

May Simaan

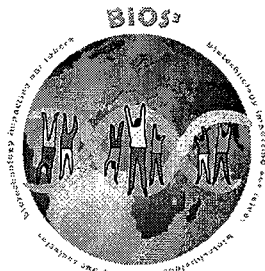
From: Eric Grotzinger [eg1b@andrew.cmu.edu]
Sent: Tuesday, October 09, 2007 5:54 PM
To: 'May Simaan'
Subject: College Council Item
Attachments: BIOS3 Syllabusfinal.doc

Request for approval of 38-210 **B.I.O.S.³: Biotechnology Impacting Our Selves, Societies and Sphere**

In the fall semester 2005, Indira Nair requested proposals from each college for courses that would address globalization in our curriculum. At the request of Dean McCullough, Amy Burkert, Bill Brown and Eric Grotzinger submitted a proposal for a course entitled **B.I.O.S.³: Biotechnology Impacting Our Selves, Societies and Sphere**. This course was approved and funded. A module was offered in the Spring 2007 semester. We offered it as a pilot course with the course number 03-210, 6 units, Independent Study. We had enrollment of 19 students. We want to offer this course again in Spring 08 as an interdisciplinary course in MCS. The syllabus is attached.

Eric Grotzinger
Associate Dean
Mellon College of Science
Carnegie Mellon University
Doherty Hall 1324
Pittsburgh, PA 15213
412-268-6679
412-268-5146 (Fax)

10/10/2007



B.I.O.S.³:
***Biotechnology Impacting Our Selves,
Societies and Sphere***

SYLLABUS
B.I.O.S.³ Module 1 Pilot
03-210 A4
Spring, 2007

Course Description:

The biotechnology era has begun and its impact is being felt at multiple levels that range from individual effects to global concerns. Vocabularies are expanding to include words such as stem cells, genomes, SARS and anthrax while hearts and minds are grappling with related issues such as human cloning, DNA profiling, epidemic control and bioterrorism. Emerging infectious diseases have no respect for national boundaries and challenge our knowledge, resources and personal well-being. Understanding and responding to such personal, societal and global challenges requires a level of scientific literacy currently deficient in much of the general citizenry. In addition, scientists of the future must be able to apply their disciplinary knowledge within the context of relevant ethical, legal and societal influences. "**B.I.O.S.³: Biotechnology Impacting Our Selves, Societies and Sphere** is a course on biotechnology literacy and decision making in a global context. The guiding framework of the course curriculum design is centered on an application of the principles of the central dogma of biotechnology. The approach can be described as the "transcription" of core knowledge into context followed by the "translation" of that knowledge into global perspective and personal action. The course will involve the development and implementation of core topic modules. The first module piloted will focus on HIV/AIDS.

Instructors:

Amy L. Burkert, Ph.D.
DH 1319
ak11@andrew.cmu.edu

Eric W. Grotzinger, Ph.D.
DH 1324
eg1b@andrew.cmu.edu

William E. Brown, Ph.D.
Qatar Campus
wb02@andrew.cmu.edu

Course Objectives:

- 1) To help students become familiar and comfortable with a subset of the S&T core knowledge that is part of the global biotechnology revolution.
- 2) To encourage students to gain an appreciation of the social and cultural contexts which are involved in biotechnology and the impact possible at the individual, societal and global levels.
- 3) To join students and faculty into a learning team, facile with the process of demystifying biotechnology, exploring it in multidisciplinary contexts and then applying that knowledge in a global context through decision making, experiential learning and community service.
- 4) To equip students to understand the influence of science in global contexts as well as the influence of the global contexts on science.

Course schedule:

Course Meeting #	Date and Time	Topic	Focus
1	3/20 6:30 PM	Introduction	
2	3/27 6:30 PM	HIV/AIDS Science	Core Science
3	4/3 6:30 PM	HIV/AIDS Science	Diagnosis & Treatment
4	4/4 7:30 AM	HIV/AIDS Context	Global Context
5	4/10 6:30 PM	TEAM TIME	
6	4/17 6:30 PM	HIV/AIDS Context	Local Context
7	4/24 6:30 PM	HIV/AIDS Application	AIDS Task Force Service
8	5/1 6:30 PM	Team Project Presentations	

<u>Assessment/Grading:</u>	<u>Points</u>	<u>Due Date</u>
Pretest Assessment	5 pts	3/20 in class
Science Core Quiz	15 pts	by 3/31 at 1 AM
Team Module Topic and Bibliography	5 pts	4/3 in class
Technology Quiz	15 pts	by 4/7 at 1 AM
Position Paper	15 pts	by 4/25 at 1 AM
Reflection Paper	10 pts	by 5/4 at 1AM
Participation/Discussion	10 pts	8 classes + ?s/discussion
Team Project Presentation	5 pts	5/1 in class
Team Project Report	10 pts	5/1 in class
Post test Assessment	<u>5 pts</u>	5/1 in class
	100 pts total	