

# STV203 Fall 2008 Syllabus

Dr. Scott M. Campbell

11 September 2008

## 1 Introduction

### 1.1 Calendar description

#### *Biotechnology and Society*

Biotechnologies are currently migrating from the laboratory to a wide range of consumer products. In everything from foods to pharmaceuticals, genetic engineering is entering daily life. The biotechnology revolution will likely have as much of an impact on our lives as the information technology revolution. However, there is a wide and potentially dangerous gap between research and development on the one hand and societal awareness of its impact on the other. This course is intended to help students gain a deeper appreciation for the issues, including ethics, surrounding biotechnology and society. It will do this through an investigation of such interactions between biotechnologies and society as genetics and the law, foods and the media, and soil remediation and the environment. Consideration will also be given to the role of computing in biotech research and in the human genome project.

Credit weight: 0.5

Pre-requisite: Level at least 2A

### 1.2 Location and Time

#### *RCH 209, Thursday 7-10pm*

Lectures are delivered partially with the aid of slides, which will be available for students to download on ACE before the lectures. However, the slides do not replace student notes, and all students must be prepared to listen and take effective notes.

### 1.3 Instructor

Dr. Scott Campbell, sm2campb@uwaterloo

<http://www.eng.uwaterloo.ca/sm2campb>

Office: E3X 3174 Ext. 35635

Hours: Tuesday 1-3 (or by appointment, please email)

I check email during business hours and will address short questions as quickly as possible, but longer replies may take a day or more. As a general rule, don't expect replies on weekends.

## 2 Course Details

### 2.1 Evaluation

The breakdown of grades for the course this term is as follows. See sections 3, 4, and 5 for more information.

Project	40%
Test 1	20%
Test 2	20%
Participation	20%

### 2.2 Website

Please use UW-ACE for access to lecture slides, assignment details and drop boxes, the course readings, a course discussion forum, and other resources.

### 2.3 Textbook and Readings

The required text for this course is: *Aluizio Borem, Fabricio R. Santos, and David E. Bowen. Understanding Biotechnology. NJ: Prentice Hall, 2003.* It should be available in the UW Bookstore for \$43.99. There may be used copies available elsewhere as it has been used in earlier versions of the course.

Other readings will be assigned weekly, and a full reading schedule will be posted to the course website, along with related questions to consider. Students are expected to have completed each week's readings in advance of the lecture.

### 2.4 Policies

#### 2.4.1 Academic integrity

Plagiarism, cheating, copying and other forms of intellectual dishonesty will be punished to the fullest extent of the appropriate University of Waterloo Student Academic Discipline Policies. The penalties can be quite severe and ignorance is rarely a good excuse.

Students are advised to consult the new UW academic integrity website <http://www.uwaterloo.ca/academicintegrity/index.html> for further details about expectations and possible penalties, and to contact the course instructor for guidance.

**All cases of academic misconduct – even minor ones – will be reported to the appropriate academic dean. There are no exceptions to this rule!**

#### 2.4.2 Late assignments

Each assignment for the project will be penalized 1% from your final overall grade per 24 hour period past the deadline, to a maximum of the overall project value. Consideration may be granted if you contact the instructor before the due date.

**There is no buffer or grace period for assignments submitted electronically.** Give yourself adequate time to finish and submit by the deadline.

### **2.4.3 Attendance**

Attendance will be recorded weekly, and will play a part in your participation grade. If you are sick, it is your responsibility to contact the instructor as soon as possible and provide a medical note.

### **2.4.4 Exceptions and Extensions**

A *University of Waterloo Verification of Illness* form is required if a student is sick and requests an extension or exception.

Otherwise, any exceptions to the above policies will require documentation and, wherever possible, considerable warning. Unplanned family emergencies and illness are generally good reasons for an exception; heavy course loads or a failure to plan ahead are not good reasons.

### **2.4.5 Appeals and regrading**

Grades for all assignments and tests can be appealed, using the following process:

1. Speak with the instructor for more information about the grade you received.
2. Submit to the instructor a written justification explaining why you feel your grade is inappropriate. Email is acceptable.
3. The instructor will regrade the entire assignment or test. The final grade may go up or down.

Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to *UW Policy 70, Student Petitions and Grievances*, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>.

Concerning a decision made under *Policy 33 (Ethical Behaviour)*, *Policy 70 (Student Petitions and Grievances)* or *Policy 71 (Student Discipline)*, a student may appeal the finding, the penalty, or both. Students who believe that they have grounds for an appeal should refer to *Policy 72 (Student Appeals)*, <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>.

## **2.5 Other**

### **2.5.1 Test conflicts**

Other instructors occasionally schedule tests during our official class time. In case of such a conflict, the other instructor is required to make alternate test arrangements for students with a conflict. See *University of Waterloo Examination Regulations and Related Matters*, <http://www.registrar.uwaterloo.ca/exams/ExamRegs.pdf>.

Students are expected to notify their instructors of such conflicts as soon as possible.

### **2.5.2 Students with disabilities**

The *Office for Persons with Disabilities* (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If a student requires academic

accommodations to lessen the impact of their disability, please register with the OPD at the beginning of each academic term.

A student should also contact the instructor as soon as possible if they require academic accommodations.

### 2.5.3 Gender-fair language

Gender-fair or gender-neutral language should be used for all assignments and tests. That is, don't use "man" to refer to "humans", and don't use "he" to refer to a person unless you know that person is male. You may be penalized for failing to use appropriate terms. To familiarize yourself with gender-fair language, see: <http://www.rpi.edu/web/writingcenter/genderfair.html>.

### 2.5.4 Excessive Disruptions

Talking loudly during class or otherwise disrupting the lectures in a way that affects other students will not be tolerated. The use of laptop computers is discouraged unless you are taking notes during the lectures; this is not the time for games, email, or chat.

### 2.5.5 Feedback

Students are encouraged to provide course feedback at all times. Contact the instructor directly, or submit anonymous comments on UW-ACE. Look under the *Lessons* tab for the anonymous feedback drop box. Attempts will be made to address all concerns as soon as possible.

## 3 Project, 40%

The project combines several smaller assignments, and will address one of the issues raised during the course. There are four stages to the project:

<i>Stage</i>	<i>Value</i>	<i>Deadline</i>
1. Choose a topic	0%	Oct. 2
2. Annotated bibliography	10%	Oct. 23
3. Book review	10%	Nov. 6
4. Essay	20%	Nov. 27

Ultimately, the goal of this project is for students to practice their critical reading and writing skills by conducting their own research, developing their own ideas, and strengthening their analytical abilities. These are important skills which are not specific to any particular course, but are universally applicable.

### 3.1 Choose a topic

#### Due: October 2

By the deadline, each student must select their topic from the list provided in class. It is advised that students choose topics of personal interest, rather than one they feel would be easiest. These

can overlap, of course, but experience demonstrates that students gain the most from projects they enjoy at a personal level.

To complete this stage, students must submit their topic and a brief plan (50-100 words) to ACE. The instructor will review each choice and plan, and provide comments. *There is no grade, but the standard late penalty is in effect (see section 2.4.2), and will be applied to the project as a whole.*

Students are encouraged to avoid switching to a different topic at a later date. There will be no penalty, but all stages have to be completed for any topic. For example, if a student completes the annotated bibliography and the book review, but then asks to switch topics, they will have to redo the annotated bibliography and the book review for the new topic before completing the final essay.

If a student encounters difficulty or dissatisfaction with their topic at a later stage, the instructor can work with the student to redirect their project appropriately.

### **3.2 Annotated bibliography, 10%**

**Due: October 23**

After selecting a topic, students should begin their preliminary reading in areas related to the subject. This should include journals, books, magazines, websites or other less traditional sources such as fiction or film. The goal for this assignment is breadth: to acquire a wide stance of knowledge about the chosen topic.

By the deadline, students should assemble an annotated bibliography of *the best* ten sources they have found (not just the first ten). This requires careful reading and judicious selection; Wikipedia articles are almost never appropriate.

There are two conditions for the list of ten sources: no more than three sources of the same type are permitted (i.e.: no more than three journal articles, no more than three books, etc), and at least four of the ten sources must exist off-line.

Your grade will be based on the quality of both selections and annotations. More details about formatting, the two conditions, and grading expectations will be provided in class.

### **3.3 Book review, 10%**

**Due: Nov. 6**

After completing the annotated bibliography, students should select, read and review any book related to their topic (the book does not have to be one from the annotated bibliography). In contrast to the previous assignment, the goal for this assignment is depth: to delve into the details of a particular aspect related to their topic. This suggests that students should avoid choosing textbooks or survey texts designed to provide an overview of a subject, and should instead focus on more narrow texts that examine a particular aspects of your topic.

Further details regarding expectations concerning book selection, review structure, length, and format will be provided in class.

### **3.4 Essay, 20%**

**Due Nov. 27**

Finally, having acquired both breadth and depth, students must write an essay about some particular aspect regarding their chosen topic. This is a formal analytical essay, not a summary or report. That is, students must develop a thesis, sustained by logic and appropriate evidence.

Further details regarding the value, expectations and goals and of this assignment, thesis development, essay structure, length, and format will be provided in class.

### 3.5 Project notes and specifications

All written work must be submitted electronically to ACE by 6pm on the due date.

- There is no grace period for assignments. Any assignment which is submitted to ACE past the deadline will be penalized.
- For the review and the essay, an *identical* paper hardcopy is due in class the day of the deadline.
- All assignment disputes will be resolved with reference to the electronic copy.

Specifications:

- Always include your name, student ID, date, page numbers, and a title (a title page is unnecessary).
- All documents should employ 12-point, Times Roman font, 1" margins, and be double-spaced. This corresponds roughly with 250-300 words per page.
- Include a word count at the end of your assignment. Notes and the bibliography should not be included in the count.
- All assignments must include citations (footnotes, endnotes, or in-text) and a bibliography. References must be consistent and must employ a known citation style.
- Improper citation style, failure to include a bibliography, and references to Wikipedia are all grounds for failing an assignment.

### 3.6 Writing Assistance and Guidance

A folder on ACE contains a series of documents with advice on writing, tailored for students taking STV courses.

Although STV courses are intended primarily to offer an opportunity to explore ideas, a secondary consideration when grading assignments is to evaluate the ability of students to express themselves coherently. Thus, proper style, spelling, grammar, and formatting are expected. It is also expected that students will defend their ideas with suitable references and evidence, without vast generalizations or unsubstantiated accusations or claims.

Students should contact the instructor for some assistance in these areas, but this is not an English course, so minimal time can be spent by the instructor addressing these aspects of writing. Instead, the English Language Proficiency Program offers assistance for students who are weak in these areas. Visit the Writing Centre in the PAS building <http://elpp.uwaterloo.ca/writingcentre.html>. They are not a proofreading service, but will help all undergraduates with their writing skills.

## 4 Tests, 40%

### Oct 16 and Nov 27, 20% each

There will be two in-class tests, worth 20% each. Each will be two hours, closed-book, and (mostly) non-accumulative. They are primarily concerned with the concepts from the course, but will also include short, factual questions designed to test a student's basic knowledge.

Further details will be made available in class and on ACE.

## 5 Participation, 20%

One of the overall goals for this course is to learn to appreciate the perspective of others. As such, students will get a chance to share their own responses to the course material with other students, and learn from other students in return.

Although not a seminar course, a considerable amount of the lecture time each week will be devoted to class discussion. Students are expected to prepare by reading the assigned material, studying the accompanying questions, and preparing discussion material of their own.

As such, participation in each week's discussion will be monitored, in terms of both quantity and quality of a student's contributions. Remember, however, that discussion requires everyone to do three things: to talk, to think, and *to listen*.

Attendance, as noted above, will also play a role in the final participation grade.

### 5.1 Discussion Board

Look on ACE for the discussion board under the *Lessons* tab. It is there for students to discuss the course material, post links to interesting events or items in the news, or ask administrative questions. Students who have difficulty speaking during the lectures and are concerned about their participation grade should make use the discussion board.

## 6 Schedule

This is the tentative schedule. As we move through the term, external or internal events may lead to changes to the course content, but the assignment deadlines and test dates are fixed.

Date	Deadline or Event	Lecture Topic
Sept. 11		0. Welcome
Sept. 18		1. Biotechnology, Society and Values
Sept. 25		2. Agriculture and Nutrition
Oct. 2	Due: Topic selection	3. Biodiversity and Remediation
Oct. 9		4. Gene Therapy/Eugenics
Oct. 16	Test 1	
Oct. 23	Due: Annotated bibliography	5. Cloning and Medicine
Oct. 30		6. Business and Policy
Nov. 6	Due Book review	7. Law and Security
Nov. 13		8. Biological war
Nov. 20		9. Progress
Nov. 27	Test 2, and Essay due	

Final grades will be uploaded to Quest when the marking is completed – please don't ask when, this is impossible to predict. Also note that final grades will be rounded by ACE and Quest using a round-to-even method, which is more fair statistically, but perhaps not what you are used to.

See <http://www.quest.uwaterloo.ca/undergraduate/dates.html> for more information regarding university dates for drop deadlines and related penalties.