to the thought questions in class.

Course assignments: Many of the lecture topics will conclude with a brief assignment which will help you to apply the concepts that have been discussed. In many cases, they will be assignments to do something and then write a short paragraph describing your experience. You will also be asked to read portions of the textbooks and other books and turn in assignments about these readings. These assignments will be due before the next class period unless otherwise noted. Late assignments will be accepted with a late penalty of 10%. These assignments are the largest portion of your grade.

Midterm and final exam: To make sure that you are understanding the main principles of the course, a written midterm and final exam will be given. However, you may use your notes and any other course materials.

Letter grades will be assigned based on % of points earned on the scale shown below.

A       93.0 – 100%   C+       77.0 – 79.9%
A-      90.0 – 92.9%   C       73.0 - 76.9%
B+      87.0 – 89.9%   C-       70.0 – 72.9%
B       83.0 – 86.9%   D       50.0 – 69.9%
B-      80.0 – 82.9%   F       0 - 49.9%

A grade of “incomplete” will only be given in circumstances where a student has been doing well in the class but has a difficulty such as serious illness during the last week or two of the semester.

Disability Accommodations

If you are a student with a physical or mental impairment and would like to request accommodations, please contact the Disability Resource Center (652-7516) in Room 201 of the Student Services Center. The Disability Resource Center will determine your eligibility for services based upon complete professional documentation. If you are deemed eligible, the Disability Resource Center will further evaluate the effectiveness of your accommodation requests and will authorize reasonable accommodations that are appropriate for your disability.
Biology 1001, Introduction to Biology, is a freshman experience course. It has been developed by Lyle Pack, Steve Cox, and Melanie Florence, the faculty advisors for the biology department, in conjunction with Sarah Black, who has been teaching a pilot version of Science 1001, a freshman experience course for all science majors, during the fall 2007 semester.

We propose that this course be adopted as a requirement for the biology major for students entering in the Fall 2008 semester and thereafter. Students entering before this date may take this course for elective credit during the Spring 2008 semester.

It has been our intention to develop a course with common goals and objectives, a menu of topics to be covered, and a comparable level of assignments, creating an equally valuable and rigorous experience for all freshmen in the biology major. However, we have intended to create flexibility to allow each instructor to employ his or her own strengths and creativity in developing the schedule and lesson plans for each course.

We have agreed upon three goals for the course:

1. **Orient the students to college life** such that they know how to stay safe, manage time, take notes, read textbooks, write papers, interact with peers and professors, take exams, stay healthy, have academic integrity, and participate in extracurricular events on campus. *They should feel confident in their ability to succeed as students.*

2. **Orient the students to Dixie State College** such that they know their way around campus, what services are available, how to navigate the college website, how to register for courses, what the purpose of general education is and what courses they can take, how the college administration is organized, and some of the history of the college. *They should feel a sense of belonging on campus.*

3. **Orient the students to the biology major** such that they know what courses are required for the biology major, different areas of emphasis in biology, the professors in the biology department, what career paths are available, how science works, what lab equipment is used in biology, and what some of the ethical issues are. *They should have an academic home in the biology department.*

In accordance with these goals, we have developed the following objectives – upon successful completion of the course, students will:

- Know and be able to apply strategies for success in college activities such as managing their time, taking notes, reading textbooks, writing papers, participating in study groups, taking exams, talking to their professors, staying healthy and safe, and so on.
• Know about and be comfortable using campus resources that can help them succeed, such as the Library, Financial Aid Office, Tutoring Center, Writing Center, Advisement Center, Employment Office, Career Center, and the Disability Resource Center.

• Know some other biology students, understand some principles related to peer interactions and professional networking, and have developed their people skills by interacting with other students, professors, and some biology professionals.

• Be prepared for further biology courses through a basic knowledge of biology terminology, laboratory equipment, ethics, the scientific method, types of experiments, how to recognize pseudoscience, and how to deal with conflicts between religious beliefs and scientific principles.

• Be registered for next semester’s courses, and have a plan for all of the courses they need to take at Dixie State College to earn a B.S. degree in biology, as well as have an understanding of the areas of biology and some career paths they can take in biology.

• Have participated in a variety of non-academic activities on campus which can enrich their experience as a student as well as an alumnus.

In order to orient the students to college life, the following topics will be covered:

1. Making the transition from high school to college, with emphasis on taking responsibility for their own learning
2. Campus safety
3. Time management
4. Note taking
5. Reading textbooks
6. Writing Papers
7. Successful studying
8. Peer interaction, with emphasis on study groups
9. Taking exams, including overcoming test anxiety and test taking techniques
10. Interaction with professors
11. Learning styles
12. Types of knowledge and levels of critical thinking
13. Academic honesty
14. Entering into college life, including participating in campus and community events
15. Service learning
16. Health & wellness
17. Mixing school & work
18. Student maturity
In order to orient the students to Dixie State College, the following topics will be covered:

1. Location and services offered by the Library, Tutoring Center, Writing Center, Financial Aid Office, Advisement Center, Employment Office, Career Center, Campus Security, Wellness Center, and so on.
2. Location of various buildings on campus, and what types of courses are offered in each building.
3. General education, purpose and courses
4. Campus website, including calendars, rebelmail, and policies
5. Registration procedures
6. College government and student government
7. Brief history of the college
8. Extra-curricular activities such as theatre, concerts, dances, plays, sports, gallery, forums

In order to orient the students to the biology major, the following topics will be covered:

1. Introduction to biology faculty
2. Courses required for B.S. degree in biology
3. Introduction to different areas of emphasis in biology
4. Survey of careers in biology
5. Introduction to the scientific method, including types of experiments, and how to distinguish pseudoscience
6. Introduction to lab equipment used in biology
7. Professional networking
8. Terminology, unit conversions, and interpreting graphs and charts
9. Writing in biology, including the structure of scientific journal articles
10. Introduction to ethics in biology
11. The impact of biology on current technology
12. How to deal with conflicts between religious beliefs and scientific principles

The following are examples of the types of pedagogy that will be used to cover these topics.

Introductory assignments and discussions:

- learning styles – assign students to fill out a questionnaire to determine their dominant learning styles; discuss the results in class

- interaction with professors – assign students to think about when they will interact with their professors, and why it would be important for professors to know who they are; have a brief discussion about their answers
• reading textbooks – assign students to complete a survey about how much textbook reading they are required to do, how much they cost; and to think about why textbooks are often required, what makes them difficult to read; discuss answers in class

• academic honesty – ask students to come prepared to answer questions about what kinds of cheating they have witnessed or heard about, and why cheating is harmful to the cheater, peers, the institution, and future employers; discuss answers in class

Classroom instruction:

• study groups – teach students about the benefits of group study, how to form study groups, and solutions to possible problems that may arise

• interaction with professors – teach students “do’s and don’ts” about talking to/e-mailing/calling professors, give out a handout with tips

• reading textbooks – teach students tips for successful reading, give out a handout with tips

• taking tests – teach students test taking techniques, including what to do after a test (handout)

• professional networking – discuss professional networking, how to do it, give examples

• levels of critical thinking – teach students about types of knowledge (facts, concepts, procedures, metacognitive), and levels of critical thinking (remembering, understanding, applying, analyzing, evaluating, creating)

Guest speakers:

• campus safety – invite campus safety officers to class, have them listen to the questionnaire discussion, add their own comments

• invite guests to come and speak about campus services: tutoring center, writing center, service learning, scholarship office, library, diversity center, disability resource center, wellness center, advisement center, etc
In class activities:

• group learning – have students work on a logic problem alone for a few minutes, then put them in groups to work on it; discuss how working together helped

• introduction to biology professors – show pictures of biology faculty, ask students to name any they can, introduce faculty with professional info as appropriate

• interaction with professors – give out a list of top 10 things not to say to a professor, have groups brainstorm why not, then share their answers

• note-taking – have students watch a short video and take notes; compare notes with each other; then take a short quiz; discuss the importance of taking good notes

• health and wellness – assign different students to read different portions of the chapter on health and wellness in their textbook; put them in groups to discuss what they have learned, then have each group present their topic to the class

• academic honesty – divide students into groups, give out a list of situations, ask them to decide if cheating has occurred; discuss the results as a class

• becoming familiar with campus – pass out a blank map, put students in groups and have them try to identify the buildings, when they have done as much as they can, put up an overhead and ask who knows the name of each building, ask who has a class in that building and what it is

• library – give the students a quick tour of the library; then give them a scavenger hunt to complete, requiring them to locate items in reference, the stacks, books on reserve, e-books, periodicals, etc

• writing in science – go through a short journal article on a topic in biology that can be understood by beginning students, discuss the structure and language of the article

Assignments:

• tutoring center – assign students to check out the tutoring center, and report on which of their classes has available tutoring

• learning styles – assign students to write a response paragraph about the suggestions given for their learning style

• group studying – assign students to study with another student for at least one hour, and write a response paper about the experience
• interactions with professors – assign students to speak with one of their professors in his or her office, then write a short reflection paper

• reading textbooks – assign them to read 5 pages of a textbook using one or more tips and report on it

• taking tests – assign students to complete a written review of a test they have taken in another class, analyzing what they could do differently

• interacting with biology professionals – have students sign up to meet with a biology professional during lunch on campus; have them prepare questions and ask them during the meal

• rebelmail – send an assignment out on rebelmail, make sure students know that they must check it regularly

• extra-curricular activities – give out checklist of things to do during the semester (go to a play, attend a sporting event, take a paper to the writing center, etc); require one per week

Please note that in many cases, the three goals will overlap. For example, during a lecture on writing, the importance of writing to education in general could be discussed, a biology journal article could be read, and a Writing Center tutor could be invited to give a presentation on what services are offered there.