SSCI 577 (Section 35623D), Human Security and Disaster Management

Syllabus

Units: 4

Term Day Time: Spring 2022, Online

Location: Online

Instructor: COL Steven D. Fleming, Ph.D.
Office: AHF B55
Office Hours: Tuesdays 8-9 AM and Thursdays 9-10 AM.
NOTE: Students will need to inform me in advance that they desire to meet during these office hours. We will meet via a Zoom meeting. Additionally, I am always available asynchronously via email and synchronously via phone on most days and times by prior arrangement via email.
Contact Info: s.fleming@usc.edu, 213-740-7144

Library Help: Andy Rutkowski
Office: VKC 36B
Office Hours: Thursdays, 10 am-12 pm PT
Contact Info: arutkows@usc.edu, 213-740-6390
Zoom: Provided via Blackboard

IT Help: Richard Tsung
Office: AHF 146
Hours of Service: By appointment
Contact Info: spatial_support@usc.edu, 213-821-4415
Course Scope and Purpose

This course is the introductory course to the Master of Science Degree in Human Security and Geospatial Intelligence. It is designed to provide students with the requisite baseline knowledge of the discipline that ultimately will translate into informed effective decision-making in a variety of human security settings. Threats to human security come in many forms – military operations, terrorist attacks, genocide, political violence, natural disasters, humanitarian crises, environmental risks, public health issues and food/resource accessibility challenges, among others – and this class leverages a variety of exposures to geospatial solutions for the intelligence community and intelligence products that support national security, disaster response, and humanitarian relief efforts.

Managing chaos and addressing complex emergencies are critical to global security. For example, major natural disasters (earthquakes, floods, hurricanes, etc...) increasingly impact large populations as people are living in more remote and higher density environments that align with regions of the world where hazards exist. This course examines the complex relationship between human security concerns (population growth, urbanization, stabilization, conflict, among other processes) and disasters – both manmade and natural – where resulting emergencies are increasingly impactful to human populations throughout the world. Students utilize quantitative and qualitative methods – including geospatial technologies – to gain insight into physical geography (where natural hazards exist), the subsequent impacts disaster events have on the human geographies (social world), and the importance of spatial sciences to help understand the interdependencies of both.

This a graduate level course, so you should expect this class to be both academically robust and intellectually challenging. As graduate students, you are expected to engage with the information you are learning and to explore the heady cauldron of ideas, opinion, and analysis that describe our collective effort to thoroughly interrogate the subject at hand. Learning arises from active engagement with the knowledge found in our reading materials and with one another. As in any graduate-level class, the instructor’s role is that of a guide who keeps you on this path of discovery and you will find that you will learn much from your fellow classmates. The challenge for us is to replicate such an academic experience within the milieu of “online learning”.

All course materials will be organized through Blackboard. The main theoretical concepts will be provided through course notes and assigned readings. Assignments will give students an opportunity to internalize and apply the concepts and theory learned from readings. Some assignments require student interaction, all will benefit from it.
Learning Outcomes

On completion of this course, students should be able to:

- Demonstrate an understanding of the underlying processes that give rise to disasters such as earthquakes, floods, hurricanes, and more.
- Measure how society evaluates and confronts the dangers posed by these processes from a political, social, and ethical perspectives in your own words.
- Utilize geospatial technologies – and applications of the same – to visualize and analyze the sites of disasters along with the populations affected by these events.
- Evaluate the efficacy technological innovations that are allowing an increasingly large human population to monitor, predict, and warn society about impending disasters.

Prerequisite(s): None
Co-Requisite(s): None
Concurrent Enrollment: None
Recommended Preparation: None

Class Conduct

Harassment, sexual misconduct, interpersonal violence, and stalking are not tolerated by the university. All faculty and most staff are considered Responsible Employees by the university and must forward all information they receive about these types of situations to the Title IX Coordinator. The Title IX Coordinator is responsible for assisting students with supportive accommodations, as well as investigating these incidents if the reporting student wants an investigation. The Title IX office is also responsible for coordinating supportive measures for transgender and nonbinary students such as faculty notifications, and more. If you need supportive accommodations you may contact the Title IX Coordinator directly (titleix@usc.edu or 213-821-8298) without sharing any personal information with me. If you would like to speak with a confidential counselor, Relationship and Sexual Violence Prevention Services (RSVP) provides 24/7 confidential support for students (213-740-9355 (WELL); press 0 after hours)

Course Notes

This course aims to engage students in many dynamic processes, focused primarily on the relationships between disaster events and human populations. Student learning experiences are achieved through a combination of course readings, class assignments, laboratory exercises, and online discussions.
No make-up dates will be offered for assignments, so mark the appropriate dates on your calendars. If there is legitimate conflict, speak with a course instructor as soon as possible so we can make alternative arrangements.

**Technological and Communication Requirements**

ArcGIS is provided online via the GIST Server; hence, you do not need to install it on your own computer. Instead, every student must have the following technology requirements:

- A computer with a fast Internet connection.
- A functional webcam and a microphone for use whenever a presentation or meeting is scheduled.
- An up-to-date web browser to access the Server

If a student does not have access to any of these, please speak with the instructor at the start of the semester. Also, see the USC ITS Student Toolkit here: [https://keepteaching.usc.edu/students/student-toolkit/](https://keepteaching.usc.edu/students/student-toolkit/)

**SSI Server and Tech Support** – This course utilizes the SSI Server which is a virtual desktop giving access to many different professional software. If you are unable to connect to the server or experience any type of technical issues, send an email using your USC account to SSI Tech Support at spatial_support@usc.edu, making sure to copy (cc) me on the email.

**Communications** – This is a distance learning course, so most of our interactions will be asynchronous (not at the same time). All materials to be handed in will be submitted via Blackboard. It is each student's responsibility to stay informed about what is going on in our course. In addition to email about time-sensitive topics, any important announcements will be posted on the Announcement page in Blackboard. Be sure to check these each time you log onto Blackboard.

I will send via email through Blackboard any notices that are time sensitive. Please be sure that you read as soon as possible all email sent from Blackboard or from me. Do not ignore course email until the day before assignments are due. Also, double check to be sure that email sent from the USC blackboard account does not go into your junk mail!

While I am usually on-line all day and will probably respond to emails from students very quickly, I will endeavor to respond to all email within 24 hours of receipt, aiming for no more than 72 hours delay. In the rare case when I expect to be off-line for more than 72 hours, I will post an announcement on the Blackboard site.

**Discussion forums** – On the Blackboard site, I will post a series of discussion threads relevant to various sections of the course. Discussions provide a key means for student-to-student discussion and collaboration that can replicate the face-to-face contact you may have experienced in traditional classrooms. Here students can provide support to each other while working on your assignments, sharing hints and helpful tips, as you would in a classroom laboratory. Please post your questions about assignments there, as you would ask
them publically in the classroom. I monitor the discussion threads and offer comments when necessary, but more importantly, consider the discussion board a key way to connect with your classmates and share your discoveries.

**Required Readings and Supplementary Materials**

*Textbooks* – There are three required texts for this course. Some are available online and some are available from the USC Bookstore or online outlets such as Amazon. We encourage you to acquire or purchase these books quickly since you will need these materials from the opening day of class.

- Sui, D. 2008. *Geospatial Technologies and Homeland Security (DO NOT PURCHASE - selected readings will be provided)*. College Station, TX: Springer.

These textbooks will be supplemented with Course Notes and a mixture of supplemental readings from academic journals, professional reports, and authoritative websites.

*Supplemental Readings* – Some of the following book chapters, journal articles, white papers, etc... will be posted to Blackboard under Course Documents:


**Description and Assessment of Assignments**

**Weekly Assignments**

There are several different kinds of assignments with at least one due weekly. These are described in the Weekly Folders on Blackboard. Due dates are shown in the summary that follows.

*Introduction* (1%) – Take a moment and introduce yourself to the class by posting a thread on the Blackboard course website that shares your background, experience, and interest in Geospatial Intelligence.

*Resume* (2%) – We require all current students to post and maintain a public resume, short biography and recent photo on our shared GIST Student Community Blackboard site. With your permission, your photo and resume will be posted to the Spatial Sciences Institute website and your resume will be included in the SSI Resume Book. The latter is compiled annually and along with our web presence used to promote our programs and more importantly, your skills, experience, and professional aspirations.

*Reading Assignments* (20%): Students will be required to complete five reading assignments comprised of quantitative and/or qualitative analysis to gain insight on the processes underlying disasters as well as examine the impact these events have on human populations. An optional additional reading will be provided late in the course for students to complete. If a student completes this optional reading assignment, the grade assessed will only be used to replace a Reading Assignment grade of lower value.

*Disaster Log* (20%): Students will be required to keep a journal of four significant disaster events that happened over the course of the semester that made media headlines. This assignment will require students to locate and evaluate technical information from online agency sites such as the National Geospatial-Intelligence Agency, the U.S. Geological Survey (USGS), and the National Oceanic and Atmospheric Administration (NOAA).

*Laboratories/Exercises* (20%): Students will complete four required laboratories/exercises that will utilize Esri’s ArcGIS Online to gain insight and experience observing, mapping, analyzing, and interpreting spatial data on natural hazards and disasters.

*After Action Report* (12%): Students will complete an After Action Report on one specific disaster event of their choice. Additional background and exploration regarding these types of events will be reinforced by participating in virtual field trip(s) in the California area. The report will draw upon course lectures, discussions, readings, and outside sources to organize and
deliver a summary of the disaster event and its associated impacts on the affected human population. The report is limited to 10 pages in length (with 12-point font, 1 inch margins, single-spacing for text) and will mostly comprise of maps, tables, and other graphics as well as a list of references. The report will then be “translated” into Esri’s StoryMap tool and posted publicly.

Final Team Project (25%): The cumulative final project will consist of an integrative project that will require students to reflect on all aspects of the course, which includes course readings, online discussions, class assignments, and laboratory exercises. Student teams will be expected to use unique, new software in completing this project and then Esri’s StoryMap tool to deliver an oral presentation of their project during the final exam period.

Grading Breakdown

Careful planning and a serious, consistent commitment will be required for you to successfully navigate the various deliverables in this and other GIST courses. The table below summarizes the SSCI 577 course assignments and their point distribution:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Points</th>
<th>Total</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1 @ 1 pts</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Resume</td>
<td>1 @ 2 pts</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Reading Assignments (RA)</td>
<td>5 @ 4 pts</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Laboratory Exercises (L)</td>
<td>4 @ 5 pts</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>After Action Report</td>
<td>1 @ 12 pts</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Disaster Log</td>
<td>1 @ 20 pts</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Final Team Project</td>
<td>1 @ 25 pts</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
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<td><strong>100</strong></td>
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And finally, it is important to note from the outset that: (1) you are expected to complete/upload all assignments at the time detailed; (2) late postings and assignments will be docked one grade and no grade will be given for postings or assignments turned in more than two weeks late; and (3) no written work will be accepted for grading after 5:00 p.m. PT on the last day of classes. Any exceptions to these rules for meeting deadlines are only made by me in coordination with individual students. An example of an exception would be a student’s illness or injury that reasonably prohibits course involvement/participation. Assignment Submission Policy - Assignments will be submitted for grading via Blackboard using the due dates specified in the Course Schedule below.

Additional Policies

Communications – This is a distance learning course, so most of our interactions will be asynchronous (not at the same time). All materials to be handed in will be submitted via
the Blackboard Assessment link. I will also create multiple Blackboard discussion forums throughout the semester that we will use for the aforementioned assignments and so we can discuss issues and comments on the course assignments, exercises, and projects as the need arises.

In addition, I will send via e-mail through Blackboard any notices that are time sensitive. Please be sure that you read as soon as possible all e-mail sent from Blackboard or from me. Check now to make sure that mail sent from both the USC Blackboard accounts and my official email (s.fleming@usc.edu) does not go into your junk mail.

While I am usually online and will probably respond to e-mails from students relatively quickly, I will endeavor to respond to all e-mail within 24 hours of receipt, aiming for no more than 48 hours delay. In the rare case when I expect to be offline for more than 60 hours, I will post an announcement on the Blackboard site.

That said, it is each student's responsibility to stay informed about what is going on in our course. In addition to e-mail about time-sensitive topics, any important announcements will be posted on the Announcement page in Blackboard. Be sure to check these each time you log onto Blackboard.

**Workload** – This is a four credit, one semester course. Students should expect to spend 12-15 hours per week completing the work in this course.

### Course Schedule: A Weekly Breakdown

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings and Assignments</th>
<th>Deliverables/Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1</strong>&lt;br&gt; 1/10</td>
<td><strong>Introduction to Human Security and Disasters</strong>&lt;br&gt;The chaotic world we live in and how we manage it is introduced and discussed.</td>
<td>Readings: Smith - Intro; Green - i-xxiv.</td>
<td>No deliverables.</td>
</tr>
<tr>
<td><strong>Week 2</strong>&lt;br&gt;1/17*&lt;br&gt;*Monday, 1/17 is a university holiday</td>
<td><strong>Introduction to Natural Hazards and Disasters</strong>&lt;br&gt;Introduction to natural hazards and associated impacts on society. Discussion question: What does human security and disasters have to do with human values?</td>
<td>Readings: Smith - Ch. 1; USGIF 2 – Foreword and EXSUM.</td>
<td>Introduction Due 1/18</td>
</tr>
<tr>
<td><strong>Week 3</strong>&lt;br&gt;1/24</td>
<td><strong>Hazard in the Environment</strong>&lt;br&gt;Introduction to environmental disasters. Discussion questions: What do hazard, risk, vulnerability, and disaster mean? How are these terms measured?</td>
<td>Readings: Green - Ch. 1; Supplemental Readings.</td>
<td>RA1 Due 1/24</td>
</tr>
</tbody>
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| Week 4 1/31 | Dimensions of Disasters and Emergencies | A discussion on disaster – archives, time periods, and spatial patterns. Discussion question: What are some problems with disaster data and measurement? | Readings: Smith - Ch. 2; Supplemental Reading. Assignments: RA2 & Disaster Log – Entry 1 | L1 Due 1/31 |
| Week 5 2/7 | Complexity, Sustainability, and Vulnerability | A discussion on complexity science; drivers of vulnerability and sustainability. Discussion question: What is meant by “Behavioral Approaches” to disaster research? | Readings: Smith - Ch. 3; Green – Appendix A. Assignment: L2 | RA2 Due 2/7 |
| Week 6 2/14 | Risk Assessment and Management | A discussion on risk perception. Discussion questions: Why is perception important and what factors influence perception? How is risk different from disaster and vulnerability? | Readings: Smith - Ch. 4; Supplemental Reading. Assignment: RA3 & Disaster Log – Entry 2 | L2 Due 2/14 |
| Week 7 2/21* *Monday, 2/21 is university holiday | Reducing the Impacts of Disaster | A discussion on mitigation and adaptation strategies to reduce the impacts of disaster. Discussion questions: What is meant by “coping” and how is coping related to livelihoods? Why is the sequence of coping strategies important for disaster management? | Readings: Smith - Ch. 5; Greene - Ch. 2 & 3. Assignment: L3 | RA3 Due 2/21 |
| Week 8 2/28 | Earthquakes and Volcanic Eruptions | A discussion on plate tectonics and the impacts of earthquakes and volcanic eruptions. Discussion questions: To what extent is earthquake preparedness a public or private concern? How does the frequency and magnitude of earthquake damage affect risk perceptions, behavior, and policy? | Readings: Smith Ch. 6 (minus section on tsunamis) and Ch. 7. Virtual Field Trip #1: Earthquakes. Assignment: Resume & Disaster Log – Entry 3 Additional Assignment of After Action Report (AAR) | L3 Due 2/28 |
| Week 9 3/7 | **Severe Tropical Storm Disasters** | **Readings:** Smith Ch. 9; Supplemental Reading.  
**Discussion questions:** What are some of the structural causes of the Katrina disaster? What is the “safe development paradox”?
**Assignment:** RA4. | **Resume Due 3/7**

| 3/14 | **3/13-3/20 is Spring Recess** | **Disaster Log “Azimuth Check” Due 3/10** |

| Week 10 3/21 | **Floods and Tsunamis** | **Readings:** Smith Ch. 11; Greene Ch. 4.  
**Assignment:** L4 & Disaster Log – Entry 4  
**Additional Assignment of the Final Team Project will be made by the end of Week 10.** | **RA4 Due 3/21**

| 3/28 | **Wildfires** | **Readings:** Smith Ch. 10 (pp. 268-272 and 286-298); Greene Ch. 5; Supplemental Reading; USGIF 1.  
**Virtual Field Trip #2:** Wildfires and Hurricanes.  
**Assignment:** RA5 | **L4 Due 3/28**

| Week 11 4/4 | **Droughts** | **Reading:** Smith Ch. 12.  
**Virtual Field Trip #3:** Drought.  
**No planned additional assignments** | **RA5 Due 4/4**

| 4/7 | **Disaster Log Due 4/7** | **Due 3/21** |
Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on Research and Scholarship Misconduct.

Students and Disability Accommodations

USC welcomes students with disabilities into all of the University’s educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be
given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu

### Support Systems

**Counseling and Mental Health - (213) 740-9355 – 24/7 on call**
studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

**National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call**
suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

**Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call**
studenthealth.usc.edu/sexual-assault

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

**Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086**
eeo-tix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

**Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298**
usc-advocate.symplicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

**The Office of Student Accessibility Services (OSAS) - (213) 740-0776**
osas.usc.edu

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

**USC Campus Support and Intervention - (213) 821-4710**
campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

**Diversity, Equity, and Inclusion - (213) 740-2101**
diversity.usc.edu
Information on events, programs and training, the Provost’s Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

**USC Emergency** - **UPC:** (213) 740-4321, **HSC:** (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

**USC Department of Public Safety** - **UPC:** (213) 740-6000, **HSC:** (323) 442-120 – 24/7 on call
dps.usc.edu

Non-emergency assistance or information.

**Office of the Ombuds** - (213) 821-9556 (UPC) / (323-442-0382 (HSC)
ombuds.usc.edu

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

**Occupational Therapy Faculty Practice** - (323) 442-3340 or otpf@med.usc.edu
chan.usc.edu/otfp

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.

**Resources for Online Students**

The Course Blackboard page and the GIST Community Blackboard page have many resources available for distance students enrolled in our graduate programs. In addition, all registered students can access electronic library resources through the link https://libraries.usc.edu/. Also, the USC Libraries have many important resources available for distance students through the link: https://libraries.usc.edu/faculty-students/distance-learners. These include instructional videos, remote access to university resources, and other key contact information for distance students.