

BIOLOGY 3HD3 HUMAN DISASTERS

INSTRUCTOR: Dr. Colin Seymour
Office hours TBD

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Lectures: There will be three lectures/week. Location TBD

Course Objectives:

The overall objective of the course is to demonstrate that the underlying cause of most disasters is an inadequate understanding of complex systems. The inherent nature of complex systems is unpredictability, leading often to a misunderstanding of the cause of the disaster and the appropriate response. This makes the course appropriate both for science and humanities/social science students. Although there will be a biological component, the basic biological components will be covered such that students with or without a background in biology will succeed in the course.

This course is designed to examine in detail a number of disasters that impacted on humans, concentrating on the biological aspects of the disaster whilst providing adequate context. During the lectures, common threads may emerge that provide an analytic background for your course work. (As an example, does the adage “Those that don’t learn from history are condemned to repeat it” apply to disasters ?)

Ten topics will be studied. These may include :

1. Great sparrow massacre (China)
2. Fukushima
3. Irish potato famine
4. Use of DDT
5. Agent Orange
6. Antibiotic resistance
7. Bhopal
8. Thalidomide
9. Grassy Narrows
10. Kansas Dustbowl

If any of these are unfamiliar, now is a good time to do a little research. The essential point is usually that a simplistic solution to a complex problem creates a larger problem.

Assessment will be by submitted paper and examination.

The discussion paper will be worth 40% of the marks. It will discuss a disaster not covered on the definitive list provided at the start of term. It will consist of 15 pages of single spaced 12 point Times New Roman font, to include the title page and one page of references. There may be additional references but not to be counted amongst the 15 pages.

Rubric for the paper (40 marks):

Content:	Title	1
	Abstract	2
	Introduction/background	5

	Analysis of how problem occurred	8
	How disaster unfolded	4
Reflection:	How was biology relevant	10
	What was done	5
	What could have been done	5

The examination will be supervised by the Registrar's Office. No material will be allowed taken into the examination. Three questions will be asked from a selection of five topics, each worth 20%. The questions will be given before the examination with the expectation that the student will considerably surpass the material provided in the lectures in the answers they provide during the exam.

Changes to the course outline:

At certain points in the course it may make good sense to modify the schedule outlined below. The instructor reserves the right to modify elements of the course and will notify students accordingly (in class and post any changes onto Avenue to Learn). Posted changes take precedence over this course outline.

Prerequisites

Successful completion of level two (Honors) courses

Requests for Relief for Missed Academic Term Work

If you are absent from the university for a minor medical reason, lasting fewer than 3 days, you may report your absence, **once per term**, without documentation, using the McMaster Student Absence Form. Absences for a longer duration or for other reasons must be reported to your Faculty/Program office, with documentation, and relief from term work may not necessarily be granted. Please note that the MSAF may not be used for term work worth more than 30%, nor can it be used for the final examination.

Academic Dishonesty:

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. Academic dishonesty is to knowingly act or fail to act in a way that results, or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at <http://www.mcmaster.ca/academicintegrity>

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work. While we encourage you to work with your peers in solving problems on your assignments, copying of answers is not acceptable. Your final work must be your own.
3. Copying or using unauthorized aids in tests and examinations.

We will be using Dropbox Plagiarism Detection for this assignment. Plagiarism detection, once enabled for the Dropbox, uses Turnitin.com to compare all submissions to an online database of published work and original content. This produces an Originality Report, which can be viewed by the instructor, which highlights key areas, show a breakdown of matching sources and provide direct links to the matching content.

McMaster University's Guidelines for the use of Turnitin.com

- papers should be submitted to Turnitin.com only with the student's knowledge
- the instructor should indicate that Turnitin.com will be used in the course outline and/or on the assignment details
- the use of Turnitin.com cannot be mandatory. Should you not wish your paper to be accessed by Turnitin you will still be expected to submit an electronic copy to a special dropbox.

Grades obtained in Biology 3HD3 will be converted according to the following scheme, which is the one in general use at McMaster University.

90 – 100%	A+	12
85 – 89%	A	11
80 – 84%	A-	10
77 – 79%	B+	9
73 – 76%	B	8
70 – 72%	B-	7
67 – 69%	C+	6
63 – 66%	C	5
60 – 62%	C-	4
57 – 59%	D+	3
53 – 56%	D	2
50 – 52%	D-	1
0 – 49%	F	0

When the final marks are obtained, ALL borderline cases will be reviewed and, where warranted, adjustments will be made in the final mark.