

GLY3034: Natural Disasters Syllabus
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Course Rationale

Hurricanes,
 ----Tornadoes,
 -----Flooding,
 -----Sinkholes,
 -----Lightning,
 -----The salt intrusion,
 -----Asteroid-meteor impacts,
 -----Tsunami,
 -----El Niño,
 all are common natural phenomena that represent potential natural disasters in our region.

Join this course and learn about the nature of these phenomena, also, learn about the vulnerability of our region to these disasters and mitigation measures useful in case of future disasters.

These natural disasters occur at local, regional and global scales. The occurrence of natural disasters has been a normal event throughout the history of Earth. Major natural disasters have played an important role in shaping the face of the Earth, and it is likely that they will continue to do so.

Students in this class will learn about the most frequent natural disasters that have occurred on Earth including the mass extinction of dinosaurs. The course starts with an introduction to geological processes, continues with geological cycles and moves into the analysis of the most frequently occurring natural disasters. This course emphasizes the geological aspects behind the origin of the natural disasters and their geologic record through the history of Earth. The influence of man on the rate and frequency at which these natural disasters occur is also discussed. Special attention will be given to evaluate the damage caused by

these natural disasters as well as the vulnerability of human activities to them.

Welcome to my Asynchronous/Hybrid Sections of GLY3034: Natural Disasters

As the instructor of this course, it is very important to me that you feel welcome and comfortable in the class. I have made a great effort to design this course's website to be as clear as possible; however, as it is normal in courses like this, I need to spend some time explaining all the ins and outs of the course. Consequently, in order for you to understand each concept of this course and what it entails, some writing on my behalf will be required, as well as extensive reading from you. Hopefully, after reading this course description, my expectations from you as a student in this asynchronous course, as well as my responsibilities as the professor, will both be clear. After all the idea of asynchronous teaching/learning is: a collaboration between students and instructor!

Before we go further, it is crucial that you understand what an asynchronous course requires:

- 1.- Time and self discipline.
- 2.- Reading and critical thinking of scientific materials.
- 3.- Good performance in basic computer work (e-mail, word processing, attachments, browsing).
- 3.- Feeling comfortable with not having direct (face-to-face contact, telephone conference, etc.) contact with me.
- 4.- All the communication between us will be restricted to e-mail.
- 5.- The course contents have been designed following andragogy (adult education) precepts.

Asynchronous Section:

You will be using both the WebCT platform <<http://estudent.fiu.edu/>> and my Asynchronous Learning Portal <http://www.fiu.edu/~longoria/self-p/> throughout the semester. Also you need the access codes (username and password) to receive full access to the course content. If you have not sent the 'request access codes form' STOP here and hit the "back" or "refresh" button of your browser.

You can always contact me via the WebCT mail; however, if needed use my FIU mail: longoria@fiu.edu If you want to know more about me and what I do, visit my website at <http://www.fiu.edu/~longoria>

Hybrid Section:

It is strongly recommended that you use you FIU mail account for all the correspondence in this class. You can always contact me via e-mail, or come to my office during my office hours. Or make an appointment in advance.

Course Description: GLY3034: Natural Disasters deals with the analysis of violent catastrophic phenomena that constantly occur in different parts of our planet Earth special attention is given to understand how they affect human activities. It is designed to give you an overview of the fundamental Earth Science processes triggering natural disasters. Internal and external processes involved in producing these natural phenomena will be considered.

The main objective of this course is to introduce students to the understanding of Natural Disasters as violent destructive phenomena trigger by the interaction of long-term geological processes and to evaluate the resulting hazards and risks to human life.

Special emphasis will be given to geologic hazards (natural phenomena or processes potentially becoming a disaster) and risks (magnitude and vulnerability to potential death, injury, or loss of property due to a given geohazard). Current environmental issues such as threat to the world's human

population and biodiversity and the cyclic reoccurrence of some of these disasters will be discussed.

Prerequisites:**Independent Work and Discipline:**

GLY3034 requires time and discipline. It is important to note that students in this class need: (1) to devote time to read the posted materials in the website, (2) to do the browsing for specific activities, and (3) to follow the instructions given at the beginning of the term. Consequently this course requires time and independent work, so if you are busy, or overloaded with courses, or have a busy personal schedule, or plan to travel during the semester, or if you feel you will learn better in a face-to-face (traditional) modality you may not be suited to a course like this, if you have to make a change do it now. Even during the first week of the semester you will have work to submit, an advantage of this teaching/learning modality is that you do not have upper boundaries, also, you can finish the course as early as you want; but not later that the deadlines in the schedule.

Geology Prerequisites:

This course does not have any geology prerequisites; however, you should be aware of the fact that Natural Disasters is a three thousand level class and a high degree of involvement is expected. Critical and independent thinking is also required.

Computer Literacy:

Students are expected to be proficient in the use of computers including word processing, e-mail, posting attachments, and to have experience in browsing the Internet. Students need to be comfortable using a web browser, for students with limited web browsing experience, a tutorial on the use of the two most popular web browsers is provided as an activity for the first week of the semester; however, students are responsible to fulfill this deficiency.

Student Learning Agreement (SLA):

Students are required to set their goals and discuss desired outcomes. You are required

to submit a narrative (Assignment 0, an electronic questionnaire) of your expectations in this class within the first two weeks of classes.

Course Format:

This is an on-line, Self-Paced mode course. Two equally weighted and equally important components are essential for a good performance: Readings, and web learning activities. The course is divided into seven sections, corresponding to natural groupings of the topics covered in class. These divisions correspond to the presentation of the topics in the website. Every section will have an assignment as well as a written essay.

Assignments should be submitted through the Internet at specified dates; they count 30 percent towards the final grade. Essays are to be submitted at scheduled dates, they count 50 percent towards the final grade.

Incompletes and extensions are not given in this course. Not submitted assignments and essays are given the grade of 0. The course requires involvement, independent thinking, and a lot of time. This is a class in which you have to work hard in; but, it is also one you should enjoy and derive motivation from.

Students are expected to: (1) Work at full pace. (2) Do the reading assignments. (3) Do all the www assignments.

You should feel free to e-mail me at any time, if you have any questions about something you do not understand. You

should plan to ask questions clarifying any point at least three days in advance. Please do not wait until the day of the work is due to ask questions!

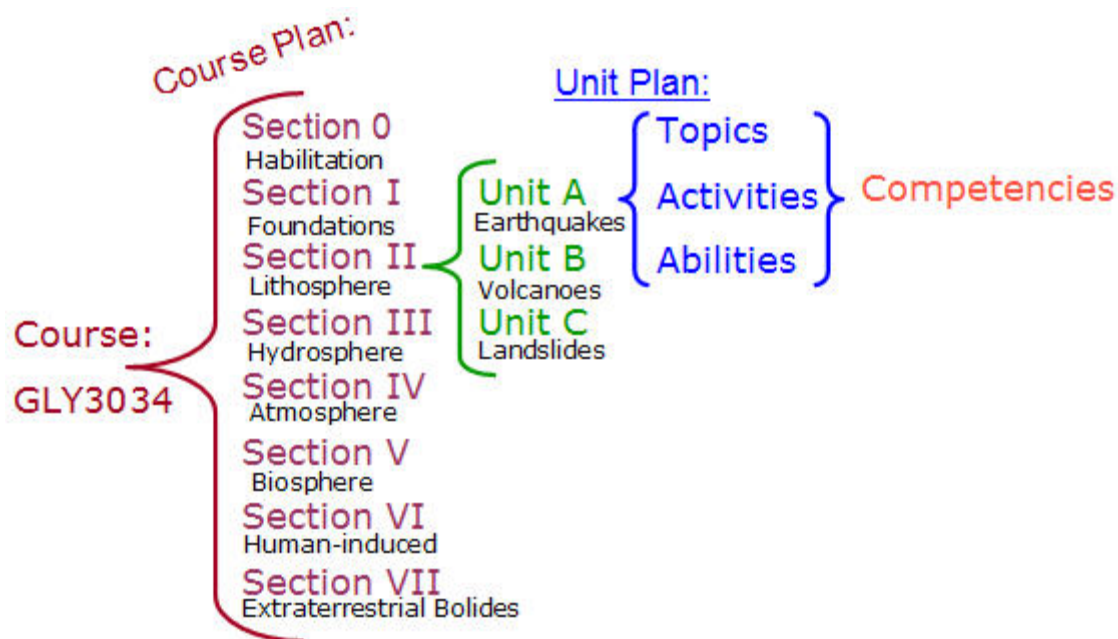
You are required to review the list of DO'S and DON'TS for this course.

Course Plan:

The course is structured according to the precepts of andragogy (see flow diagram) to help students maximize learning and mastering the subjects in each unit.

The course contents is divided into large Sections, corresponding to natural disasters according to their occurrence in nature and their triggering mechanisms; for example, (1) disasters occurring in the hard surface shell of the Earth (the Lithosphere), (2) those that involve the water envelope of the planet, (3) disasters occurring in the atmosphere, (4) disasters that affect the biota (the biosphere), (5) disasters that result from direct human activities, and (6) disasters that are triggered by phenomena or objects from out side planet Earth (extraterrestrial).

Sections are divided internally into Units, representing individualized natural disasters that result from particular geological processes; for example, earthquakes, volcanoes and landslides are the units included in the section covering disasters involving the lithosphere (see diagram below).



Each unit contains a Unit Plan which is made of three components: (1) Contents (a list of topics to be studied). This component of the unit plan corresponds to the question of WHAT to study. (2) Activities (specific readings and web site links -browsing- you must do). An often worry that students have is: How many levels of links should I do? A very close indication that you have mastered the subject covered in the unit is when you are able to address the items listed in the abilities sections of each unit. So this component corresponds to the question of HOW to study in pedagogy. (3) Abilities (a list of learning competencies that were acquired through the activities). This component can be viewed as a study guide and a preparation for the evaluation. They should guide you into how well prepared you are. The abilities component of the unit plan corresponds to the question of FOR WHAT purpose in pedagogy.

You must submit the Acknowledging Syllabus Form to receive the user name and password to access the website for the Course Plan containing a plan for each section.

Grading:

Final grade in these courses results from the average of: (1) grades from twelve short-answer assignments <list of unit abilities> (40%); (2) three written five- to seven- pages topic essays (50%); and (3) weekly posting of news in the Participation Forum (10%).. All the work in this course should be submitted electronically through the Internet. Assignments are graded on a 100 point basis; questions in each assignment have a different value depending on the number of questions included.

My grading policy is as follows:

| | |
|--------|----|
| 96-100 | A |
| 90-95 | A- |
| 86-89 | B+ |
| 83-85 | B |
| 80-82 | B- |
| 76-79 | C+ |
| 73-75 | C |
| 70-72 | C- |
| 66-69 | D+ |
| 63-65 | D |
| 60-62 | D- |
| <60 | F |

NOTE:

Hybrid Modality Section: Assignments (list of unit abilities) and essays should be submitted electronically. DON'T send your work more than one time. DO check the class roll in the data base page of the website periodically. Grades will be posted within the following 8-10 days. Acknowledge of receipt of your work will be posted immediately and mark with an X in the corresponding column. The X will be replaced with the grade as soon as available. It is your responsibility to check with me if you did not receive it.

Asynchronous Modality Section:

Assignments, Participation Forum Entries, and Essays will be submitted using the corresponding link in the Assignments section of the Course Menu of your WebCT platform. ONLY Assignment 0 will be submitted electronically using the form provided in my website.

Statement of Understanding between Professor and Student

Every student must respect the right of all to have an equitable opportunity to learn and honestly demonstrate the quality of their learning. Therefore, all students

must adhere to a standard of academic conduct, demonstrating respect for themselves, their fellow students, and the educational mission of the University. As a student in the College of Business taking this class:

I will not represent someone else's work as my own

I will not cheat, nor will I aid in another's cheating

I will be honest in my academic endeavors

I understand that if I am found responsible for academic misconduct, I will be subject to the academic misconduct procedures and sanctions as outlined in the Student Handbook

Failure to adhere to the guidelines stated above may result in one of the following:
 Expulsion: Permanent separation of the student from the University, preventing readmission to the institution. This sanction shall be recorded on the student's transcript.
 Suspension: Temporary separation of the student from the University for a specific period of time.

By taking this online/web-based course I promise to adhere to FIU's Student Code of Academic Integrity. For details on the policy and procedure go to ACADEMIC MISCONDUCT.

Exams:

This course does not make use of exams or tests for the evaluations of students rather students' performance in the course is determined by the individual accomplishments and performance based on abilities acquired and research essays. The course is divided into seven sections, corresponding to natural groupings of the topics covered in class. These divisions also correspond to the presentation of the topics in the textbook. Every unit contains an ASSIGNMENT consisting of a set of abilities (a list of competencies) that the student should have acquired by doing the

specified activities. Performance in the abilities will count 40 percent towards the final grade. Assignments are regarded as individual effort and are to be done individually. Assignments should be submitted electronically using the form provided at specified dates and are expected to be in depth (detailed answers); they should be submitted at any time but not later than the dates specified in the syllabus. Late submission of the abilities will incur in a penalty of reducing 5 points of the grade for every week being late. An example of the abilities is given here, and it is highly recommended that you view it as soon as possible.

Assignments and essays should be submitted electronically. DON'T send your work more than one time. DO check the class roll in the data base page of the website periodically. Grades will be posted within the following 8-10 days. Acknowledge of receipt of your work will be posted immediately and mark with an X in the corresponding column. The X will be replaced with the grade as soon as available. It is your responsibility to check with me if you did not receive it.

Work not completed is assigned the grade of 0. Any student missing a deadline must contact me the day before to explain the reason for the absence; verification will be required. You can always reach me by e-mail. If you do not contact me before the day before the due date, you will not be eligible for an extension.

Grades will be posted in the grade roll as soon as available (usually the following week).

Incompletes and extensions are not given in this course.

Also you are required to visit this site DO's and DON'Ts

GLY3034: List of Topics for Essays

Deadline for the submission of Essays are:

First Essay; Oct. 8, 11:55 pm
Second Essay, Nov. 12, 11:55 pm
Third Essay, Dec. 10. 11:5 pm

Select the topics for your essays from the list below.

| Essay | Topics |
|-------|-------------------------------------|
| 1 | The Asian Tsunami of Dec. 26, 2005 |
| 2 | The 1993 Mississippi Flood |
| 3 | Hurricane Andrew |
| 4 | Desertification: The Sahel Disaster |
| 5 | The Chernobyl Nuclear Disaster |
| 6 | Future Asteroid Impacts |

READ THE GUIDELINES FOR THE PREPARATION OF ESSAYS BEFORE WRITING AN ESSAY

Essays should follow the format outlined below, and should be submitted by the due date. No delays will be allowed. They should be sent electronically by Internet e-mail. They should be typed and formatted according to the instructions below. All the illustrations should be included in the text.

GUIDELINES FOR THE PREPARATION OF ESSAYS

Essay should be focused on the designated topics. Topic essays can be viewed as technical writing exercises, that is, you should be precise and to the point.

The overall contents of the essay should be consistent, there is not a maximum page limit to the length of each essay, but it is important that you address all the five fundamental issues according to the organizational scheme given below.

GENERAL INSTRUCTIONS: To help me quickly and accurately evaluate your essays, I ask you to follow the few rules outlined below. These rules apply to ALL

essays submitted for GLY3030 and GLY3034 irrespective of section.

Essays must be written in Microsoft Word (only): Make the page setup of your Microsoft Word processor letter size (margins: 1 inch top and bottom; 1.0 inch left and right), using Helvetica 10 points or a similar sans-serif font (e.g. Arial or Helvetica), all text must be justified (DO NOT hyphenate words); text should be formatted to line space at exactly 10 pt., indent 3 spaces the first line of each paragraph.

The first page of your essay should be its title page, which should be in bold, Upper and Lower Case, and Flush Left with the Margin. After the title skip several lines and type your name first, followed below by your SS#. Capitalize the LAST NAME, FIRST NAME and MIDDLE NAME or INITIAL. Next type the course and reference #.

Suggestion: You can be creative with the title page inserting a color image between the title and your name lines. This page should be followed by a table of contents under a separate page. Both title page and index of contents are expected for each essay submitted.

Start the text of your essay in a separate page. You can start with an introduction or introductory paragraph of your own but after this short introduction you must use the headings given in the guidelines for preparing essays. Indent 3 spaces the first line of each paragraph.

Illustrations are a must in your essay. Illustrations and visual materials should be included (inserted) in the written text, each illustration should be identified with a number, a figure caption or explanation should be given for all the illustrations included as well as giving credit to the source.

All the sources consulted should be cited in the text and listed at the end of the essay under Reference Cited. Citations and Reference Cited should be formatted

according to the style and model more adequate for your essay.

References listed should be complete, following this Web tool

<http://www.liunet.edu/cwis/cwp/library/workshop/citation.htm> for appropriate formatting of citations and reference cited in your essay.

Essays are to be prepared from the materials covered in the website, www browsing, video tapes, and journals. They will count 50 % towards your final grade. So you should consider presenting a good essay. Essays can be submitted at any time during the semester; however, there is a time limit to submit them, no extra time or extension will be allowed.

Avoid plagiarism and unethical behavior. Here are some useful Web resources that can help you to avoid making mistakes and unnecessary efforts in writing your essays:

Quoting, Paraphrasing, and Summarizing:
<http://owl.english.purdue.edu/handouts/research/r_quotprsum.html>

Students' Guide to Preventing and Avoiding Plagiarism:

<<http://www.liunet.edu/cwis/cwp/library/exhibits/plagstudent.htm>>

Example of Essay Organization:

Title Page (first page)

Index of Contents (second page)

Introduction (starts pagination)

Synoptic Description of the Disaster

Causes of the Disaster

Occurrence of the Disaster

Social and Economic Impact of the Disaster

Personal Suggestions for Preservation and Recovery of the Disaster

References Cited and Citations in the Text

Essays must address the following issues: (These headings must be included in each essay).

1.- Synoptic description of the disaster:

Describe the specific disaster, DO NOT spend time and space giving generalities

on the topic. For example, in preparing the Izmit Earthquake essay do not include general aspects about earthquakes, but go directly into the situation of the earthquake in Izmit. The same applies to all the essays. To address this issue, you should think as if you were asked the question of what happen in that particular disaster. You need to thoroughly describe the disasters. Next, you should give any supporting statements that would help to enhance the description. But keep in mind that you should be as detailed as possible to give a complete description of that particular disaster. Make sure that you do not mix description with causes of the disaster.

2.- Causes of the Disaster:

To address this point think as if you were answering the questions: "Why does the disaster happen?" and "What causes that particular disaster?" These questions need to be focused on the particular disaster. You should address this point from general to specific. In some cases general means global, then a regional cause and finally you should include one or two local causes. Pay attention to course activities and discussions presented in the assigned URL's links, as often information and discussion in them are directly related to this issue.

3.- Occurrence of the Disaster:

This issue has to do with the question: Where does the disaster happen? Usually this question needs to be answered from general (planet wide) to specific, or in other words from global occurrences to regional (continent wide to local). Note that this is a geography (locality) issue. You should also incorporate course material given in the activities of each unit and the information provided by specific cases. This is particularly important in citing occurrences in different localities, so do not hesitate to incorporate additional materials you have found in you own browsing as well as other references.

4.- Social and Economic Impact of the Disaster:

This point should also be addressed from general (or global) views to specific, citing several examples such as those given in the activities section of each unit. It is likely that some links may contain data related to this issue, for example statistics, amount of damage, etc.

5.- Personal Suggestions for Preservation and Recovery of the Disaster:

It is likely that several of the web links will present issues related to this topic. You should be able to take some ideas from those sites and elaborate your own suggestions on the way in which this type of disaster can be prevented and how the public can recover from that particular disaster.

References Cited and Citations in the text

should follow a uniform format. It is important to give the source of the information and also to clearly distinguish between your own statements and those derived from your readings and website browsing. All the citations in the text and reference cited in the corresponding section should follow a uniform format according to standard models of Citation Style for Research Papers (APA, Turabian, MLA, Chicago, AMA). Use this Web tool to make your citations

http://www.landmark-project.com/citation_machine/index.php

GRADING OF ESSAYS:

Essays will be graded on presentation (20%), organization (20%), and contents (60%). I expect some originality and I highly discourage lifting verbatim information directly from sources. Each of the three criteria will be graded following this rating: unacceptable = 0 points; poor =25%; good =50%; very good =75%; excellent =100%. Note that your essays will be graded in contrast with others in this class.

In summary:

1.- The essays (a total of three) are worth 50% of your final grade, and you should work accordingly.

2.- There is no page limit, however, I would say that you will need about 5 to 10 typed pages (without illustrations) to do justice to the topic.

Nonetheless, you may squeeze a good essay in five pages. Just think that: a good essay = a good grade.

3.- Essays are to be presented at your own pace; however, they are due at defined deadlines (click here to view the deadline for the submission of Essays). NO EXTENSIONS ARE GIVEN. Essays not submitted will receive the grade of 0 (Zero).

Additional information on the topics assigned for the essays can be gathered at your local public library, where you can also find an extensive collection of video tapes on specific disasters. A list of journals and magazines commonly discussing natural disasters include:

National Geographic
Earth
Discovery
Science Spectra
Popular Science
American Scientific
Science
Nature

Textbooks:

There is not a required text to be used during the course.

Reference books to be used to fulfill deficiencies:

Disasters: An Analysis of Natural and Human-Induced Hazards by Charles H.V. Ebert. (4th edition).

Understanding Earth by Frank Press and Raymond Siever (2nd. Edition). Disasters: An Analysis of Natural and Human-Induced Hazards by Charles H.V. Ebert. (4th edition).

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WEEKLY CALENDAR

SECTION 0: Habilitation

Week 1, 8/29-9/3:

Introduction || Course Setup || Headcount

Week 2, 9/4-9/10:

Organization and expectations: Access Codes; Student Learning Agreement (Narrative, assignment 0, assignment 1); Acknowledging Syllabus; Participation Forum Entry; Record your study session

SECTION I: Foundations

Week 3, 9/11-9/17: [Geological Setting](#) - Assignment 2

Week 4, 9/18-9/24: An Introduction to Disaster Management

SECTION II: Disasters Involving the Lithosphere

Week 5, 9/25-10/1: [2.1. Earthquakes](#) - Assignment 3

Week 6, 10/2-10/8: [2.2 Volcanoes](#) - Assignment 4

Week 7, 10/9-10/15: [2.3. Landslides](#) - Assignment 5

SECTION III: Disasters Involving the Hydrosphere

Week 8, 10/16-10/22: [3.1 Tsunami](#) Assignment 6

Week 9, 10/23-10/29: [3.2 Floods](#) Assignment 7

SECTION IV: Disasters Involving the Atmosphere

Week 10, 10/30-11/5: [4.1 Hurricanes](#) Assignment 8

Week 11, 11/6-11/12: [4.2 TORNADOS](#) Assignment 9

[4.3 Lightning](#) Assignment 10

SECTION V: Disasters Involving the Biosphere

Week 13, 11/20-11/26: [5.1 Drought/Desertification](#) Assignment 11

Week 12, 11/13-11/19: [5.2 Forest Fires](#) Assignment 12

[5.3 Biosphere](#) Assignment 13

SECTION VI: Human-induced Disasters

Week 14, 11/27-12-3: [6.1 Environmental Concerns](#) Assignment 14

[6.2 Social Aspects](#) Assignment 15

SECTION VII: Disasters Involving Extraterrestrial Bolides

Week 15, 12/4-12-10: [7.1 Asteroids and Meteors](#) Assignment 16

[7.2 Future of Humanity](#) Assignment 17

Finals Week, 12/12-12-16: