

<b>Course ID:</b>	<b>Course Title:</b>	<b>Winter 2018</b>
SC 215	Controversies in Science	<b>Prerequisite:</b>
		<b>Credits: 3</b>

Class Information		Instructor Information		Important Dates	
<b>Days:</b>	W/F	<b>Instructor:</b>	Liza Abraham PhD	<b>First day of classes:</b>	Thu., Jan 4, 2018
<b>Time:</b>	11:15-12:30	<b>Email:</b>	labraham@ambrose.edu	<b>Last day to add/drop, or change to audit:</b>	Sun, Jan. 14, 2018
<b>Room:</b>	RE 112	<b>Phone:</b>	403-410-2000 Ext.6921	<b>Last day to request revised exam:</b>	Mon, Mar. 5, 2018
		<b>Office:</b>		<b>Last day to withdraw from course:</b>	Fri, Mar. 16, 2018
		<b>Office Hours:</b>	W/F 11:00-3:00 and email appointment	<b>Last day to apply for coursework extension:</b>	Mon, Mar. 26, 2018
				<b>Last day of classes:</b>	Wed, April 11, 2018

### Course Description

In this course, students will explore the science behind innovative and contemporary topics, as well as apply critical reasoning skills through the examination of controversial issues in science. Instruction will consist of lectures, student research, discussions, debates and in-class presentations.

### Expected Learning Outcomes

Students successfully completing this unit should have developed the ability to:

- Appreciate the nature of science as a dynamic and creative process
- Use information literacy skills to find relevant sources
- Develop the skills in critical thinking through research, discussions and debates
- Demonstrate group effectiveness as students actively engage in collaborative efforts
- Be able to distinguish between genuine scientific argument and statements that are not supported by scientific evidence and recognize biases in arguments
- Study the development of a scientific theory – how a theory originates and evolves (Big Bang Theory as an example)
- Discover how advancements in technology expand our understanding of the origins of the universe
- Research, evaluate, and write about genetically modified organisms
- Apply the scientific principles behind the practices of alternative medical practices

## Requirements:

### Textbooks

You are not required to purchase a textbook or course pack for this class; however, you are responsible for completing all assigned readings. Your course readings will be found on the class Moodle site (sometimes as links to other articles). Please make sure that you regularly check your Ambrose e-mail and the Moodle site for the required readings.

### Attendance:

Class participation is extremely important to your learning in this course. **Students who do not attend class may lose the opportunity to earn marks for in-class assessments (30% of the course mark).** The class policy is that **late assignments will subject to a penalty of 10% per day. Assignments will not be accepted once they are 5 days late.** In class activities will not be accepted late; they must be completed as assigned in class.

**In-Class Activities (30%)** are a major component of this course. A variety of assessment techniques, designed to fit the nature of each case, will be used. These may include any or all of the following: in-class quizzes, online assignments, short research questions, in-class writing opportunities, discussions (including online forums), debates, and other forms of assessment. **Students who do not attend class lose the opportunity to earn marks for in-class assessments.**

### Student Conduct

It is expected that students will take an active role in the learning process. This includes: (a) regular class attendance, (b) reading course material in advance of class, and (c) engaging in discussions during class. In respect to the professor and to your fellow students, we ask that you:

1. Turn your phone off during class that you don't use it for texting during lecture
2. Not have conversations with the people beside you during lecture – it is very distracting to the people around you
3. Use your laptops for lecture material and assignments only – that you are not using the internet or facebook during class time.
4. Arrive to lecture on time

**These will help to maximize the learning experience for you and your fellow students (and will keep your professor in a good mood). In the event of the violation of any of these rules, the professor has the right to ask a student to leave the classroom.**

### Assignments

#### Case 1: Genetically Modified Organisms Controversy (20%)

**Part I (10%):** Students will research aspects that relate to the controversy surrounding the development and use of genetically modified foods (GMOs). As you research each aspect, fill in the table that compares the arguments for the two opposing sides of this issue: environmentalists/consumers and industry.

**Part 2(10%) – Essay:** Do Genetically Modified Foods represent the true societal benefits extolled by the biotech industry or are they the potential menace that environmentalists warn of? Write an essay that clearly states your position on growing GM foods on the nation’s farms.

**Case 2: Complementary & Alternative Medicine Controversy (20%)**

This assignment will consist of answering questions based on analysis of scholarly articles on a CAM topic. Formal APA in text citations and referencing is required.

**Case 3: Cosmic Controversy (20%)**

This assignment format consists of two separate components: an in-class on-line quiz (5%) and a group research presentation (15%).

Students will work in small groups to create a presentation that describes the evidence, and weaknesses that supports the Big Bang Theory as well as how advancements in technology expand our understanding of the origins of the universe

**Poster Presentation at Ambrose Research Conference (ARC) (10%):** Students are required to have a poster presentation at the Ambrose Research Conference on a topic related to any of the three controversial cases.

**Assessment**

This course has been designed to be taught via cases: presentations of realistic and complex topics that inspire you to think, research, synthesize and come to decisions about science. Marks will be allocated as follows (please note there is no final exam in this course):

**Assignment 1 20%**

**Assignment 2 20%**

**Assignment 3 20%**

**ARC Presentation 10%**

**In-Class Activities 30%**

**Grade Summary:**

The available letters for course grades are as follows:

<u>Letter Grade</u>	<u>Description</u>
A+	
A	Excellent
A-	
B+	
B	Good
B-	
C+	
C	Satisfactory
C-	
D+	
D	Minimal Pass
F	Failure

**Grading Scale:**

<b>A+</b>	<b>A</b>	<b>A-</b>	<b>B+</b>	<b>B</b>	<b>B-</b>
<b>95% - 100%</b>	<b>87% - 94.99%</b>	<b>82% - 86.99%</b>	<b>77% - 81.99%</b>	<b>72% -76.99%</b>	<b>66% - 71.99%</b>

<b>C+</b>	<b>C</b>	<b>C-</b>	<b>D+</b>	<b>D</b>	<b>F</b>
<b>62% - 65.99%</b>	<b>58% - 61.99%</b>	<b>54% - 57.99%</b>	<b>50% - 53.99%</b>	<b>45% - 49.99%</b>	<b>&lt; 44.99%</b>

**Tentative Course Schedule**

Week of :	Topic	*Important Dates
Jan.1	Course Introduction	<b>Please note that the dates are tentative.</b>
Jan 8	<b>Case 1 – Genetically Modified Organisms Controversy</b> What are GMO's? How, why and the science behind them	
Jan 15	GMO example articles Research and discussion	
Jan 22	GMO articles, research and discussion	
Jan 29	In class discussion and In class debate	<i>Friday February 2 Case 1 Assignment Due (in-class)</i>
Feb 5	<b>Case 2 - Complementary &amp; Alternative Medicine Controversy</b> What are CAM's? Placebo Effect	
Feb 12	Homeopathy and Case Studies	
Feb 19	<b>Monday Feb 19 Family Day</b>	

	<b>Feb 20-25 Mid-semester break</b>	
Feb 26	Acupuncture and Case Studies	
March 5	<b>Case 3 – Cosmic Controversy</b> Big Bang Theory: Origin of life in the universe, Fate of our universe, Dark Energy, and Dark matter	<i>Wed March 7 Case 2 Assignment Due (in-Class)</i>
March 12	Geocentric vs. Heliocentric	
March 19	Extra-terrestrial Life	
March 26	<b>Good Friday March 30</b> Science behind what makes human unique The Process of Science; The Nature and Limitations of Science	
April 2	<b>Easter Monday April 2</b> <i>Wednesday April 4 ARC Presentations</i> <i>Assignment 3 Group Presentations</i>	
April 9	<i>Wednesday, April 11 Last day of Class</i> <i>Assignment 3 Group Presentations</i>	

Because of the nature of the Alpha 4.00 system, there can be no uniform University-wide conversion scale. The relationship between raw scores (e.g. percentages) and the resultant letter grade will depend on the nature of the course and the instructor's assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

## Ambrose University Academic Policies:

### Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions. If students do not wish to use their Ambrose accounts, they will need to forward all messages from the Ambrose account to another personal account.

### Registration

During the **Registration Revision Period** students may enter a course without permission, change the designation of any class from credit to audit and /or voluntary withdraw from a course without financial or academic penalty or record. Courses should be added or dropped on the student portal by the deadline date; please consult the List of Important Dates. After that date, the original status remains and the student is responsible for related fees.

Students intending to withdraw from a course after the Registration Revision Period must apply to the Office of the Registrar by submitting a "Request to Withdraw from a Course" form or by sending an email to the Registrar's Office by the **Withdrawal Deadline**; please consult the List of Important Dates on the my.ambrose.edu website. Students will not receive a tuition refund for courses from which they withdraw after the Registration Revision period. A grade of "W" will appear on their transcript.

Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

### Exam Scheduling

Students, who find a conflict in their exam schedule must submit a Revised Examination Request form to the Registrar's Office by the deadline date; please consult the List of Important Dates. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; 2) the student has three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

### Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to use electronics for purposes unrelated to the course during a class session. Turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Do not use iPods, MP3 players, or headphones. Do not text, read, or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. Some professors will not allow the use of any electronic devices in class. The professor has the right to disallow the student to use a

laptop in future lectures and/or to ask a student to withdraw from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

### Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at [privacy@ambrose.edu](mailto:privacy@ambrose.edu).

### Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a course Extension from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the deadline date; please consult the List of Important Dates. Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

### Appeal of Grade

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Registrar's Office in writing and providing the basis for appeal within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal. If the appeal is sustained, the fee will be refunded.

### Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

**Note:** Students are strongly advised to retain this syllabus for their records.