

EMDS 501: Natural & Technological Disaster Risks

Fall 2023

Professor: Dr. Josh Durkee, University Meteorologist
Email: joshua.durkee@wku.edu
Facebook: <https://www.facebook.com/wkumetclim>
Website: <http://wkuweather.com> | <http://twitter.com/wkuweather>
App Store: search White Squirrel Weather
Office: 424 CHAOS Lab in EST
Phone: 270-745-8777 or 270-745-4555 (Main Office)
Office Hours: Via Zoom by appointment
Lecture: MTWRF; self-paced online



No Required Text

Course description:

This course provides an introduction of why natural and technological disasters occur by interweaving the themes of people, place, Earth's physical processes, and the complexities of multiple variables operating simultaneously. Students will develop a fundamental scientific understanding various natural events and how these events pose risk for potential disaster. Topics will include earthquakes, volcanoes, tsunamis, flooding, tornadoes, lightning, hurricanes, extreme heat and cold, dam-failures, industrial fires and explosions, hazardous waste events, nuclear accidents, power outages, transportation incidents, among others. Emergency Preparedness will be addressed to better prepare individuals for natural and technological hazard events.

Course structure:

The U.S. Department of Education requires that distance education courses must include regular and substantive interaction between students and faculty. For more information about Regular and Substantive Interaction at WKU, please visit the [Regular and Substantive Interaction in Online and Distance Learning webpage](#).

In this course, regular and substantive interaction will take place in the following ways:

- Content share regarding current & past events and how these events tie into course materials.
- Routine response to questions and discussions regarding course content.
- Timely feedback on scores within the week of completion.
- Recorded student project presentations with feedback from a pre-provided rubric.

Grading and Exams:

Your course grade will be based on your earned score from four regular exams and a graduate project. The exams may only be taken on the scheduled date, between the scheduled times via Blackboard. Absolutely no exceptions. The exams will contain 40 multiple choice questions. Once you start an exam, you have 60 minutes to complete. Scheduled times for all exams are between 8:00 am-8:00 pm (central).

Class project: **DUE FRIDAY October 27th at 8:00 pm (central)**

Each graduate student is expected to complete a course project that synthesizes any natural or technological disaster of choice. The format is a 23-25-slide presentation (no more or less) that outlines the event, relevant statistics (casualties, damages, costs, etc.), provides a thorough explanation of the science and/or technology that resulted in the incident, how the incident was managed at the time and just after the fact, and what outcomes resulted from the incident (e.g., lawsuits, new policies, or was it handled as expected?). What suggestions do you have on the management and outcomes of your case study? In the end, this presentation should serve as a usable demonstration at a meeting or conference. Therefore, your presentation must be very graphical, interesting, relevant, and intelligible for any educated

audience in this field of study. Finally, be sure to include bulleted side notes for each slide (e.g., PowerPoint offers a space beneath the slides for this) to demonstrate your talking points.

Please use Google Drive or some other online service to provide me a shareable link to download your project. Your project filename must be exactly as this: **lastname-firstname-brieftitle-EMDS-501-fa23**.

Graduate Student Memo:

You are expected to perform at a particularly higher level in all aspects compared to your undergraduate peers. You are expected to set a high-bar standard for the undergraduate students to follow. If you have a post-Master's degree, you will be held to the highest standard.

Grading Scale: Your final grade for this course will be evaluated from the following:

Grading Scale (%)

100-90	A
89-80	B
79-70	C
69-60	D
< 60%	F

Course requirements: Course requirements: (weights are subject to change)

4 Regular Exams
Class Project

80% @ 20% a piece
20%

Note: You should not expect a higher letter grade than what you earned on the scale in the event that you were “real close” or other outside factors aside from your work inside of the classroom.

Makeup tests? In short, there are NO MAKEUP EXAMS or QUIZZES/DISCUSSION GROUPS. The final exam is mandatory for all students and must be taken **only** at the scheduled time. No excuses. With regards to this, please come see me **only** if you have some extremely undesirable circumstance that you feel needs to be discussed, and no later than 24 hrs within the missed test. Typically, a missed regular exam (note: not quizzes) results in the final exam accounting for a greater proportion of your grade.

Extra credit? In fairness to all students, there will be NO EXTRA CREDIT given on an individual basis so please refrain from asking for extra credit. Please come see me as soon as you discover that you are having problems and I will be happy to try and help you resolve any difficulties that you may be having.

Academic Honesty:

Students are responsible for the Scholastic Dishonesty Code, which is in your student handbook. Scholastic dishonesty includes but is not limited to: copying others' work, using notes during tests, and sabotaging others' work. If I discover any scholastic dishonesty, I will report it.

Blackboard:

Test scores and grades will also be posted on Blackboard. You will be able to access Blackboard through the WKU portal at: <http://portal.wku.edu>. You will need your Net ID to do this. All professor-to-student communication will be conducted through your and my email addresses provided on TOPNET/Blackboard.

Title IX, Discrimination, Harassment and Sexual Misconduct Policy: Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy and Discrimination and Harassment Policy. Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator or Title IX Investigators.

Please note that while you may report an incident of sex/gender-based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and MUST report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

ADA Accommodations: In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, Room 1074. The SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at sarc.connect@wku.edu. Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

Additional help: The Learning Center (DSU 2141) provides free supplemental education programs for all currently enrolled WKU students. For more information, or to schedule a tutoring appointment, please call TLC at (270) 745-6254 or log onto <http://www.wku.edu/tlc>.

WKU Syllabus Information Links: <https://www.wku.edu/syllabusinfo/>

Miscellaneous:

Also, there is **zero tolerance** for any unacceptable behavior in the classroom and you will be asked to leave in the event that you show any disrespect (subject to my discretion) to your professor and your peers, and you will be reported. Lastly, the use of any tobacco products in the classroom is strictly prohibited.

EMDS 501 Lecture and Reading Schedule: *This general course outline is subject to change*

Week	Day	Date	Topic of Lecture
1	M	09.25	Population & Disasters 5 Steps of Emergency Management
	T	09.26	Physical Earth: Internal Energy
	W	09.27	Earthquakes and Volcanoes Part 1: Components
	R	09.28	Earthquakes and Volcanoes Part 2: Types and Risk
	F	09.29	Week 1: Safety and Preparedness Review
2	M	10.02	Tsunamis & Landslides
	T	10.03	Fundamentals of the Atmosphere FALL BREAK
	W	10.04	Severe Weather Part 1: Components TEST 1 (week 1 materials only)
	R	10.05	Severe Weather Part 2: Types and Risk
	F	10.06	Week 2: Safety and Preparedness Review
3	M	10.09	Floods Part 1: Components
	T	10.10	Floods Part 2: Types and Risk TEST 2 (week 2 materials only)
	W	10.11	Tropical Weather Part 1: Components Tropical Weather Part 2: Types & Risk
	R	10.12	<i>Fall Break</i>
	F	10.13	<i>Fall Break</i>
4	M	10.16	Week 3: Safety and Preparedness Review Fires Part 1: Components
	T	10.17	Fires Part 2: Types and Risk TEST 3 (week 3 materials only)
	W	10.18	Technological Hazards Part 1: Components
	R	10.19	Technological Hazards Part 2: Types and Risk
	F	10.20	Week 4: Safety and Preparedness Review
5	M	10.23	Case Study: 1-5
	T	10.24	Case Study: 6-10 TEST 4 (week 4 materials only)
	W	10.25	Case Study: 11-15
	R	10.26	Case Study: 16-20
	F	10.27	Final Projects Due by 8:00 pm (central)

Failure to plan on your behalf, does not create a crisis on mine!

Test/Exam Schedule

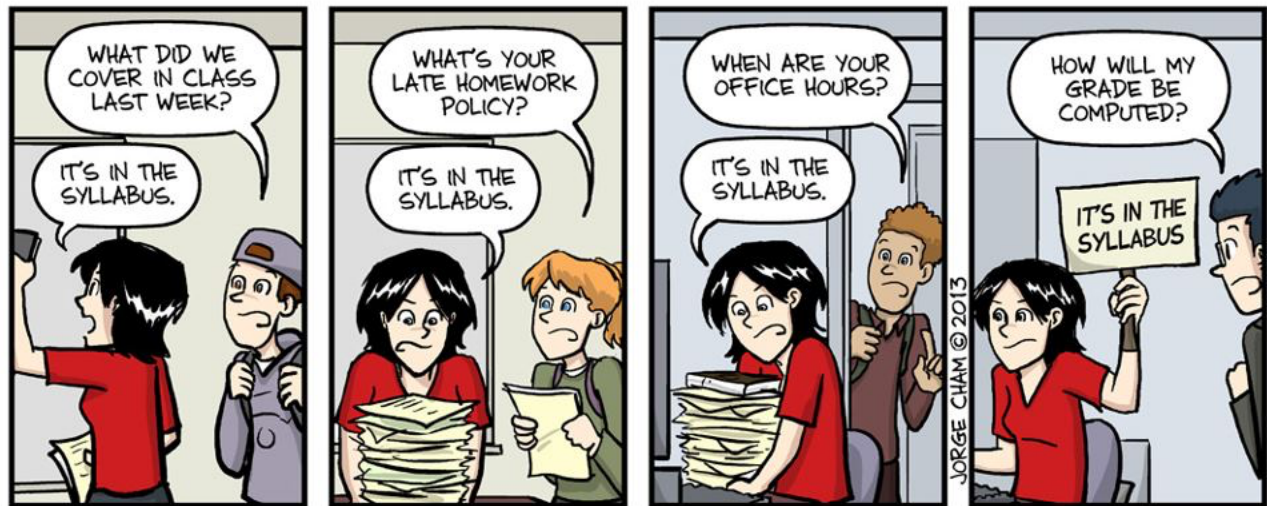
If unanticipated events occur, the test/exam schedule will be modified accordingly.
There will be no make-up final exam and no tests/exam will be given prior to their scheduled time.

	Date/Time
Exam 1	Wednesday, Oct. 4 th
Exam 2	Tuesday, Oct. 10 th
Exam 3	Tuesday, Oct. 17 th
Exam 4	Tuesday, Oct. 25 th
Project Due	Friday, Oct. 24 th

Other Important Dates (deadlines)

Type	Date	Day
Drop/Add	Sept. 27	Wednesday
Withdrawal	Oct. 18	Wednesday

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IT'S IN THE SYLLABUS

This message brought to you by every instructor that ever lived.