BIO 309 Syllabus  
Your Body, Your Health, Your Choices  
Spring 2013

Instructor: Drew Case  
Email: drew.case@doane.edu  
Number of credits: 3

Course Description:

BIO 309 is an interdisciplinary course encompassing biology, chemistry, biotechnology, medicine and natural sciences for both science and non-science majors. The course examines the various environmental attacks his/her body is facing on a daily basis. Students will use critical thinking, problem solving, and the scientific method to examine selected topics as they relate to everyday life. After course completion everyone should be able to make more educational choices regarding his/her life style.

Class Dates: March 20, 27, April 3, 10, 17, 24, May 1, and 8th.

Class Times: 6-10 pm

Course Objectives:

- Introduce the student to current issues in biomedical sciences, scientific research and its applications.
- Develop a basic knowledge of the major information resources for scientific disciplines and the research skills to use them.
- Develop problem solving and communication skills essential to communication in health and science.
- Become informed of current science issues and how they relate to your health.
- Understand current issues related to the importance of science education and the public understanding of science. Know how to “keep-up” with biomedical sciences.
- Understand the consequences of biomedical applications to our lives.
- Understand medical science in personal and social perspectives.
- Be able to “apply” what you learn to your life.
Course Activities:

The basic format of the class will be class discussion and participation. Students will be assigned topics (see schedule) to research and present the following week during class. Each week a topic is assigned and then the student is required to determine why that is important for us to learn about, what is relevant for us to know, latest research and theories, and how we can apply their findings to our lives. It is up to the student to determine the best way to present it to the class. The following are methods the student can use to present their findings: PowerPoint, handouts, videos, research articles, and lecture or presentation. The basic principle is to get you (the student) thinking about what is important to know about the topics and how we can apply it to our lives.

Required Text:

There is no required textbook for this course. Students will be responsible for finding and presenting information in class.

Doane College Academic Integrity Policy:

The Doane College Academic Integrity Policy will be adhered to in this class. All projects/presentations must represent your own work. Any use of other’s ideas and words without proper citation of sources is plagiarism and will result in penalties to be determined by the instructor and/or dean of undergraduate studies.

Attendance:

Students are expected to attend every class. Each class is highly interactive and the learning is impossible to recreate in a make-up assignment. Attendance is a large part of your grade (see grading). Doane understands that sometimes, life “happens” and due to circumstances that are out of our control you may not be able to make it to class. In such an event, you must contact the instructor prior to class to explain your absence and make arrangements. Failure to do so will result in the inability to “make-up” the class and impact your grade (see grading). You will be required to complete an additional assignment due the following class. In the event that you miss two or more classes, special arrangements must be made with the instructor to determine if the requirements for passing the course can be met.
Grading:

Grading will be based on attendance, participation/presentation, and write-ups. There will be a total of 300 points for the entire class divided up as follows:

<table>
<thead>
<tr>
<th>Graded Activity</th>
<th>Points each class (total)</th>
<th>Approximate % of Grade</th>
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</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>10 (80)</td>
<td>= 26.66%</td>
</tr>
<tr>
<td>Participation/ presentation</td>
<td>10 (80)</td>
<td>= 26.66%</td>
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<tr>
<td>Papers</td>
<td>20 (140)</td>
<td>= 46.66%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40 (300)</strong></td>
<td><strong>=100%</strong></td>
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**Attendance:**
If students show up on time and stay for the entire class they will get full credit for that day. This is not dependant on participation/presentation, or write-ups. If they are late they can be docked a predetermined amount of points. Due to the structure of this class, it is imperative that students come to class and show up on time. Missed material cannot be made up as the class is based on class discussion. If you are not there you cannot “discuss”.

**Participation/Presentation:**
The most important thing is to come to class. Once you are there is critical to be interactive and participate. You will be graded on how you present your material and how you participate with others presentations. Participation will be considered: asking questions, providing suggestions, offering different points of view, etc. To put it simply, you must “speak”. I expect everyone to get involved in discussion and present their political, religious, social, and economic views of the covered topics. There are no “wrong” points of view.

**Papers or “Write-ups”:**
Format for papers will be covered first night of class.

**Grading Scale:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>A+</td>
<td>95 - 100</td>
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<tr>
<td>A</td>
<td>90 - 94</td>
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<td>B+</td>
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<td>D+</td>
<td>65 - 69</td>
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<tr>
<td>D</td>
<td>60 - 64</td>
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<tr>
<td>F</td>
<td>59 and below</td>
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Class Schedule:

Session 1
Topic: Our Health – Just the “facts”
In this class we will discuss some basic health facts. We will cover things like figuring your BMI, BMR, diet analysis, basic nutrition, water requirements, and sleep. The most important thing we need to do is decide on future topics and plan out the remainder of the course. Future topics are suggested but can be changed with class input at instructor discretion.

Session 2
Is this a problem? Why? What is fact and fiction regarding obesity? Can it be genetic? Is it in our control? Do pills work? Is medication and surgery the solution? What are the various types of surgery available and what are the risks? What are the diets that work and don’t work and why? What are the dangers if any to diets?

Session 3
Topic: Diabetes – Why should we be concerned?
What is diabetes mellitus? Why is it on the rise? What are the short and long term consequences of DM? What are the treatments for DM?

Session 4
Topic: Vitamin supplements – Do they help?
Which ones? Are their risks? Should children be taking multivitamins? Do vitamins do anything applied topically?

Session 5
Topic: Supplements – The “miracle” solution?
“Exercise and energy boosters”, hormones, energy drinks, etc. Do we need them and do they even work? Can we slow aging or even reverse it? Is there research to back the claims? What are the risks if any? Do I need more “testosterone”?

Session 6
Topic: Vaccines – Is this a Government cover-up?
Do they cause autism? Do they work? What are the consequences of not getting them? Do we continue to require them for school? How long have they been around? Where are we getting them?

Session 7
Topic: To be determined first night of class

Session 8
Topic: To be determined first night of class