

# **GEO 2006: Natural Hazards Geography**

Department of Geography
College of Liberal Arts & Sciences, University of Florida

### **COURSE SYLLABUS**

Instructor: Dr. Kevin Ash Term: Spring 2020 Office: **TUR 3128** Class Meeting Days: TR T: 1:55-3:50 pm Phone: 352-294-6956 Class Meeting Hours: R: 1:55-2:45 pm Email: kash78@ufl.edu Class Location: **TUR 3018** Office Hours: Mon, Tues, Wed, 10-11 am, or by appointment Course Credits: 3 hours

### I. Course Overview

In this course, students will gain an international perspective on the societal and environmental impacts of natural hazards with the goal of equipping students to contribute to effective policies and decision-making to aid individuals, communities, and even national governments to reduce the impacts associated with hazards and disasters. This course integrates perspectives from geography and cognate social sciences to enhance understanding of how disasters emerge from a complex interaction of social, psychological, cultural, political, and economic forces with extreme meteorological, climatological, and geophysical phenomena. Comparative geographic and historical analyses will be used to explain why, despite investments in warning systems, preparedness and mitigation projects, and emergency response & recovery initiatives, global losses associated with natural hazards have thus far continued to rise.

## II. General Education Objectives

This course is both a social and behavioral sciences (S) and international (N) subject area course in the UF General Education Program.

Social and behavioral sciences courses provide instruction in the history, key themes, principles, terminology, and underlying theory or methodologies used in the social and behavioral sciences. Students will learn to identify, describe and explain social institutions, structures, and processes. These courses emphasize the effective application of accepted problem-solving techniques. Students will apply formal and informal qualitative or quantitative analysis to examine the processes and means by which individuals make personal and group decisions. Students are expected to assess and analyze ethical perspectives in individual and societal decisions.

International courses equip students to identify, describe, and explain the historical, cultural, economic, political, and/or social experiences and processes that characterize the contemporary world. Students will exercise critical thinking to analyze and reflect on the ways in which cultural, economic, political, and/or social systems and beliefs mediate understandings of an increasingly connected contemporary world.

These general education objectives will be accomplished through:

- Discussion and explanation of why disasters occur in terms of risk, vulnerability, and resilience, and how individual and institutional perceptions play key roles in policy initiatives intended to reduce hazard impacts
- Description and explanation of world regions that suffered particularly severe societal impacts from hazards and disasters in the past and/or are likely to be severe impacted in the future
- Analysis of historical global data and case studies to discern instances in which risk reduction policies have effectively addressed hazard-related problems from those which have been ineffective

- Evaluation and discussion of recent and ongoing hazard events to understand how negative consequences emerge and propagate through interconnected national and international economic and political systems
- Analysis and critique of ethical considerations and competing goals/values inherent in disaster management decisions in local, national, and international contexts

### III. Student Learning Outcomes

At the end of this course, students will be expected to achieve the following learning outcomes in content, communication, and critical thinking:

- Content: Students demonstrate competence in the terminology, concepts, theories, and methodologies used within the subject area. Students will acquire basic knowledge of how hazards and disasters are conceptualized and managed from a social scientific perspective. Students will also enhance their understanding of global geographic variability of disaster risk reduction capabilities and the societal impacts associated with hazard events and disasters. Achievement of this learning outcome will be assessed through reading quizzes, seven written summaries and related in-class discussion periods about recent notable hazard events, five of the six assignments, and a midterm and final assessment.
- Communication: Students clearly and effectively communicate knowledge, ideas, and reasoning in written or oral forms appropriate to the subject area. Students will individually prepare brief written summaries and then participate in small group discussions during portions of seven class periods. The written summaries and discussion participation will be assessed according to the rubric provided in the syllabus. Within their groups, students must communicate their ideas and reasoning about causal factors and potential actions to lessen impacts for recent and ongoing hazard events; then, student groups will synthesize their discussions and present their ideas to the rest of the class. Additionally, students will practice effective written communication as part of all six assignments which will require students to write several paragraphs in order to answer one or more short essay questions. Achievement of this learning outcome will be assessed through seven written summaries and related in-class discussion periods about recent notable hazard events, as well as six written assignments.
- Critical Thinking: Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the subject area. Students will analyze data and information and will be asked to reason with course content and empirical data in the assignments to develop potential solutions for individuals and institutions to reduce disastrous hazard impacts on society. In addition, in-class discussion periods will require students to engage in debates about potential solutions to reduce short- and long-term health and economic impacts stemming from recent and ongoing hazard events drawn from international examples. Achievement of this learning outcome will be assessed through seven written summaries and related in-class discussion periods about recent notable hazard events, as well as all six assignments.

## IV. Materials and Supplies: Laptop Computer

This course will be held in TUR 3018, which is a classroom with no computer terminals. Students must provide their own laptop computer on which to work on assignments and exams during and/or outside of class. Any required software (such as Microsoft Excel) will be available on students' laptops through UF Apps at <a href="https://info.apps.ufl.edu">https://info.apps.ufl.edu</a>.

### V. Required Texts and Useful Online Resources

The required text for this course is *Natural Hazards: Explanation and Integration* by Montz, Tobin, & Hagelman, published in 2017 (2<sup>nd</sup> Edition). The required text may be purchased via the links provided below. Any additional reading materials will be available via UF Canvas.

https://www.guilford.com/books/Natural-Hazards/Montz-Tobin-Hagelman/9781462529179 https://www.amazon.com/Natural-Hazards-Second-Explanation-Integration/dp/1462529178

## VI. Course Format, Activities, and Basis for Evaluation

The class will meet twice per week for formal lectures and less formal, but in-depth, discussions. On Tuesdays, the first hour will consist of a presentation by the instructor about key concepts and examples related to the day's topic. Thursday class periods will also consist mainly of instructor presentation and in-class learning activities. All lecture presentations will be made available to students via Canvas prior to class. This will give students the opportunity to download the presentation to

their own laptop and write notes directly into the file during the presentation. On Tuesdays, the second half of the class period will be devoted to discussions of recent and/or ongoing hazard and disaster events, and to instructor demonstrations related to assignments, including software demonstrations for Excel and GeoDa. There will be assignments or discussions each week of the semester, and there will also be short reading quizzes taken via Canvas which must be finished by the end of the week in which they are assigned. There will be two exams, a midterm and a final exam.

## **Evaluation and Grading:** A minimum grade of C is required for general education credit.

- Attendance: Attendance will count for 5% of the final grade. Students are expected to regularly attend the class during the semester. Students may be excused from absences with appropriate documentation according to the university policy (more information provided in Section VIII below).
- Event Summaries and Discussion: 30% of the final grade will consist of written summaries & verbal discussion of hazard/disaster events in class during the dedicated bi-weekly discussion periods. Students are expected to come to class prepared for discussion, then afterwards will write brief summaries on recent events including information describing key geographic event attributes; preparedness and warning systems; relevant social, cultural, economic, & political vulnerabilities; losses and impacts; and post-event response activities.

Rubric for Evaluation: Written Hazard Event Summaries & In-Class Discussion

Task: On Discussion days (roughly every other Tuesday), be prepared to discuss recent hazard events with your classmates. After discussion in class you will write a 300-500 word summary covering 1 or 2 hazard events from the previous weeks and submit it via Canvas within one week after the discussion. Consult the rubric below to make sure you include all required elements to receive full credit.

(Adapted from two sources: Solan & Linardopoulos 2011, <a href="http://jolt.merlot.org/vol7no4/linardopoulos 1211.htm">http://jolt.merlot.org/vol7no4/linardopoulos 1211.htm</a>; Reflection/Discussion Critique Rubric, <a href="http://www.rcampus.com/rubricshowc.cfm?sp=yes&code=D97AAC&">http://www.rcampus.com/rubricshowc.cfm?sp=yes&code=D97AAC&</a>.

<b>Evaluation Category</b>	Standards for Excellent Work	Points	Instructor Comments
Provide Basic Event Facts	<ul> <li>-Describe geographic</li> <li>locations</li> <li>-Give dates/times of events</li> <li>-Describe hazard event types</li> <li>-Include maps as appropriate</li> </ul>	/5	
Physical Dimensions of Hazard Events	-Describe events in terms of magnitude/intensity, spatial distribution, areal extent, rate of onset, seasonality, etcDiscuss briefly local climate and/or topography of event locations, if relevant	/10	
Societal Vulnerability and Impacts	-Describe the direct & indirect impacts of the disaster (based on tentative available information) -Discuss key features of the exposed & affected area's people & systems, such as population size, prominent livelihoods, and demographics.	/10	

	-What was the role of any forecasts or warnings in moderating impacts?		
Writing & Communication Proficiency	-Organize writing with clear structure:  Introduction Body Conclusion -Avoid spelling, grammar, syntax, punctuation, or other writing errors	/5	
In-Class Discussion Participation	-Contribute orally to discussions at least three times during semester -Listen actively and respectfully -Engage in constructive debate, when appropriate -Ask questions if you do not understand content or terms	/20	

- Reading Quizzes: Students are required to read portions from the textbook for each class period that roughly correspond to the lectures. To make sure that students keep up with the reading, there will be quizzes that must be completed on a regular basis. These quizzes will be administered via UF Canvas and will consist of multiple choice and short answer questions.
- Assignments: Students will complete six assignments during this course, which in total will comprise 30% of the final
  grade. These assignments will correspond to the topics of the reading and lectures roughly every two weeks. The
  assignments will require students to analyze and interpret data using Microsoft Excel and mapping software,
  evaluate a social scientific approach to understanding individual decision-making for hurricane evacuation, and write
  a critique of international hazard reduction policy initiatives. The assignments must be completed individually by
  each student.
- Exams: In total, the two exams will account for 20% of the final grade, 10% each for the Midterm and Final exams. The exams will be closed book and will consist of multiple choice, true/false, matching, and short answer question formats.

Assignments and Exams	Percent of Final Grade		
Attendance	5%		
Reading Quizzes	15%		
Event Summaries & Discussion	30%		
Assignments	30%		
Exam #1: Midterm	10%		
Exam #2: Final (not cumulative)	10%		

Grading Scale (%)			
92.5 – 100	Α		
89.5 – 92.4	A-		
86.5 - 89.4	B+		
82.5 - 86.4	В		
79.5 – 82.4	B-		
76.5 – 79.4	C+		
72.5 - 76.4	С		
69.5 - 72.5	C-		
66.5 - 69.4	D+		
62.5 - 66.4	D		
59.5 - 62.4	D-		
< 59.5	Ε		

VII. Important Dates to Remember: The due dates below are tentative and can be changed at the discretion of the instructor.

Fri, Jan 10<sup>th</sup> 2019

Drop/Add Ends: **Midterm Exam** No Class, Spring Break\* **Reading Days Final Exam** 

Thurs, Feb 27th 2019 Mon-Fri, Mar 2<sup>nd</sup>-6<sup>th</sup> 2019 Thurs-Fri, Apr 23-24<sup>th</sup> 2019 Thurs, Apr 30th 2019 Spring 2020 Grades Visible on https://one.uf.edu/dashboard/ Thurs, May 7<sup>th</sup> 2019

### VIII. Weekly Topic Schedule, Assignments, and Exams (Schedule is provisional and subject to change)

Date	Day	Class Topics	Assessments	Required Readings
Jan 7	Т	Course Introduction		
Jan 9	R	Hazards & Disasters: When Potential Becomes Reality		Montz et al. 2017, pp 1-21
Jan 14	Т	Hazards & Disasters: When Potential Becomes Reality; NO LECTURE TODAY; Do reading and work on assignment	Mapping the World Risk Index (Due Jan 21)	Montz et al. 2017, pp 21-39
Jan 16	R	Hazards & Disasters: When Potential Becomes Reality; <b>NO LECTURE TODAY;</b> Do reading quiz and work on assignment	Reading Quiz, Ch. 1 due Jan 17	Montz et al. 2017, pp 40-58
Jan 21	Т	Physical Dimensions of Natural Hazards: Meteorological & Hydrological Events	Discussion of Recent Hazard Events (Jan 1-20); Summary due Jan 28	Montz et al. 2017, pp 59-73
Jan 23	R	Physical Dimensions of Natural Hazards: Meteorological & Hydrological Events		Montz et al. 2017, pp 73-84
Jan 28	Т	Physical Dimensions of Natural Hazards: Geophysical Events	Mapping International Disaster Casualties (Due Feb 4)	Montz et al. 2017, pp 84-92
Jan 30	R	Physical Dimensions of Natural Hazards: Geophysical Events	Reading Quiz, Ch. 2 due Jan 31	Montz et al. 2017, pp 92-101
Feb 4	Т	Spatial & Temporal Characteristics of Natural Hazards	Discussion of Recent Hazard Events (Jan 21-Feb 3); Summary due Feb 11	Montz et al. 2017, pp 102-124
Feb 6	R	Spatial & Temporal Characteristics of Natural Hazards	Reading Quiz, Ch. 3 due Feb 7	Montz et al. 2017, pp 124-142

Feb 11	Т	The Individual in Natural Hazards: Decision-Making	Hurricane Evacuation Decision Tree (Due Feb 18)	Montz et al. 2017, pp 143-154
Feb 13	R	The Individual in Natural Hazards:  Philosophical Approaches	Decision free (Buc Feb 16)	Montz et al. 2017, pp 155-163
Feb 18	Т	The Individual in Natural Hazards: Situational Factors	Discussion of Recent Hazard Events (Feb 4-17); Summary due Feb 25	Montz et al. 2017, pp 163-174
Feb 20	R	The Individual in Natural Hazards: Personal Experience	Reading Quiz, Ch. 4 due Feb 21	Montz et al. 2017, pp 174-184
Feb 25	Т	The Individual in Natural Hazards: Cognitive Factors		Review for exam using study guide
Feb 27	R	Midterm Exam		
Mar 2-6		Spring Break; No Class		
Mar 10	Т	Community Behaviors & Attitudes Toward Hazard Adjustments	Discussion of Recent Hazard Events (Feb 18-Mar 9); Summary due Mar 17	Montz et al. 2017, pp 185-202
Mar 12	R	Community Behaviors & Attitudes Toward Hazard Adjustments	Reading Quiz, Ch. 5 due Mar 13	Montz et al. 2017, pp 202-215
Mar 17	Т	Public Policy & Natural Hazards: Goals & Implementation	International Disaster Aid (Due Mar 24)	Montz et al. 2017, pp 216-229
Mar 19	R	Public Policy & Natural Hazards: Goals & Implementation		Montz et al. 2017, pp 229-242
Mar 24	Т	Public Policy & Natural Hazards: Barriers to Effective Policy	Discussion of Recent Hazard Events (Mar 10-23); Summary due Mar 31	Montz et al. 2017, pp 242-251
Mar 26	R	Public Policy & Natural Hazards: Barriers to Effective Policy	Reading Quiz, Ch. 6 due Mar 27	Montz et al. 2017, pp 251-260
Mar 31	Т	Economic Impacts of Hazards & Disasters	Mapping International Disaster Damages (Due Apr 7)	Montz et al. 2017, pp 261-278
Apr 2	R	Economic Impacts of Hazards & Disasters		Montz et al. 2017, pp 278-296
Apr 7	Т	Risk Assessment readings; <b>NO LECTURE TODAY;</b> Do reading and work on assignment	Reflection on Sendai Framework (Due Apr 14)	Montz et al. 2017, pp 297-308
Apr 9	R	Risk Assessment readings; NO LECTURE TODAY; Do reading quiz and work on assignment	Reading Quiz, Ch. 7 due Apr 10	Montz et al. 2017, pp 308-328
Apr 14	Т	Risk Assessment: Defining and Measuring Risk	Discussion of Recent Hazard Events (Mar 24-Apr 13); Summary due Apr 21	Montz et al. 2017, pp 328-340
Apr 16	R	Risk Assessment: Changing Nature of Risk & the Risk Management Process	Reading Quiz, Ch. 8 due Apr 17	Montz et al. 2017, pp 341-359
Apr 21	T	An Integrated Approach to Natural Hazards		Montz et al. 2017, pp 359-374
Apr 30		Final Exam, April 30, 12:30 pm to 2:30 pm in TUR 3018		

## IX. Course Policies: Attendance, Make-Ups, and Grades

Attendance: Students are expected to attend class on a regular basis. Absences can be excused with proper documentation according to university policy. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <a href="https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx">https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx</a>.

**Late Work**: All assignments submitted after their respective deadlines will be assessed a penalty: ten percentage points within one week late, and an additional ten percentage points for every additional week late. Assignments will not be accepted if overdue by more than four weeks.

**Examination Policies and Reading Days:** Course policies are consistent with University policies on during-term exams, final exams, reading days, and make-up exams. Students must notify the instructor as soon as possible in case of absence during an exam and provide documentation as to the reason for the absence. If deemed an excused absence, the student will be permitted a reasonable amount of time to make up the missed exam. More details can be found at <a href="https://catalog.ufl.edu/UGRD/academic-regulations/examination-policies-reading-days/">https://catalog.ufl.edu/UGRD/academic-regulations/examination-policies-reading-days/</a>.

**Grade Dissemination:** You can access your scores at any time using the Grade function in Canvas. The instructor will post grades within about one week of the due date of each assignment and the mid-term exam.

**Grading Policies for Assigning Grade Points:** Information on current UF grading policies for assigning grade points may be found at https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

**Grades of "Incomplete"**: The current university policy concerning incomplete grades will be followed in this course. An incomplete grade may be assigned at the discretion of the instructor as an interim grade for a course in which you have completed a major portion of the course with a passing grade, been unable to complete course requirements before the end of the term because of extenuating circumstances, and obtained agreement from the instructor and arranged for resolution of the incomplete grade. Instructors are not required to assign incomplete grades.

### X. Course Policies: Technology and Media

**Email**: Each of you has a UF email address. It is vital that you maintain an active UF email account and that you **check it often**. This tentative syllabus is **subject to change**, and any changes will be transmitted to you via your UF email account and Canvas (see below). Students should email the instructor if they have questions about any of the lectures, readings, assignments, or exams. You should expect a response within about 24 hours during weekdays. On holidays or weekends, expect a response on the next business day. The instructor will reasonably expect similar time frames for responses to emails sent to students.

Canvas: Course materials such as lectures, readings, the syllabus, and assignment instructions will be available through Canvas (<a href="https://elearning.ufl.edu">https://elearning.ufl.edu</a>). You will also find all due dates and grades on Canvas. Students must activate their UF GatorLink account in order to use Canvas. If you need help learning how to perform various tasks related to this course or other courses that utilize Canvas, please consult the above webpage. You may also contact the UF Computing Help Desk at (352) 392-HELP(4357) or <a href="https://elearning.ufl.edu">helpdesk@ufl.edu</a>.

Online Course Evaluation: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <a href="mailto:gatorevals.aa.ufl.edu/">gatorevals.aa.ufl.edu/</a>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <a href="mailto:gatorevals.aa.ufl.edu/public-results/">gatorevals.aa.ufl.edu/public-results/</a>.

**Recordings and Notes:** It is not permitted to sell notes or recordings from this class without written consent of the instructor. Nor are students permitted to disseminate recordings of the instructor lecturing or post copies of assignments or exams on the internet.

### XI. Course Policies: Student Expectations

### **Disabilities Statement:**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <a href="https://www.dso.ufl.edu/drc/">www.dso.ufl.edu/drc/</a>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Academic Honesty & Conduct Policy: UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code." On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor code (sccr.dso.ufl/process/student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

### XII. Campus Resources for Students:

#### **Academic Resources**

E-learning technical support: Contact the <a href="UF">UF Computing Help Desk</a> at 352-392-4357 or via email at <a href="helpdesk@ufl.edu">helpdesk@ufl.edu</a>.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services at career.ufl.edu/.

*Library Support*: <a href="http://cms.uflib.ufl.edu/ask">http://cms.uflib.ufl.edu/ask</a>. Various ways to receive assistance with respect to using the libraries or finding resources.

*Teaching Center:* Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring. <a href="http://teachingcenter.ufl.edu/">http://teachingcenter.ufl.edu/</a>

*Writing Studio:* 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. <a href="http://writing.ufl.edu/writing-studio/">http://writing.ufl.edu/writing-studio/</a>

Student Complaints On-Campus: sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/

On-Line Students Complaints: distance.ufl.edu/student-complaint-process/

#### Health and Wellness Resources

*U Matter, We Care*: If you or someone you know is in distress, please contact <u>umatter@ufl.edu</u>, 352-392-1575, or visit <u>umatter.ufl.edu</u>/ to refer or report a concern and a team member will reach out to the student in distress.

*Counseling and Wellness Center*: Visit <a href="https://counseling.ufl.edu/">https://counseling.ufl.edu/</a> or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit https://shcc.ufl.edu/.

University Police Department: Visit police.ufl.edu/ or call 352-392-1111 (or 9-1-1 for emergencies).

*UF Health Shands Emergency Room / Trauma Center:* For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; <u>ufhealth.org/emergency-room-trauma-center</u>.