SSCI 595 (Section 35751D), CAPSTONE - Applied Geospatial Intelligence Problem Solving

Syllabus

Units: 2

Term Day Time: Spring 2022, Online

Location: Online

Instructor: COL [R] Steven D. Fleming, Ph.D.
Office: AHF B57G
Office Hours: Tuesdays from 8-9 AM and Thursdays from 9-10 AM. I plan to open my Zoom room during this time. However, students still need to inform me in advance that they desire to meet during these office hours so that I can allocate time to their specific needs. Additionally, I am 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: Thurs 10 AM – 12 PM (noon) PT
Contact Info: arutkows@usc.edu
Zoom: Provided via Blackboard

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

This course is the capstone requirement for the Master of Science in Human Security and Geospatial Intelligence. This course is designed to provide students a hands-on problem solving opportunity that requires them to employ knowledge and GEOINT skills in order to provide decision makers an informed recommendation involving 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.

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 and delivered (in person) if/when at resident location. 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.

Students may vary in their competency levels on these abilities. You can expect to acquire these abilities only if you honor all course policies, attend classes regularly, complete all assigned work in good faith and on time, and meet all other course expectations of you as a student.

Learning Objectives
When you have completed this course, you will be able to:

• Reinforce the understanding of geospatial intelligence applications of Human Security and GEOINT as related to government, industry, and academe.
• Design and implement strategies for capturing or sourcing geospatial intelligence data and any accompanying metadata.
• Critically evaluate the potential impacts of data quality on spatial analysis and decision making to the intelligence community.
• Apply critical thinking, collaboration, and communication skills.
• Synthesize learning by preparing and presenting a project report on Geospatial Intelligence, tailored to a specific, real-world human security application.

**Prerequisite(s) [preferred order]:** SSCI 581; SSCI 577; SSCI 587; SSCI 588, SSCI 579.

**Prerequisite or Co-Requisite:** SSCI 585.

**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, including academic 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).

**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

**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 spacial_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 publicly 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 is one required (and provided) text for this course. Some (of the optional texts) are available online and some are available from the USC Bookstore or online outlets such as Amazon. We encourage you to acquire these books quickly since you will need these materials from the opening day of class.


This textbook will be supplemented with course notes, videos, and a mixture of planned readings from academic journals, professional reports, and authoritative websites. The list below is a sample of some of the readings that may be used.

• Evans, Howard, James Lange, and James Schmitz. 2015. *The Phenomenology of Intelligence-focused Remote Sensing (selected readings)*. Beavercreek, OH, Riverside Research.


• United States Geospatial Intelligence Foundation (USGIF 3). 2019 (and previous years). *The State and Future of GEOINT*. USGIF, Herndon, VA, USGIF Press.

**Description and Assessment of Assignments**

Your grade in this course will be determined on the basis of several different assessment tools:

**External Assignments** (15%) – These will focus on the theory portion of the course as presented in the weekly readings. Their objective is to help you evaluate and integrate the information you have acquired from the course readings. Some of these will involve discussions and collaborative work and some will be individual efforts.

**Discussion Forums** (20%) – These will focus on varying combinations of theory and practice as well reviews of the project topics/progress. It is anticipated that you will contribute to and participate in a series of discussion threads via Zoom, phone calls, and in person (e.g. while at virtual events such as GEOINT 2022) throughout the semester.

**Final Project** (65%) – The final project will afford you the opportunity to work in small teams and demonstrate your ability to identify and rapidly investigate a real-world problem using the coursework you have completed thus far. Working in small teams, you will all make extensive use of geospatial data sources and analysis tools and will be required to define possible scenarios, identify key challenges, explore possible solutions and deliver a preferred and an effective solution for an important human security need or challenge in your final project. The final presentation will be done at either the GEOINT Symposium (or similar event) and/or out-brief to the customer.
**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 595 course assignments and their point distribution:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Number</th>
<th>Points Each</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weekly Assignments</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussions</td>
<td>5</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>External Assignments</td>
<td>2</td>
<td>7.5</td>
<td>15</td>
</tr>
<tr>
<td><strong>Team Project Components</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposal</td>
<td>1</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Literature Report</td>
<td>1</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Group Presentation</td>
<td>1</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Final Report</td>
<td>1</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>100</td>
<td>100</td>
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</table>

And finally, it is important to note from the outset that: (1) you are expected to participate in every class session and 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 one week late; and (3) no written work will be accepted for grading after 5:00 p.m. PT on the last day of exams. Any exceptions to these turn-in assignments 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 resident and 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 two credit, one semester course. Students should expect to spend 6-8 hours per week during a fifteen-week period completing the work in this course.

**Course Schedule: A Weekly Breakdown**

<table>
<thead>
<tr>
<th>Section I</th>
<th>Topic</th>
<th>Readings</th>
<th>Deliverables/Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weeks 1-2</strong></td>
<td><strong>Geospatial Intelligence Context:</strong> Review of the intelligence community, the players and their typical roles and responsibilities.</td>
<td>NGA (2018)</td>
<td></td>
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<tr>
<td>1/10-1/21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Section II</strong></td>
<td><strong>Geospatial Intelligence - Applied Geospatial Intelligence Problem Solving 1:</strong> Real-world application of industry, government, and academe integration to a focused GEOINT problem.</td>
<td>NGA (2018)</td>
<td>Group Discussion #1 (Zoom)</td>
</tr>
<tr>
<td><strong>Weeks 3-4</strong></td>
<td></td>
<td>NRC (2007)</td>
<td>Student Project Assessments</td>
</tr>
<tr>
<td>1/24-2/4</td>
<td></td>
<td>USGIF (2019+)</td>
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<tr>
<td>Section VII</td>
<td>Geospatial Intelligence - Applied Geospatial Intelligence Problem Solving 6: Team presentations summarizing results and what was learned from the project.</td>
<td>None Assigned Readings</td>
<td>Final Project Delivered and Report Submitted</td>
</tr>
</tbody>
</table>
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
eerotix.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 otfp@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.