Hazards and Human-Environment Interaction  
PADM 5700

Instructor: Dr. Laura Siebeneck  
Office Location: Chilton 122F  
Semester: Spring 2017  
Office Hours: Tuesday 9am-1pm  
Course Schedule: Mondays 6-8:50  
E-mail: laura.siebeneck@unt.edu  
Course Location: ECB 120

Course Description:
The purpose of this course is to examine the complex relationships that exist between hazards and human-environment interactions. The first primary objective of this course is to introduce students to the theoretical paradigms and research rooted in the hazards and disaster traditions that address human-environment interactions during the mitigation, preparedness, response, and recovery phases. Emphasis will be placed on topics such risk perception, communication, and decision-making as it relates to hazards and disasters. Second, this course will introduce students to a variety of research methodologies utilized in the examination of hazards and disaster. As such, students will have the opportunity to practice these different techniques in a lab setting.

Course Text
All readings will be posted on Blackboard

Grading
Q&O and Participation: 20%  
Labs and Lab Write Up: 40%  
Final Project 20%  
Leading Discussion 20%

Grading Scale
A: 90-100%  B: 80-89%  C: 70-79%  D: 60-69%  F: 0-59%

I. Questions and Observations /Participation Grade

I. Weekly Discussion Question and Observations (Q&O’s)
Each week, students will be required to bring to class and hand in three questions and two observations pertaining to each assigned reading. You will be called upon periodically to share with the class these questions and observations. Therefore, they must be completed prior to class. These discussion questions must be typed and handed in at the end of the evening. In addition to this task, students are encouraged to take notes as they complete the reading assignments. This will account for 80% of your participation grade.

When formulating discussion questions and observations, you may want to consider points such as:
1) What is the main research question posed in the papers?
2) What major debates or points of contention are addressed in the articles?
3) How do the authors perspectives on the papers vary?
4) Are there any methodological issues or maybe better methods to doing this study?
5) What does this research mean for the practitioner vs. researcher?
6) What are the unanswered burning questions/ next research steps?
7) Do you have any critiques/criticisms of the paper? Why?
8) Did you find anything particularly unique in the studies?
9) Do the authors of the different papers reach any sort of consensus on particular topics?
10) Are there any new insights gained from these articles?

2. Class Participation
In addition to bringing the Q & O’s to class, students will be graded on their level of thoughtful and meaningful contribution to classroom discussion. This class is a graduate level seminar and will require a significant amount of preparation before class. As such, your level of participation will reflect how well you prepared for class. If you are not prepared to discuss a paper, it will be very clear to me and your classmates. In order to facilitate and participate in class discussion, you should come to class ready to discuss points about the readings. Active participation in class will account for 20% of your final Q&O and Participation grade.

3. Attendance
Attendance is mandatory and attendance will be taken every class period. Students are expected to be in class on time and to stay the entire class period. Missing class will hurt your class participation grade, so it is imperative to attend all class meetings. Students will be penalized for absences as well as for arriving late or leaving early. Students are allowed 1 free absence, therefore, there will be no excused absences except in special circumstances (e.g. documented serious illness, death in the family, other emergencies, etc.) and with prior approval from the instructor. Each additional absence will result in a 1 full point reduction of your Q&O and Participation grade. Since 20% of your final grade is Q&O and participation, missing 2 classes results in a 1% point deduction, so the final score would be reduced from 20% to 19%

II. Labs and Lab Write Ups
In this class, students will have the opportunity to apply the theories and research methods introduced during lecture in a lab setting. All Labs will be conducted in ECB 120 (the EOC Lab). Labs will consist of two parts: (1) the in-class assignment and (2) the lab write ups. Each lab will come with detailed instructions and more directions will be provided in class. Each lab / lab write up will be worth 10% of the final grade. Lab due dates are as follows:
Lab 1: Due Feb 13th
Lab2: Due March 6th
Lab 3: Due April 3rd
Lab 4: Due April 24th

III. Lead a Discussion
Students will also be required to take turns leading discussion on a scholarly paper. As individuals or in pairs, students will seek out and select a journal article of interest to them, provide a copy of the paper for the rest of the class to read, and lead class discussion on that paper. Keep in mind the article needs to fit the weekly theme. Based on the theme, a list of papers you may discuss will be provided. If you wish to select a paper not on the list, you must get prior approval from me. Students will sign up for their discussions in class January 20th. The steps for doing this are as follows:
(1) Identify a paper that you find interesting and will make a good paper for your fellow classmates to read.
(2) Check with me to see that the paper fits the scope of the seminar.
(3) E-mail me a pdf of the paper no later than 12:00 the Friday before you are scheduled to present. You may e-mail this to me earlier if you would like. I will post the reading on Blackboard. Failure to adhere to this timeline will result in a 10% deduction in your discussion grade.
(4) Introduce the paper to the class (that is the theme, questions, methods, key findings, etc.) This introduction should not exceed 5 minutes.
(5) Provide each member of the class a handout of 5 discussion questions that you plan to ask as you facilitate discussion. If you email these to me before noon on the day of class, I will print them for you.
(6) Lead the discussion during class on the paper. (See formulating discussion questions above for guidance on potentially what questions/comments you will use to lead discussion.)

Your discussion and presentation of the paper should be between 20 and 25 minutes in length. The discussion will account for 20% of the final grade. A successful discussion will be one in which the student comes prepared to lead discussion and is assertive in leading discussion and encouraging comments from their classmates. Make it lively, interesting, and engaging for your classmates.

IV. Final Project
For the final project, students will have the option to either conduct a local hazard risk assessment or will conduct a small study measuring and / or modeling risk. Students will be required to (1) develop a project objective (2) apply the theories, frameworks, and concepts covered in class in the design of their study, (3) gather data, and (4) analyze the data. Only quantitative methods are acceptable. This project will include four deliverables: (1) Project Approval (2) Proposal, (3) Final Paper, and (4) Professional Presentation. Details about this project are provided at the end of the syllabus.

Late Work
Late assignments (weekly questions/comments/ labs, presentation, final paper) will be accepted up to 1 week after the initial due date, however, they will be penalized at a rate of 10% per day including weekends. Students may not e-mail me their assignments. Exceptions may be made for valid circumstances if the instructor has notice prior to class time (e.g. serious illness, death in the family, etc.) however documentation must be provided before any accommodation will be made. Any exceptions will be made on a case by case basis at the discretion of the instructor.

Cheating and Plagiarism
As graduate students, it is imperative to maintain the upmost level of integrity and honesty. Your actions are not only a reflection of your character, but the reputation of this program and university. Cheating and plagiarism will not be tolerated. The UNT definition and policy on cheating and plagiarism is found at the end of the syllabus. Plagiarism.Org, expands this definition to include:
- Turning in someone else's work as your own
- Copying words or ideas from someone else without giving credit
• Failing to put a quotation in quotation marks
• Giving incorrect information about the source of the quotation
• Changing words by copying the sentence structure
• Copying so many words or ideas from a source that it makes up the majority of the work, whether you give it credit or not (i.e. copying and pasting from a variety of sources and calling it your own, even if you use citations.)

At a minimum, any student caught cheating or plagiarizing on any assignment or exam will receive a zero and a full letter grade reduction in the course. The instructor also reserves the right to assign the student an automatic F in the course. All instances of cheating or plagiarism will be reported to the Department and University for further disciplinary action. Cheating and plagiarism are serious offenses and are unbecoming of future professionals. Engaging in this behavior not only reflects poorly on the student, but the department and University as well. There are no second chances.

**Student Behavior**
All students are expected to conduct themselves in a professional manner at all times. Students are expected to be respectful to the instructor as well as their fellow classmates. Since this class has a major discussion component, having an atmosphere that allows for the exchange of idea and discussion of topics, at times controversial, is important. Any behavior that is disruptive or disrespectful – including but not limited to – talking when the instructor or fellow classmate is speaking, listening to your i-pod, surfing the internet, texting, talking on their cell phone, sleeping, etc. – will not be tolerated and the student may be asked to leave the class. In addition, students will lose 3% off their final grade per incident. A student may or may not receive a warning before the penalty is imposed, however the student will be notified in writing if any points are deducted. More clarification on the department’s policy on student conduct is found later in the syllabus.

**Use of Electronics in the Class**
This class follows the University Guidelines on the use of electronics, such as laptops and cell phones. I don’t mind if you take notes on a laptop while I am lecturing. However, laptops will need to be put away during student-led discussions. This is out of respect for your classmates. It is difficult to be engaged in an intellectually high-level discussion if you doing anything else besides concentrating on the exchange of ideas.

Any violations of these rules will result in the loss of laptop privileges for the rest of the semester.

**UNIVERSITY AND DEPARTMENT POLICIES**

**End of the Semester Evaluations**

**Required:** The dates students can complete the Student Evaluation of Teaching Effectiveness are the final two weeks of the semester. This is your opportunity to evaluate the instructor. Students can complete the on-line course evaluation at my.unt.edu
POLICY ON CHEATING AND PLAGIARISM
Notice of this policy shall be given in all public administration classes each semester, and written copies shall be available in the public administration office.

Definitions
The UNT Code of Student Conduct and Discipline defines cheating and plagiarism “as the use of unauthorized books, notes, or otherwise securing help in a test; copying other’s tests, assignments, reports, or term papers; representing the work of another as one’s own; collaborating without authority with another student during an examination or in preparing academic work; or otherwise practicing scholastic dishonesty.”

Penalties
Normally, the minimum penalty for cheating or plagiarism is a grade of “F” in the course. In the case of graduate departmental exams, the minimum penalty shall be failure of all fields of the exam. Determination of cheating or plagiarism shall be made by the instructor in the course, or by the departmental faculty in the case of departmental exams.

Cases of cheating or plagiarism on graduate departmental exams, papers, theses, or dissertations shall automatically be referred to the departmental Curriculum and Degree Programs Committee. Cases of cheating or plagiarism in ordinary course work may, at the discretion of the instructor, be referred to the Curriculum and Degree Programs Committee in the case of either graduate or undergraduate students. This committee, acting as an agent of the Department, shall impose further penalties, or recommend further penalties to the Dean of Students, if they determine that the case warrants it. In all cases, the Dean of Students shall be informed in writing of the case.

Appeals
Students may appeal a decision under this policy by following the procedure laid down in the UNT Code of Student Conduct and Discipline.

POLICY ON DISABILITY ACCOMMODATION
The Department of Public Administration, in cooperation with the Office of Disability Accommodation, complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request during regular office hours before the 12th class day of regular semesters (4th class day of summer sessions).

POLICY ON LAPTOPS AND CELL PHONES IN THE CLASSROOM
The classroom setting at an institution of higher learning is intended to serve as a venue that permits the transfer of knowledge and facilitates the sharing of ideas. As such, it is imperative that any distractions from these stated objectives be avoided and kept to a minimum. Potential disruptions include modern electronic devices such as laptop computers and cell phones.
Students are allowed to take notes on personal laptop computers to enhance the learning process, but they should not activate their internet browsers during class or use computers for non-academic purposes (as this diverts attention from the lecture/discussion for both the student using it and others nearby). Students should also avoid using cell phones to search the Internet or text while class is in session.

Exceptions to this policy will be at the discretion of the faculty only and may occur if searching the Internet is necessary to find additional information or facts related to the subject being covered on that particular day.

**POLICY ON STUDENT BEHAVIOR IN THE CLASSROOM**

Student behavior that interferes with an instructor’s ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Center for Student Rights and Responsibilities to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at [www.unt.edu/csrr](http://www.unt.edu/csrr).
Final Project Option 1: Measuring and Modeling Risk

For the final project, students will conduct a small study related to risk perception, risk communication, and/or decision-making. Students will be required to (1) develop a research question, (2) apply the theories, frameworks, and concepts covered in class in the design of their study, (3) gather data, and (4) analyze the data. Only quantitative studies are acceptable. Students may elect to work individually or in groups of 2-3 on this project. This project will include four deliverables: (1) Project Approval (2) Proposal, (3) Final Paper, and (4) Professional Presentation.

The deliverable dates are as follows:
1. Project Approval – anytime before 6:00 pm March 6th. ** If you do not get your project approved, you will lose 5% from your final project grade.
2. Proposal – Due in class March 20th
3. Written Report – Due May 1st
4. Project Presentation – In class May 1st or May 8th

Project Proposal

The project proposal is a 1-2 page (single-spaced) description of what you plan to do for your research project. In this proposal, you should include the following:

1. A description and justification of your research question. (What is your question/s and why does this question warrant research?
2. A description of your data collection method (what is your plan for getting data? Are you creating a survey or conducting interviews?)
3. A description of the research methods you intend to use and how this will help you to answer your research question. (e.g. What analysis techniques will you use? I am happy to meet and help guide you and develop this portion of the project.)
4. A description of your expected results. In other words, what do you expect to find?
5. A timeline for completing this project. (What are your project benchmarks and when do you plan to complete it by?)
6. Include references.

Written Report

Students are required to submit a final report in which they will describe their research project. Projects conducted individually should be between 10-15 pages double-spaced 12 pt. Times New Roman, 1-in margins (2-3 pages can be tables/figures.) References are not included in the
The format of the paper should be consistent with those used in scientific articles (Consult major journals for examples).

The general structure of this paper should be organized as follows:

1. **150-200 word abstract.** This abstract should include a problem statement, your research question/s, brief description of data collection and analysis techniques, and your findings.

2. **Introduction and Literature Review.** (Can be 2 separate sections as well)
   a. **Problem statement** (what are the informational/research needs relating to your topic? Briefly, what have other studies examined/found?)
   b. **Research questions** (This study will examine what?)
   c. **State your objective / hypotheses.**
   d. **Provide a thorough review of the literature related to your research topic.**

3. **Methods.**
   a. **Describe your data**
      i. What is it?
      ii. Who did you gather it from?
      iii. How was the data collected?
      iv. Describe the study area.
      v. **Describe your sample** (number of participants, survey participant demographics, etc.)
   b. **Describe the research methods you are using.**
      i. Discuss steps taken in the analysis. How did you analyze the data?
   c. **The number of observations needed will vary project to project depending on the data collection method and types of analyses you intend to conduct. Please consult me on this.**

4. **Results**
   a. **Present the results of the data analysis.** Provide charts/plots/graphs (if appropriate).

5. **Discussion/Conclusion**
   a. **Discuss your results.**
      i. What did you find?
      ii. Is this what you expected? (Refer back to hypothesis)
      iii. Did you answer your question or did new questions arise?
      iv. What can you conclude from your analysis?
      v. Are there any limitations to your study? Describe them.
   
   b. **Future research directions**
      i. What are the next logical steps in this research?

6. **References**
a. List all references quoted in the text. The references should be used describing your research area/background justification as well as the methodology.

**A note about references**: The paper should contain a minimum 10 references, 7 of which should be from journal articles, books, or book chapters. Four of the 7 scholarly references included may be from readings we covered in class. Scholar.Google is a great place to start searching journal articles as well as gather information and examples of research that has been done in your area of interest. You can use this information not only to help you formulate your research questions, but to find examples of how the methods covered in this class have been applied in other studies.

**Professional Presentation**

At the conclusion of this project, students will be required to give a professional presentation highlighting their research question and findings. Each presentation will be between 10-12 minutes in length and should generally follow the format of the written paper. I will provide further guidance about presentation expectations and a presentation grading rubric as we approach presentation dates. The project presentations are scheduled for **May 1st and May 8th**. Students are expected to attend both presentation sessions. Any unexcused absence during either presentation days will result in a 5% deduction off the student’s final presentation grade.

**Project Grades**

Your final grade for this project will consist of four components: (1) Proposal, (2) Proposal Presentation, (3) Written report, and (4) Professional presentation.

Approval of Project: 5%
Proposal: 5%
Written Report: 70%
Presentation: 20%
Final Project Option 2: Professional Quality Hazard Risk Assessment and Recommendations

For the final project, students may elect to conduct a professional quality risk and vulnerability assessment of three natural hazards, following the requirement outlined in FEMA’s local hazard mitigation guidance. These assessments may be either at the county or city scale. Students will be required to (1) identify and profile each hazard, (2) conduct a thorough hazard history for each hazard, (3) conduct a risk assessment (4) summarize vulnerability. This project will include four deliverables: (1) Project Approval (2) Proposal, (3) Final Paper, and (4) Professional Presentation.

The deliverable dates are as follows:
1. Project Approval – anytime before 6:00 pm March 6th. ** If you do not get your project approved, you will lose 5% from your final project grade.
2. Proposal – Due in class March 20th
3. Written Report – Due May 1st
4. Project Presentation – In class May 1st or May 8th

Project Proposal

The project proposal is a 1-2 page (single-spaced) description of what you plan to do for your research project. In this proposal, you should include the following:

1. A description of the community and the two hazards you are examining in your risk assessment.

2. A description of the data you propose to use in you analysis. In other words, identify the specific data sources you will utilize.

3. A description of the research methods you intend to use in your risk assessment. (e.g. I am happy to meet and help guide you and develop this portion of the project.)

4. A timeline for completing this project. (What are your project benchmarks and when do you plan to complete it by?)

5. Include references.

Written Report

Students are required to submit a final report in which they will present their professional quality risk assessment. Projects conducted individually should be between 10-15 pages single spaced 12 pt. Times New Roman, 1-in margins (4-6 pages can be tables/figures - negotiable if discussed with me ahead of time.) References are not included in the page count. The format of the assessment should be well organized, with heading separating the different hazards and section requirements.
The general structure of this paper should be organized as follows:

1. **A brief description of the community you are assessing.** Please provide a brief overview (about ½ to 1 page description of location, geography, history (when founded), demographics (people, is it urban, rural, suburban, primary economic sectors, etc.).

2. **Hazard Profile** (Guided by the FEMA Local Mitigation Planning Guidance) For this section, you will include a description of the type, location, and extent of the natural hazard affecting the jurisdiction. Specifically you will need to include
   
   a. **Type**- Introduce the hazard. What is the hazard? Provide an official definition and description of the hazard. Include information about why it occurs and when it occurs. Be sure to cite official sources.
   
   b. **Location** – Describe the geographic area within your county that is affected by the hazard. There are several ways to do this. Along with a description of the location, you can provide a map illustrating the location of the hazard (e.g. flood zone, earthquake faults and liquefaction zones, wildfire risk areas, storm surge inundation zones, etc.) We will be covering basic GIS skills in class if you would like to create your own map. In some cases, there may not be a geographic-specific location (e.g. tornadoes). In these cases, explain why the entire planning area may be equally at risk to a particular hazard.
   
   c. **Extent**- What is the strength and magnitude of the hazard? You will describe in detail how this hazard is measured (Saffir-Simpson, Enhanced Fujita, MMI, etc.) Include information about the duration and speed of onset of the hazard. Note the extent to which your location is at risk to the hazard. For example, if the county has a seismic risk, what is the range of earthquake magnitude they can experience? If you are looking at hurricane risk for a coastal community, what category hurricanes poses risks to this county?

3. **Hazard History and Frequency:** For this section you will describe the previous occurrences of each hazard in your selected county. You will also describe the probability of future hazard events.
   
   a. **Hazard history** – This section will include a history of the previous hazard events. Here you need to (1) provide a summary of previous occurrences (e.g number of tornados to strike Denton County since 1950) and (2) provide a short narrative of major events that have impacted the county (e.g. events that caused significant damage) (3) provide a summary of recent occurrences (within the last 5 years) and (4) describe if there were any disaster declarations as a result of the hazard being profiled.
   
   b. **Disaster Probability** – For this section you will provide a description of the likelihood of the hazard occurring in your community. You need to calculate both the recurrence interval and probability, as practiced in class. Be sure to describe how you did your calculation.
4. Hazard Impacts. Guided by 44 CFR 201.6(c)(2)(ii), this section will provide a summary of each hazard’s potential impacts on the community as well as include a description of the community’s vulnerability to the hazard. As stated in FEMA’s guidance, your assessment must provide an overall summary of the jurisdiction’s vulnerability to the identified hazards. The overall summary of vulnerability identifies structures, systems, populations or other community assets as defined by the community that are susceptible to damage and loss from hazard events.

5. Research-Guided Recommendations. Given your risk assessment, provide a 2-3 page statement of recommendations you would propose to either local leaders or citizens about actions they can take to reduce hazard risk and vulnerability in their community. For example, given the risks and demographic characteristics of an area, what strategies could be used to increase public participation in hazard mitigation and preparedness activities? If the hazardscape poses challenges related to evacuation or recovery, what can be done to make these processes more efficient? To what extent does the scholarly literature support your recommendations? What challenges could you face in the implementation of such recommendations? Please provide at least specific three recommendations for the community. These can pertain to any phase of the disaster cycle. Use no fewer than 5 scholarly sources to support your recommendations.

These recommendations need to be backed by scholarly research.

5. References

a. List all references quoted in the text. The references should be used describing your research area/background justification as well as the methodology.

**A note about references**: The paper should contain a minimum 10 references, 7 of which should be from credible, leading authorities on the hazards you are researching. Four of the 7 credible references included may be from readings we covered in class. You can use this information not only to help you formulate your risk-based recommendations, but to find examples of how the methods covered in this class have been applied in other studies.

Data Sources: These are many sites that provide good data for risk analyses. Several sites more frequently used to collect hazard data include the following: 1. National Climate Data Center – Storm Events Database http://www.ncdc.noaa.gov/stormevents/
2. Data.gov - information about Presidential Disaster Declarations (you must do a search)
Other good sources include the USGS, National Weather Service, National Fire Information Council (NFIC), the Tornado History Project, and FEMA’s National Flood Insurance Program website. You can also check out the community’s home page, newspaper articles, etc. to gather info about the hazard history. You will also have to consult additional sources for more information about community characteristics, structures, population, etc.).

Use of current or previous risk assessments for the county or city you are examining is prohibited. Students may not use a pre-existing risk assessment to gather the information for their assignment. The purpose of the assignment is to learn how to use data and gain practice applying the basic research skills you will need to demonstrate when in the field. Merely paraphrasing someone else’s risk assessment is not going to cut it and you will get a zero on the project if you do this.
Professional Presentation

At the conclusion of this project, students will be required to give a professional presentation highlighting their research question and findings. Each presentation will be between 10-12 minutes in length and should generally follow the format of the written paper. I will provide further guidance about presentation expectations and a presentation grading rubric as we approach presentation dates. The project presentations are scheduled for May 1st and May 8th. Students are expected to attend both presentation sessions. Any unexcused absence during either presentation days will result in a 5% deduction off the student’s final presentation grade.

Project Grades

Your final grade for this project will consist of four components: (1) Proposal, (2) Proposal Presentation, (3) Written report, and (4) Professional presentation.

Approval of Project: 5%
Proposal: 5%
Written Report: 70%
Presentation: 20%