

Commercial Imagery

Professor Steven Christian	INSS 5312
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915-320-4743	Duration: 09/01/2024-01/15/2025
Office Hours: By Appointment	CRN: 16479
100% Online	Term: 202430
Virtually: Microsoft Teams	Evenings 6:00-8:50pm All times provided are Mountain Standard Time

I. TEXTBOOK

Primary: •Clark, Robert M. (2014). Intelligence Collection. Thousand Oaks, CA: CQ Press.
(ISBN: 978-1-4522-7185-9)

I. OBJECTIVES

Upon satisfactory completion of this course, the student will be able to:

- Understand the capabilities and limitations of key collection systems
- Critically read and review technically derived intelligence products
- Apply critical thinking skills to a technical intelligence related issue
- Research, organize, and document information properly
- Theoretically apply nonliteral collection to contemporary, real-world scenarios
- Organize your research paper logically, based on target characteristics and collection assets
- Produce a finished formal briefing, tailored to a senior official in the IC
- Succinctly brief your findings to the class

II. CATALOG DESCRIPTION

This course explores the domains of open-source commercial imagery and remote sensing. These increasingly sophisticated images have numerous applications across a diverse variety of fields such as defense, conservation, emergency response, agriculture, engineering and planning, mapping, and energy. This course is designed to cover the ways in which imagery is obtained and employed, as well as the capabilities of the various sensors utilized on commercial satellite and aerial platforms. This includes optical imaging, multispectral, hyperspectral, thermal, radar and light detection and ranging. There will be a particular emphasis on defense and intelligence applications.

II. COMMUNICATION

Email: UTEP e-mail is the best way to contact me. I will make every attempt to respond to your e-mail within 24-48 hours of receipt. When e-mailing me, be sure to email from your UTEP student account and please put the course number in the subject line. In the body of your e-mail, clearly state your question. At the end of your e-mail, be sure to put your first and last name, and your university identification number.

Announcements: Check the Blackboard announcements frequently for any updates, deadlines, or other

important messages.

Office Hours: I am available to meet virtually upon request. Appointments should be scheduled via e-mail.

III. COURSE REQUIREMENTS

Punctuality and Attendance (10%)

Unless absences and/or late arrivals are pre-approved, or due to a reasonable excuse as outlined in the university handbook, **attendance and punctuality are required!** This course is heavily reliant on classroom discussions and lab participation, requiring physical attendance. Moreover, arriving to class late is disruptive and disrespectful. If you know you cannot make it to class on time, let me know in advance!

1st Transgression

- I will not deduct points for the first unexcused absence or late arrival. However, without pre-approval or a reasonable excuse you may still lose points on other assignments.

2nd Transgression

- **I will deduct 5 points from your final grade** for the second unexcused absence or late arrival. You may also lose points on other assignments.

3rd Transgression

- **I will deduct 10 points from your final grade** for the third unexcused absence or late arrival. You may also lose points on other assignments.

Final Report (30%)

A satisfactory report will include a:

- summary of the techniques used to gather actionable threat intelligence.
- visual representation of the information extracted during lab hours.
- discussion of the strengths and weaknesses of open sources as a basis for intelligence information and analysis.
- proactive solution to combat active and emerging threat actors and improve security posture.

This report will require students to write thoughtfully using formal academic language, APA style citations, and academic sources beyond class readings.

- Paper must be a minimum of 20 pages in length.
- Have at minimum of 10 academic articles (not news sites, websites, or textbooks). These must be journal articles.
- Paper must use formal, academic, conventional writing style.
- APA in-text citations and references

See the grading rubric in Blackboard for a more detailed discussion of the criteria for this assignment.

Mid Term Paper (25%)

During week Five you will be expected to provide a Mid-Term Paper with the following:

- Summary of intelligence techniques covered thus far in the class.
- discussion of the strengths and weaknesses of open sources as a basis for intelligence information and analysis.
- proactive solution to combat active and emerging threat actors and improve security posture.

This report will require students to write thoughtfully using formal academic language, APA style citations, and academic sources beyond class readings.

- Paper must be 10-20 pages in length.
- Have at least 5 academic articles (not news sites, websites, or textbooks). These must be journal articles.
- Paper must use formal, academic, conventional writing style.
- APA in-text citations and references

See the grading rubric in Blackboard for a more detailed discussion of the criteria for this assignment.

Class Discussion (15%)

In addition to the written summary, students must come to class prepared to discuss the assigned readings. Students should be prepared to present the weekly readings upon request.

I will NOT provide a lecture or supplemental slides relating to the assigned readings! Instead, we will spend time engaging in an informed discussion of the readings then apply the newly acquired knowledge through various lab exercises. Thus, the success of the course is contingent on the weekly readings.

Tests (20%)

Students will have two tests to assess their newly acquired skills during class. Specifically, students will be tested on their ability to understand threat intelligence from various online platforms using open-source intelligence gathering techniques.

Final paper	30%
Discussions	15%
Exams (2 @ 10% each)	20%
Mid Term	25
Participation / Professionalism	10%
TOTAL	100%

IV. GRADING SCALE

A = 90 – 100%

B=80–89%

C=70–79%

D=60 – 69%

F = below 60%

V. LATE WORK

Please regularly refer to Blackboard for links, documents, announcements, and calendar changes. You are responsible for being up to date on all class information that is posted on Blackboard. Although I will try to provide you with reminders for exams, you are responsible for submitting all assignments and exams on time. Note that, as with any online program, Blackboard may experience unexpected technical difficulties

from time to time. For this reason, I strongly suggest that you do not wait until the last minute to submit assignments. Technical difficulties are no excuse for late submissions. **No late work will be accepted without prior approval if the reason is not considered excusable.**

VI. INCOMPLETE GRADE POLICY

Incomplete grades may be requested only in exceptional circumstances after you have completed at least half of the course requirements. Talk to me immediately if you believe an incomplete is warranted. If granted, we will establish a contract of work to be completed with deadlines.

VII. TECHNOLOGY REQUIREMENTS

Course content is delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Google Chrome and Mozilla Firefox are the best browsers for Blackboard; other browsers may cause complications. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have access to a computer/laptop. You will need to download or update the following software: Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and able to access all parts of the course.

If you do not have a word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook and more) for free via UTEP's Microsoft Office Portal. Click the following link for more information about [Microsoft Office 365](#) and follow the instructions.

IMPORTANT: If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP [Help Desk](#) as they are trained specifically in assisting with technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

VIII. NETIQUETTE

As we know, sometimes communication online can be challenging. It's possible to miscommunicate what we mean or to misunderstand what our classmates mean given the lack of body language and immediate feedback. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider audience. This is a college-level course; therefore, all communication should reflect polite consideration of other's ideas.
- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
- When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.
- Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

IX. ACCOMMODATIONS POLICY

The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to

participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the [UTEP Center for Accommodations and Support Services](#) (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, or email them at cass@utep.edu, or apply for accommodations online via the [CASS portal](#).

X. SCHOLASTIC INTEGRITY

Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as one's own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. To learn more, please visit [HOOP: Student Conduct and Discipline](#).

XI. COURSE RESOURCES: Where you can go for assistance

UTEP provides a variety of student services and support:

Technology Resources

- [Help Desk](#): Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

Academic Resources

- [UTEP Library](#): Access a wide range of resources including online full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- [University Writing Center \(UWC\)](#): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
- [Math Tutoring Center \(MaRCS\)](#): Ask a tutor for help and explore other available math resources.
- [History Tutoring Center \(HTC\)](#): Receive assistance with writing history papers, get help from a tutor and explore other history resources.
- [RefWorks](#): A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

Individual Resources

- [Military Student Success Center](#): Assists personnel in any branch of service to reach their educational goals.
- [Center for Accommodations and Support Services](#): Assists students with ADA-related accommodations for coursework, housing, and internships.
- [Counseling and Psychological Services](#): Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.

Course Schedule, Assignments, and Readings

Week 1	Orientation	
Week 2	Communications / CYBER collection	
Week 3	Nonliteral collection overview and sensors	
Week 4	Collection platforms	
Week 5	Optical imaging	
Week 6	Radiometric and spectral imaging	Test 1
Week 7	Radar / Synthetic aperture radar	Mid-Term Paper
Week 8	Passive RF	
Week 9	Acoustic and seismic sensing	
Week 10	Materials intelligence	
Week 11	Biological, medical, and biometric intelligence / Material acquisition and exploitation	Test 2
Week 12	Current challenges	
Week 13	New advances and applications	
Week 14/15	Presenting your findings	Paper due

Date	Readings
Week 1	Clark, Ch. 1, (Scan) the World Wide Threat Assessment
Week 2	Clark, Ch. 4 & 5, Shadow Brokers
Week 3	Clark, Ch. 6 & 7, NASA Fund of RS, NIIRS
Week 4	Clark, Ch. 8, Airborne and Satellite Sensor Systems
Week 5	Clark, Ch. 9, Soviet LRBM IMINT
Week 6	Clark, Ch. 10
Week 7	Clark, Ch. 11 & 12, Lockheed Martin SAR
Week 8	Clark, Ch. 13, ELINT at NSA
Week 9	Clark, Ch. 14
Week 10	Clark, Ch. 15, IAEA documents, Radionuclide Monitoring
Week 11	Clark, Ch. 16 & 17
Week 12	Richelson, "A New World" and "Cooperation with Foreign Services", Clark, Ch. 18, AF DCGS Sentinel, Integrated Intelligence Enterprise, Big Data
Week 13	LANL Supercomputer, Road-runner-trinity, Nuclear Whodunit, Cybersecurity and AI, http://www.darpa.mil/ MAVEN
Weeks 14/15	Major, Ch. 14/15

Rubric for Grading Research Paper

Criteria	Outstanding	Good	Fair	Unacceptable
Visual Presentation	Cover page with relevant info, including descriptive title. Section headings. Good graphics, with appropriate citations. Clean and professional looking.	Cover page. Sections headings. Graphics included. Professional looking.	Most relevant information present. Some section headings, captions, or graphics used. Looks like a paper with minimal effort.	Dirty or ragged appearance. Missing titles, captions, headings, name of author. Not professional.
Executive Summary (ES)	ES is proper length. Highly informative, complete and easy to understand. Appropriate vocabulary is used. ES makes you want to read the paper.	ES is proper length. Informative, complete and understandable. Appropriate vocabulary is used.	ES is proper length. Somewhat informative and understandable.	ES is not the proper length. Not very informative or understandable.
Structure	Paper presents a logical “roadmap” for the reader. There is a logical flow to the topics/arguments. Conclusion follows clearly from the arguments presented.	Paper is fairly well organized. Conclusion follows from the rest of the paper.	Paper weakly organized. Conclusion is acceptable.	Paper is not organized. Conclusion doesn’t follow from the rest of the paper.
Research	The information comes from a wide variety of valid sources. The bibliography is complete and reflects appropriate sources. The evidence used reflects multiple views.	The information comes from valid sources. The bibliography is complete. The evidence used reflects multiple views.	Valid information is inconsistently used. The bibliography is missing some pieces.	The information seldom comes from valid sources. The bibliography is missing significant information.
Thinking	Application is appropriate to the topic. Application is logical, supported by evidence. The key arguments have been made – no major points have been left out.	Application is appropriate to the topic. Application is fairly logical and reasonably supported. Most key arguments have been made.	Application is not consistently appropriate, logical, or supported. Few key arguments have been made.	Application is not appropriate. Application is rarely, if at all, logical and supported. Almost no key arguments have been made.
Style	Language and style appropriate for intended audience. Paper presents well-developed analysis and synthesis. Main points are memorable. Reader is very engaged.	Language and style appropriate. Paper presents reasonable analysis and synthesis. Main points clear. Reader is engaged.	Language and style only fair. Less-developed analysis and synthesis. Main points present, not well made.	Language and style poor. Analysis and synthesis lacking. Main points not discernable.
APA Citations and References	All references and citations are correctly written and present.	A few references or citations missing or incorrectly written.	Several references or citations missing or incorrectly written.	Reference and citation errors detract significantly

Suggested Literature / Resources

- Jane's Intelligence Review (UTEP Library - <http://libguides.utep.edu/inss>)
- Homeland Security Digital Library (UTEP Library)
- Digital National Security Archive (UTEP Library)
- Military and Government Collection (by EBSCO) (UTEP Library)
- Declassified Documents (UTEP Library)
- Worldwide Political Science Abstracts (UTEP Library)
- Federation of American Scientists (CRS Reports) <http://www.fas.org/sgp/crs/>
- Brookings Institution https://www.brookings.edu/search/?post_type=on-the-record
- Rand Corporation <http://www.rand.org/topics/national-security.html>

Journals

- [Journal of International Affairs](#)
- [Contemporary Security Policy](#)
- [Ethics and International Affairs](#)
- [Foreign Policy Analysis](#)
- [Intelligence and National Security](#)
- [International Journal of Intelligence and Counterintelligence](#)
- [International Security](#)
- [Journal of Cold War Studies](#)
- [Studies in Conflict and Terrorism](#)
- [Terrorism and Political Violence](#)