

BMS 199
 New Frontiers in Biomedical Sciences: Everyday medicine
Registration 24536
UB Seminar - 3 credits
Fall 2016

COURSE INFORMATION

Lecture: Tuesday 10:00-11:20 AM
 Crosby 301
 3 credits

Lecturer

Dr. David Shubert, Assistant Dean
Shubert@buffalo.edu
 716-829-2800
 Biomedical Sciences

Recitation Section- Bioinformatics

Thursday 1:00-2:20pm

Deifendorf 207

Biomedical Informatics

Dr. Werner Ceusters, Professor (with tenure)
ceusters@buffalo.edu

Course Coordinator:

Shannon M. Brown- Academic Advisor
smbrown3@buffalo.edu
 716-829-5451

COURSE DESCRIPTION

Students will engage with topics on medicine and health that relate to their everyday lives. The topics discussed will be pulled from the news and current events. These topics will encompass subjects we encounter either in our daily lives or as a larger community.

Students will learn how to review articles from a scientific point of view and look at topics of health in the news from the perspective of a health professional. Small group recitations will be taught by a department within the school of medicine and topics will be examined through the lens of those individual departments. Subject areas will range from the cold flu, and Zika viruses to more controversial topics like medical marijuana, environmental hazards, and rising cost of health care. Students will have the opportunity to engage with the material under the guidance of medical school departments such as pharmacology & toxicology, biomedical informatics, microbiology, physiology and clinical lab sciences.

STUDENT LEARNING OUTCOMES

Having completed a UB Seminar, students will be able to:

Course Learning Outcome	Maps to the Following Program Outcomes / Competencies:	Delivered through the Following Instructional Method(s):	Student Achievement Assessed with the Following Method(s)/Assignments:
1. Think critically using multiple modes of inquiry.	UBGE, SUNY Critical Thinking, MSCHE Critical Analysis and Reasoning	Discussion; assigned reading and writing	Discussion; written work

Course Learning Outcome	Maps to the Following Program Outcomes / Competencies:	Delivered through the Following Instructional Method(s):	Student Achievement Assessed with the Following Method(s)/Assignments:
2. Analyze disciplinary content to identify contexts, learn fresh perspectives, and debate and discuss problems in the field.	UBGE, SUNY Information Literacy	Lecture, discussion and assigned reflections on reading	Participation in discussion; quality of thought in brief written reflections
3. Understand and apply the methods of close reading, note taking, analysis, and synthesis.	UBGE, SUNY Critical Thinking, MSCHE Critical Analysis and Reasoning	Lecture, assigned essays, & discussion. Reflection will also require synthesis and analysis	Participation in discussion; written article review and structured class discussions.
4. Recognize and debate ethical issues and academic integrity in a variety of settings.	UBGE, MSCHE Values, Ethics, & Diverse Perspectives	Participation in small group discussions and presentations. Informal and formal writing assignments	Participation in small group discussions and presentations. Informal and formal writing assignments
5. Demonstrate proficiency in oral discourse and written communication.	UBGE, SUNY Basic Communication, MSCHE Oral and Written Communication	Informal and formal writing	Scientific article reviews, small group discussions, large group presentations
6. Develop essential research and study skills such as time management.	UBGE, SUNY Information Literacy	Lecture, modeling, practice in preparing course work	Article review Panel Discussion Time management log Small group discussion
7. Utilize the eportfolio for at least one assignment.	UBGE, SUNY Information Literacy, MSCHE Technological Competency	Discussed and modeled	Article Review (and presentation)
8. Understand the academic expectations pertaining to studentship at the University at Buffalo and to higher learning at a research university.	UBGE	Topic addressed in lecture and addressed in written reflections	All written assignments and class discussion

Note: *This course meets or contributes to meeting the SUNY General Education Requirements (GER) for Critical Thinking, Information Literacy, and Basic Communication: ([SUNY website](#)), as well as areas of general education required by the Middle States Commission on Higher Education.

COURSE REQUIREMENTS

Students must attend and participate in class discussions

- All assignment must be completed on time. Late or make-up assignments will not be accepted.
- Attend class regularly and participate in class discussion. Excused absences are limited to school sanctioned event or religious observation. Learning outcomes: 1,2,3,4,5,8
- Reflections will be brief assignments usually in a short paragraph reflecting on assigned reading and addressing questions posed for discussion. Reflections should demonstrate analytical and thoughtful reading as well as a synthesis of ideas that can later be used for longer assignments. Reflections will be due at the end of recitation. Learning outcomes, 1,2,3,4,5,

- Panel Discussion: group written assignment and presentation. Each student will collect analyze and synthesize articles for use during the group presentation. Groups must evaluate a minimum of 5 articles. Groups will be evaluated by the instructor based on their overall presentation as well as by their peer through a participation rubric, learning outcomes 2,3,5,
- Article reviews should show analytical and thoughtful reading. Learning outcomes 2,3,5,7
- Complete time management log with reflection. Students will select a pre-requisite course for their major. They will complete a weekly log on; time spent studying, class time, etc. for that course and turn it in with a reflection on how they managed their time, what they would change and what tactics they employed or wish they had used. learning outcome 6
- Final Assignment: Write a brief reflection on what do you want to do and why?

Assigned Readings

- 50 Years: The Keafauer-Harris Amendments (2012). Retrieved from <http://www.fda.gov/Drugs/NewsEvents/ucm320924.htm>
- Pfeiffer, Eric (2013). Study says e-cigarettes may contain carcinogens similar to regular cigarettes. Yahoo news. Retrieved from <http://news.yahoo.com/blogs/sideshow/-study-says-e-cigarettes-contain-carcinogens-similar-to-regular-cigarettes--205045093.html>
- Potarazu, Sreedhar (2015). Rising Cost of Prescription Drugs Threaten Health Care Gains. CNN. Retrieved from <http://www.cnn.com/2015/08/26/opinions/potarazu-drug-price-hikes/>
- *Study Shows marijuana's long-term effects on the brain* (2014), Center for Brain Health. Retrieved from http://www.brainhealth.utdallas.edu/blog_page/study-shows-marijuanas-long-term-effects-on-the-brain
- Medical Marijuana: A Primer on Ethics, Evidence, and Politics (2014), Journal for Nurse Practitioners. Retrieved from <http://www.medscape.com/viewarticle/833782><http://www.drugdiscountcardinfo.com/argusredirect.taf>.
- <http://www.buffalowater.org/quality/waterqualityreports>.

GRADING POLICY

Learning assessments will be graded based on rubric criteria and weighted according to the following break-down.

Weighting	Assessment / Assignment
40%	Attendance and Participation in discussion
20%	Articles/videos
10%	Microbiology
5%	Library Roadmap
10%	Time management log
10%	Personal Statement

Final Grades:

Grade	Quality Points	Percentage (EXAMPLE)
A	4.0	93.0% -100.00%
A-	3.67	90.0% - 92.9%
B+	3.33	87.0% - 89.9%
B	3.00	83.0% - 86.9%
B-	2.67	80.0% - 82.9%
C+	2.33	77.0% - 79.9%
C	2.00	73.0% - 76.9%
C-	1.67	70.0% - 72.9%

Grade	Quality Points	Percentage (EXAMPLE)
D+	1.33	67.0% - 69.9%
D	1.00	60.0% - 66.9%
F	0	59.9 or below

Incompletes (I/IU)*: A grade of incomplete (“I”) indicates that additional course work is required to fulfill the requirements of a given course. Students may only be given an “I” grade if they have a passing average in coursework that has been completed and have well-defined parameters to complete the course requirements that could result in a grade better than the default grade. An “I” grade may not be assigned to a student who did not attend the course.

Prior to the end of the semester, students must initiate the request for an “I” grade and receive the instructor’s approval. Assignment of an “I” grade is at the discretion of the instructor.

The instructor must specify a default letter grade at the time the “I” grade is submitted. A default grade is the letter grade the student will receive if no additional coursework is completed and/or a grade change form is not filed by the instructor. “I” grades must be completed within 12 months – see the [Incomplete Grade Policy](#) for the schedule. Individual instructors may set shorter time limits for removing an incomplete than the 12-month time limit. Upon assigning an “I” grade, the instructor shall provide the student specification, in writing or by electronic mail, of the requirements to be fulfilled, and shall file a copy with the appropriate departmental office.

Students must not re-register for courses for which they have received an “I” grade

ACADEMIC INTEGRITY

Academic integrity is a fundamental university value. Through the honest completion of academic work, students sustain the integrity of the university while facilitating the university's imperative for the transmission of knowledge and culture based upon the generation of new and innovative ideas.

- Reference to the university [Undergraduate Academic Integrity Policy](#) and any additional instructor requirements and comments regarding academic dishonesty.

ACCESSIBILITY RESOURCES

If you have any disability which requires reasonable accommodations to enable you to participate in this course, please contact the Office of Accessibility Resources, 25 Capen Hall, 645-2608, and also the instructor of this course. The Office of [Accessibility Resources](#) will provide you with information and review appropriate arrangements for reasonable accommodations.

Date	Topic	Readings
Tuesday August 30 th	Introduction to the course. Review of UBLearns Discuss Academic Integrity	
Thursday September 1 st	Review of Study Skills/ Time management Students will complete a HS Vs. College matching exercise to examine the differences between what is expected (academically) of a HS student Vs. College Student. Students will complete a Study-Skill self-assessment. After completing the assessment the class (as a whole) will review students	Time management log and reflection (due end of the semester)

* Undergraduate Only

	<p>responses to questions and possible implications.</p> <p>Direct Instruction: Students will learn how to create study guides</p>	
Tuesday September 6 th	<p>Ethics: What does ethics mean in Medicine and research?</p> <p>Students will discuss the meaning of academic integrity. They will review the academic integrity policy of the university. Students will be broken into small groups and asked to review scenarios in which students violated the policy. They will be tasked with formulating alternative actions that do not violate the policy.</p> <p>Students will engage in a large group discussion relating academic integrity to larger ethical issues (specifically in medicine).</p>	Medical Marijuana: Scholarly Roadmap (due 9/6)
Thursday September 8 th	<p>Presented by: Nell Aronoff & Elizabeth Stellrecht</p> <p>Plagiarism and Library resources</p>	
Tuesday September 13 th	<p>Discussion Topic: Health effects of Stress</p> <p>TED Talk: Nancy Etcoff- Science of Happiness</p>	
Thursday September 15 th	<p>Discuss scientific writing with examples</p> <ul style="list-style-type: none"> - Break students into groups and assign article. - Students will give synopsis on abstract and introduction, methods, results and discussion. 	
Tuesday September 20 th	<p>Discussion Topic: Flu Virus and Flu Shot. What is it and how does it impact you?</p>	
Thursday September 22 nd	<p>Establish E-Portfolio</p>	Students will be required to complete some e-portfolio assignments in class
Tuesday September 27 th	<p>Virology: "Vaccines: a health savior or a danger?"</p>	Check UBLearns for assignments

Thursday September 29th	Virology: "Vaccines: a health savior or a danger?" Cont'd	See assignment details in UBLearns
Tuesday October 4 th	Bacteriology- Covered by Microbiology	Read: Study says e-cigarettes may contain carcinogens similar to regular cigarettes (due 10/11)
Thursday October 6 th	Bacteriology- Covered by Microbiology	
Tuesday October 11	E-cigarettes and carcinogens	
Thursday October 13	E-cigarettes in diagnostic classifications. The International Classification of Diseases (ICD) is by law required to be used as a standard code set for documenting diagnoses. ICD is developed by the World Health Organization which offers an online browser for finding the most accurate code(s) that correspond to the condition(s) a clinician wants to report on (http://apps.who.int/classifications/icd10/browse/2016/en#). E-cigarettes are not yet represented in that system. Students will explore how to use this browser, develop search strategies for finding acceptable related codes and identify issues in interpreting ICD in function of what they want to document about patients with different types of e-cigarette use.	watch https://www.youtube.com/watch?v=b694exl_oZo as well as https://www.youtube.com/watch?v=CgOcEZinQ2I&feature=share&list=FLwikA_t8e6TSJW-L-IAHkKw prior to this recitation and bring to class a proposal for criteria that would allow one to say that something is alive.
Tuesday October 18 th	Zika, West Nile and other mosquito borne viruses	
Thursday October 20 th	Are viruses alive? The question has received various answers since their discovery. Students will engage in a group discussion on what would constitute criteria for being alive and methods to test which criteria apply to what sort of life-forms.	Prior to 10/27 access http://www.drugdiscountcardinfo.com/argusredirect.taf . They must perform enough searches on drugs, thereby playing with different drugs, quantities and zip-codes, to be able to demonstrate what pricing policies are used by distinct pharmacies and to provide arguments whether location is an important factor for price setting within specific brands of pharmacies.
Tuesday October 25th	Rising Cost of Prescription Drugs	
Thursday October 27 th	Students will discuss problems encountered with the interface, strategies they used to come up with answers to the assignment, and	Prior to 11/3 access http://www.buffalowater.org/quality/waterqualityreports . They should from the reports available

	how the insights obtained might be used to advise friends and family about the usefulness of that website.	accumulate the information on at least five detected non-organic contaminants in a spreadsheet and produce graphs showing the changes in concentration levels of these contaminants over the past 20 years.
Tuesday November 1 st	lecture Topic: Flint Michigan: Health effects of Lead poisoning	Find scientific article and news article to compare and contrast. Topic: Lead Poisoning
Thursday November 3 rd	Assessing the water quality of Buffalo NY over the past 20 years. Students will demonstrate and discuss the methodology they used to arrive at their results. See assignment.	Read article: Study shows marijuana's long-term effects on the brain due 11/8
Tuesday November 8 th	Discussion Topic: Open discussion and presentation on the therapeutic uses of Marijuana and how it exerts its biological effects.	
Thursday November 10 th	Perception and reality. Discussion on sensory input, perception and observation. How things can go wrong: illusions, hallucinations, oversight. Introduction to accurate terminology and elements of philosophy of science related to observations.	Read: Medical Marijuana: A Primer on Ethics, Evidence, and Politics Due 11/15
Tuesday November 15 th	Discussion Topic: Ethics of Medical Marijuana	
Thursday November 17 th	A large provider organization recently published a search for a Chief Medical Informatics Officer (CMIO). The announcement includes the following: 'XXX is an equal opportunity employer. Hiring decisions are made without regard to race, color, religion, national origin, sexual orientation, gender identity, disability or veteran status. EOE/AA/M/F/D/V. XXX is a smoke-free, drug-free workplace. All employment offers are contingent upon acceptable pre-employment drug tests which include testing for the use of marijuana and nicotine.' This recitation will consist of a number of role playing sessions in each of which one candidate will be interviewed by a panel of three human resource managers. Each session will be followed by a discussion about what was asked and answered in light of possible ethic and legal issues.	

Tuesday November 22	Personal Wellness- Guest Speaker: Wellness Services	
Thursday November 24 th	No Class Thanksgiving	
Tuesday November 29 th	Panel Discussion: MD, PhD, What's required ?	
Thursday December 1 st	1) The many faces of healthcare. Panel discussion about the large variety in careers possible in healthcare: clinical, research, administration, informatics, management, etc. 2) The art of writing personal statements	To be returned by December 8, students will write a personal statement (1/2 page, Times Roman 10p, letter 1 inch margin, single spaced) for one of the career choices that were discussed during the recitation.
Tuesday December 6th	CTE: the NFL and Concussions Guest Speaker: Athletic Training	
Thursday December 8th	Course wrap-up	Final Assignment Due

COURSE MATERIALS

- Copies of articles as well as Syllabus and faculty contact information will be available on [UBlearns Blackboard](#) site.

Due Date	Assignments/Readings
9/6	Scholarly Research Roadmap
9/27	Familiarize yourself with definitions provided by Microbiology (Find list of words on UBLearns)
9/28	Submit written assignment on one of four topics provided. See UBLearns for assignment details
10/11	Read: Study says e-cigarettes may contain carcinogens similar to regular cigarettes
10/13	Time Management Log
10/20	You Tube Videos/Assignment
10/25	Read: Rising Cost of Prescription Drugs Threaten Health Care Gains.
10/27	Drug Discount Card Info Assignment
11/1	Compare and Contrast Articles
11/3	Non-Organic Contaminants
11/8	Read: Study shows marijuana's long-term effects on the brain
11/15	Read: Medical Marijuana: A Primer on Ethics, Evidence and Politics
12/8	Personal Statement