



BIOL 301.3 COURSE SYLLABUS

COURSE TITLE:	Critical Issues in Biology	TERM:	Fall 2017
COURSE CODE:	BIOL 301 (CRN 87155)	DELIVERY:	Lectures/Tutorials
COURSE CREDITS:	3 cu	START DATE:	September 7, 2017
CLASS SECTION:	01	TUTORIALS:	Rm123/124 Biology Bldg
CLASS LOCATION:	Rm155 Geology Bldg	TUT. TIME:	1:30 – 4:30 p.m. (M, T, W)
CLASS TIME:	10:00 – 11:20 a.m., Tuesday/Thursday		
WEBSITE:	further information accessed through Course Tools		

LECTURERS: **D.P. Chivers (Coordinator)**
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LABS: **Marlene Mahoney**
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Teaching Assistants:
TBA

COURSE DESCRIPTION:

An ability to think critically is essential for individuals to function effectively in society. Critical thinking allows us to make rational decisions about what to do and what to believe, understand high-level biological concepts, to give you an introduction to critical global issues that will affect the world in your adult life time, to stimulate your ability to develop logical opinions, and to improve your written and oral communication skills.

ANTICIPATED LEARNING OUTCOMES:

This course is intended for you to learn about issues of importance that will affect all of our lives, and to develop the tools for rational responses to those issues. The course is designed with both lecture and tutorial components. The tutorials provide a variety of opportunities to practice thinking critically and writing scientifically through feedback received at multiple points as you develop your skills.

Important Dates – 2017

- September 7, 2017 First Day of Classes (Thursday)
- October 9, 2017 Thanksgiving Day Public Holiday (Monday) – No tutorial
- November 13-17, 2017 MIDTERM BREAK (No lectures or tutorials)
- December 7, 2017 Last Day of Classes (Thursday)

Optional Textbook: Writing Papers in the Biological Sciences, 5th Ed., Victoria McMillan (Bedford, Boston)

OVERALL EVALUATION (Total = 100%) – Required course-work: All components listed:

Part 1 –

- Protocol (Due date: Sept 19) 10%
- Abstract (Due date: Oct 3) 10%
- Scientific Certainty essay (Due date: Oct 17) 10%
- Midterm Exam (in exam period on Oct 19) 20%

Part 2–

- Media release (Due date Nov. 23) 7%
- PowerPoint presentation (week 12 & 13) 8%
- Final exam 15%
- Final essay (in exam period) 20%
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Policy for submission of late assignments - 10% of the assignment's final grade will be deducted for each day that has passed since the assignment's due date.

PART I - DR. CHIVERS' SECTION (September 7 to October 19, 2017) (= 50 points out of 100)

Week 1 (Sept 4 - 8; No tutorial this week)

Lecture 1 (7 Sept) – Class introduction - Course schedule; Scope of the course; Policy about assignments and their deadlines.

Week 2 (Sept 11 – 15; Tutorial held on Mon, Tue and Wed afternoons this week -- Discussion of Protocol Assignment)

Lecture 2 (12 Sept) – *Guest speaker:* Virginia Wilson, Director, Centre for Evidence Based Library and Information Practice, U of S Librarian– Searching databases; ordering interlibrary loans. Introduction to Assignment #1 – writing a protocol.

Lecture 3 (14 Sept) – The basics of science and critical thinking; Understanding the scientific method.

Week 3 (Sept 18 – 22; No tutorial this week)

Lecture 4 (19 Sept) – The basics of science and critical thinking; Understanding the scientific method continued.

Lecture 5 (21 Sept) – Reading and Writing scientific papers; titles, abstracts and keywords.
Introduction to assignment #2 – writing an abstract for a scientific paper.

Week 4 (Sept 25 – 29; Tutorial held on Mon, Tue and Wed afternoons this week - Abstracts

Lecture 6 (26 Sept)–Scientific writing continued.

Lecture 7 (28 Sept) –Writing abstracts

Week 5 (Oct 2 – 6; Tutorial held on Mon, Tue and Wed afternoons this week – Where have all the sea lions gone?)

Lecture 8 (3 Oct) – Basics of experimental design, statistical inference and certainty

Lecture 9 (5 Oct) – Certainty in science continued– **attendance required for assignment on Certainty in Science**

Week 6 (Oct 9 -13; No tutorial this week)

Lecture 10 (10 Oct) no class

Lecture11 (12 Oct) no class

Week 7 (Oct 16 - 20; No tutorial this week)

Lecture 12 (17 Oct) Research Seminar on Fear and Cognition in a Changing World - **required attendance for Midterm Exam on Oct 19**

Lecture 13 (19 Oct) **LECTURE MID-TERM EXAM**

PART 2 - DR. ANGRINI'S SECTION (October 24 to Dec 7, 2017) (= 50 points out of 100)

Week 8 (Oct 24- Oct26)

Lecture 14 and 15: Introduction to part-2 - Class schedule; Scope of part-2; Evaluation items; Policy and deadlines; Analyzing research Paper

Tutorial: No tutorial this week- Student should start thinking of a critical issue topic thathe/she is interested in working on

Week 9 (Oct 31- Nov2)

Lecture 16 and 17: Invasion Biology; introduced & invasive species; Preparing PowerPoint presentation, in text and end of text citations

Tutorial: Practice analyzing research paper in invasion biology

Students, **as early as possible**, have to choose a critical issue topic (First come, first choice): We will compile a list of topics as they are submitted, so that overlap between topics is minimum. They have to get approval for the critical issue topic from Dr. Angrini and/or Ms. Mahoney).

Students have to identify a paper on the topic that has been published within the last 24 months (papers published earlier than Sept. 2015 will not be acceptable). Each student will use their paper as the subject for a media release and a PowerPoint presentation

Week 10 (Nov7- Nov 9)

Lecture 18 and 19: Writing/Developing a media release; Introduction to synthetic biology; epigenetic

Tutorial: Finalizing topic selection of critical issue and research paper for media release

Week 11 (Nov14- Nov 16) University Break

Week 12 (Nov21- Nov 23)

Lecture 20 and 21: Writing essay on critical issue of biology; Guest speaker: Professor Misra- Introduction to "One health"

Tutorial: PowerPoint presentations PART 1. All students will attend both presentation tutorials. (half of class in week 12, second half in week 13) maximum 7 slides, including title slide. Each student will present a key facet of the paper for which they have written a media release. A grading rubric will be provided. Students will be assessed on their critique of each other (1% of the total). All students will attend both presentation tutorials. **Due date for receipt of Media Release assignment is Nov 25**. Media release should be submitted to Ms. Mahoney

Week 13 (Nov28- Nov 30)

Lecture 22 and 23: Introduction to systematic review and Meta analysis; hot topics in behavioral neuroscience

Tutorial: PowerPoint presentations PART 2.

Week 14 (Dec 5- Dec 7)

Lecture 24 and 25: Overview and practice of scoping review; Review of the part-2 of the course

Tutorial: No tutorial for this week

ACADEMIC HONESTY

Academic honesty is a matter that the University and the Department of Biology take very seriously. Students must familiarize themselves with the rules regarding academic honesty. Ignorance of the rules regarding or the nature of academic dishonesty is not a defense against a charge. Potential punishments include expulsion from the University or revocation of a degree or diploma.

Many cases of plagiarism result from confusion or ignorance rather than from genuine intent to deceive. **Note, however, that these are not excuses:** "The critical consideration is the impression created in the mind of the others, not the subjective intent of the student. This determination involves an objective evaluation of the manuscript. No intent to deceive is required to establish plagiarism." (University Council policy on Student Academic Misconduct)

The University Guidelines for Academic Conduct describes the University's expectations for both student and faculty conduct.

The definition of academic dishonesty that follows is copied from the University of Saskatchewan Council's policy document on Student Academic Misconduct. **Note especially the definition of plagiarism.**

EXAMINATIONS WITH DISABILITY SERVICES FOR STUDENTS (DSS):

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Disability Services for Students (DSS) if they have not already done so. Students who suspect they may have disabilities should contact DSS for advice and referrals. In order to access DSS programs and supports, students must follow DSS policy and procedures. For more information, check <http://www.students.usask.ca/disability/> or contact DSS at 306-966-7273 or dss@usask.ca

Students registered with DSS may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through DSS by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by DSS.