

Course Syllabus

Course SCI 5V06 – Critical Issues in Biology
Professor Mark A. Bloom
Term Summer 2007 – 07U
Meetings Tuesdays and Thursdays – 1:00-6:00

Professor Contact Information

Office Phone 817.605.6979
Other Phone 817.944.0550
Office Location By appointment in The Pub
Email Address M.bloom@tcu.edu
Office Hours By Appointment
Other Information

Course Pre-requisites, Co-requisites, and/or Other Restrictions

None

Course Description

Pre-requisites, Co-requisites, & other restrictions	None
Course Description	The course "Contemporary Issues in Biology" is designed for students interested in cross-disciplinary applications of biology content. The course focuses on the exciting contemporary issues in biology ranging across the subdisciplines of molecular biology, physiology, evolution and environmental science. Students will be able to discuss and evaluate course issues. Examples of issues covered in the course include: the Human Genome Project, DNA Fingerprinting, Cloning, Drug Addiction, Antibiotic Resistance, AIDS, Human Evolution, Acid Rain, Global Warming and the Ozone Hole. The lecture portion of the course focuses on the biological concepts underlying issues presented in readings from Time Magazine, U.S. News and World Report and Newsweek. Each lab is conducted in the computer laboratory and consists of topics examined by introductory videos and web searches.
Student Learning Objectives/Outcomes	
Required Texts & Materials	Popular press readings will be provided to you

**Suggested Texts,
Readings, & Materials**

None Required

Required Textbooks and Materials

Will be provided by instructor

Suggested Course Materials

Will be provided by instructor

Assignments & Academic Calendar

(Topics, Reading Assignments, Due Dates, Exam Dates)

Section I

Day 1 – Tuesday, June 26

Lecture-Introduction/Expectation/Nature of science

Lecture-Menopause and Hormone Replacement Therapy

Popular Press Reading: *The Hormone Dilemma*. Christine Larson. U.S. News & World Report. March 6, 2006.

Lecture-Prostate Cancer

Popular Press Reading: *Prostate Cancer's Difficult Choices*. Karen Springen and Jerry Adler. Newsweek. June 16, 2003.

Lab 1- The Web as a Scientific Resource

Popular Press Reading 1: *The Web Docs*. Time, April 3, 2000

Popular Press Reading 2: *Hunting for health*. Katherine Hobson. U.S. News & World Report, November 17, 2003.

Lab 2-Breast Cancer

Popular Press Reading: *Rethinking Breast Cancer*. Christine Gorman. Time, February 18, 2002.

Day 2 – Thursday, June 28

Assignments Due – Labs 1 & 2

Lecture-DNA and the Human Genome Project

Popular Press Reading: *Mother Nature's DNA*. Michael Lemonick, Laura Locke and Melissa August. Time, June 20, 2005.

Lecture-Human Development/Stem Cells

Popular Press Reading 1: *Nancy's Next Campaign*. Claudia Kalb and Debra Rosenberg. Newsweek, June 21, 2004.

Popular Press Reading 2: *The Stem Cell Challenge*. Robert Lanza and Nadia Rosenthal. Scientific American, June 2004.

Lecture-Individuality and Cloning

Popular Press Reading 1: *Dolly's False Legacy*. Ian Wilmut. Times, January 11, 1999.

Popular Press Reading 2: *Send in the clones?* US News & World Report, August 20, 2001.

Lecture-Genetic Disorders/Gene Therapy

Popular Press Reading: *Good Eggs, Bad Eggs*. Frederic Golden. Time, January 11, 1999.

Lab 3-Human Reproduction & Teratogens

Popular Press Reading: *Cycle of Shame*. Jeff Glasser. US News & World Report, May 20, 2002.

Lab 4-DNA Fingerprinting

Popular Press Reading: *DNA Detectives*. Jeffrey Kluger. Time, January 11, 1999

Day 3 – Tuesday, July 3

Assignments Due – Labs 3 & 4

Section I Exam (lectures & labs) – 18.75% of your total grade

Section II Begins

Lecture-Eating Disorders and the Digestive System

Popular Press Reading 1: *The Hunger Artists*. Emily Sohn. US News & World Report, June 10, 2002.

Popular Press Reading 2: *Weighing the Risks*. Betsy Streisand. U.S. News & World Report, March 27, 2006

Lecture-The Heart, Liver and Alcohol

Popular Press Reading: *When Drinking Helps*. Janet Raloff. Science News, March 8, 2003.

Lecture-Heart Disease

Popular Press Reading: *Blowing a Gasket*, Jeffrey Kluger, Time, December 6, 2004.

Lab 5-Ulcers and the Digestive System

Popular Press Reading: *Prescriptions: How your doctor makes the choice*. Joseph P. Shapiro, Stacey Schultz. US News & World Report, February 19, 2001

Day 4 – Thursday, July 5

Assignments Due – Lab 5

Lecture-Smoking, Emphysema and Lung Cancer

Popular Press Reading: *The Deadliest Cancer*. Geoffrey Cowley and Claudia Kalb, Newsweek, August 22, 2005.

Lecture-Diseases of the Endocrine System

Popular Press Reading: *The Silent Killer*. Joannie Schrof. U.S. News 7 World Report, April 12, 1999.

Lecture-Parasites and Disease

Popular Press Reading: *A Disease in Disguise*. Geoffrey Cowley and Anne Underwood. Newsweek, August 23, 2004.

Popular Press Reading: *Death by Mosquito*. Christine Gorman. Time, July 26, 2004

Lab 6-Weight Control and Diet Drugs

Popular Press Reading: *Weight Gain and Loss*. Harvard Health Letter, March 2001.

Lab 7- STD's

Day 5 – Tuesday, July 10

Assignments Due – Labs 6&7

Section II Exam (lecture & lab) –18.75% of your total grade

Section III Begins

Lecture-Immune System, part 1

Popular Press Reading: *Anatomy of an Outbreak*. Jeffrey Kluger. Time, August 3, 1998.

Lecture-Immune System, part 2

Popular Press Reading: *Can We Kiss the Polio Scourge Goodbye?* Leslie Roberts. US News & World Report, August 30, 1999.

Lecture-HIV Infection and AIDS

Popular Press Reading: *Cruel Lessons from an Epidemic*. Nell Boyce. US News & World Report, June, 2001.

Lab 8- Origin of HIV

Lab 9-Emerging Diseases

Popular Press Reading: *How Progress Makes Us Sick: Advances that Make Life More Comfortable Can Also Make It More Dangerous*. Geoffrey Cowley. Newsweek, May 5, 2003.

Day 6 – Thursday, July 12

Assignments Due – Labs 8 & 9

Lecture-The Nervous System and Drug Addiction

Popular Press Rea: *Addicted: Why Do People Get Hooked?* Madeleine Nash. Time, May 5, 1997.

Lab 10 -Brain and Alzheimer's Disease

Popular Press Reading: *Memory Loss: When to Seek Help*. MayoClonic.com

Section IV Begins

Lecture-Origin & Evolution of Life on Earth

Popular Press Reading: *A Debate that Does Not End*. Newsweek, July 4, 2005.

Popular Press Reading: *The Evolution Wars*. Claudia Wallis. Time, August 15, 2005.

Lab 11-Human Evolution

Popular Press Reading: *The 'Gang' Hits Again*. Time, April 2, 2001.

Popular Press Read: *Hominid Tree Gets Trimmed Twice*. B. Bower. Science News, May 3, 2003

Day 7 – Tuesday, July 17

Assignments Due – Labs 10 & 11

Section III Exam (lecture & lab) – 18.75% of your total grade

Lecture-Agricultural Systems and Transgenic Organisms

Popular Press Reading: *Cures on the Cob*. Margot Roosevelt. Time, May 26, 2003.

Lecture-Pesticides and Organic Farming

Popular Press Reading: *Certified Organic*. Geoffrey Cowley. Newsweek, September 30, 2002.

Lecture-Acid Rain and Fishless Lakes

Popular Press Reading: *Acid Rain: Forgotten, Not Gone*. Leslie Roberts. U.S. News & World Report, November 1, 1999. (Search tip: enter “Leslie Roberts acid rain” as keywords)

Lecture-Exotic Species and the Environment

Popular Press Reading: *A Long, Slow Autumn*. Jessica Ruvinsky. U.S. News & World Report, September 9, 2002.

Day 8 – Thursday, July 19

Lecture-Ozone Hole and Global Warming

Popular Press Reading: *Polar Ice Caps Are Melting Faster Than Ever... More And More: Land Is Being Devastated By Drought... Rising Waters Are Drowning Low-Lying Communities... By Any Measure, Earth Is At ... The Tipping Point The climate is crashing, and global warming is to blame. Why the crisis hit so soon--and what we can do about it.* Jeffrey Kluger. *Time*, April 3, 2006.

Lab 14-Global Warming

Popular Press Reading: *Life In the Greenhouse*. Time, April 9, 2001.

Assignment Due – Lab 14

Section IV Exam – 18.75% of your total grade

Grading Policy

(including percentages for assignments, grade scale, etc.)

and

Course & Instructor Policies

(make-up exams, extra credit, late work, special assignments, class attendance, classroom citizenship, etc.)

Grading (credit) Criteria	Grading: Tardiness or absenteeism from class and/or lab will affect your grade adversely. Each <i>lab</i> will have a study guide and quiz, the average of which will account for 25% of your grade. Exams (lecture and lab) 4 @ 18.75% 75% Lab quiz/Lab Guide (each week) 25%
Make-up Exams	Make-up Exams will only be given with prior approval of the instructor or due to university related absences. Any other emergency situations will be dealt with on a case by case basis
Extra Credit	tba
Late Work	Late work will only be accepted with prior approval of the instructor or due to university related absences. Any other emergency situations will be dealt with on a case by case basis
Class Attendance	Each day of class is equivalent to two weeks during a regular academic semester. Missing any class will most likely be detrimental to your grade. Attendance at all class meetings is HIGHLY recommended.
Classroom Citizenship	Students are expected to present themselves as professionals and work in a cooperative learning environment

Technical Support

If you experience any problems with your UTD account you may send an email to: assist@utdallas.edu or call the UTD Computer Helpdesk at 972-883-2911.

Field Trip Policies

Off-campus Instruction and Course Activities

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD printed publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Series 50000, Board of Regents, The University of Texas System*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391) and online at <http://www.utdallas.edu/judicialaffairs/UTDJudicialAffairs-HOPV.html>

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic Dishonesty, any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another

person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Copyright Notice

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials, including music and software. Copying, displaying, reproducing, or distributing copyrighted works may infringe the copyright owner's rights and such infringement is subject to appropriate disciplinary action as well as criminal penalties provided by federal law. Usage of such material is only appropriate when that usage constitutes "fair use" under the Copyright Act. As a UT Dallas student, you are required to follow the institution's copyright policy (Policy Memorandum 84-I.3-46). For more information about the fair use exemption, see <http://www.utsystem.edu/ogc/intellectualproperty/copypol2.htm>

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog.

Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or

committee with whom the grievance originates (hereafter called “the respondent”). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent’s School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean’s decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester’s end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:

The University of Texas at Dallas, SU 22

PO Box 830688

Richardson, Texas 75083-0688

(972) 883-2098 (voice or TTY)

disabilityservice@utdallas.edu

If you anticipate issues related to the format or requirements of this course, please meet with the Coordinator of Disability Services. The Coordinator is available to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Services to notify them of your eligibility for reasonable accommodations. Disability Services can then plan how best to coordinate your accommodations. It is the student’s responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations.

Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.