

NS6233
ANALYTIC METHODS, INTERPRETATION, WRITING AND BRIEFING OF INTELLIGENCE
6-955 PM/FRIDAYS
31 MAY-2 AUG
UTSA BLDG (BB) ROOM (3.03.14)

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COURSE DESCRIPTION

The nature data generated in the cyber domain is often technical and complex. The plethora of data generating devices, protocols, data architectures and emergence of new contributing elements from the IoT world make analyzing data from the cyber domain a significant challenge. This course will examine the nature of the data coming from these multiple sources and origins and give the student experience in applying both cyber-specific and non-cyber specific analytics tools to example data sets. The challenges in linking cyber domain data to human actions and activities will be covered.

COURSE GOALS

The course goals for NS6233 Analytic Methods:

- *Gain an understanding of the analytical methods used in the U.S. Intelligence community.*
- *Gain an understanding of a framework to present intelligence reports, briefs and correspondence.*
- *Access and utilize data generating devices, tools and applications used in the U.S. Intelligence community.*
- *Gain an understanding of the U.S. Intelligence analyst role, duties and tasks.*
- *Be able to apply course material.*

STUDENT LEARNING OBJECTIVES/OUTCOMES

Upon course completion, students will be able to:

1. *Categorize the new digital innovations and web technology trends and how they affect modern data architecture and governance in Intelligence Systems.*
2. *Describe the functions and the technologies of analytical methods and the essential role of data networks, communication structures, and cyber security management in maintaining successful Information Systems within the Intelligence Community.*
3. *Demonstrate the ability to optimize internet search engines and maximize on web technologies and social networking in order to gain an advantage edge in the Intelligence Community.*
4. *Identify the key challenges in data collection and the how to improve the process, facilitate data collection functions and trade methods using mobile commerce technologies.*
5. *Distinguish and compare the multiple phases of Intelligence Management and defend the importance of detailed and extensive feasibility studies.*
6. *Evaluate the topic of ethical risks of newer technologies and IT innovations, and their impact on quality of data collection, and relationships with the Intelligence Community.*

COURSE PREREQUISITES (IF ANY)

- IS 6733

COURSE TEXTBOOKS AND MATERIALS

- SHARDA, DELEN & TURBAN "Analytics, Data Science, & Artificial Intelligence: Systems for Decision Support, 11th Edition" 2020 Pearson ISBN 13: 9780135192016
- TAYLOR & SWANSON "Terrorism, Intelligence & Homeland Security, 2nd Edition" 2019 Pearson ISBN 13: 9780134868899

SUGGESTED

- COLIN POWELL, "MY AMERICAN JOURNEY" 1995 ISBN 0345-46641-1
- EWEN MONTAGU, 2001. "THE MAN WHO NEVER WAS" ISBN 978-1-55750-478-7
- "Artificial Intelligence and Machine Learning Applied to Cybersecurity", *IEE Confluence Oct. 2017*, <https://www.ieee.org/about/industry/confluence/feedback.html>
- "State of Cybersecurity 2019", *Cybersecurity Nexus, ISACA, 2019*
<https://cybersecurity.isaca.org/state-of-cybersecurity#0-part-1-april>
- "Phishing and Defense and Governance", *ISACA, 2019*
<https://www.helpnetsecurity.com/2019/03/18/phishing-defense-strategies/>
- "Artificial Intelligence with Big Data", Ostrowski, D., 2018
- "Big IoT Data Analytics: Architecture, Opportunities, and Open Research Challenges" Marjani, M., et al. May, 2017

Additional Readings (PDFs/links supplied in class)

- 40-70 rule
- Big Data
- ODNI Guide to Cyber
- Common Cyber Threat Framework
- Cyber Threats to Elections (Lexicon)
- Intelligence Analysis, Collection, Governance, Products, and Reports
- Infoblox – Threat Intelligence Reports
- U.S. National Intelligence an Overview

COURSE REQUIREMENTS

Assignments	Explanation	Points
Exercise 1	Writing exercise	10
Exercise 2	PowerPoint exercise	10
Exercise 3	Briefing exercise	10
Exercise 4	Analysis exercise	10
Midterm	Written Project report	20
Case Study	Case Study	20
Final Exam	Presentation of Project	20
Total Points		100

TENTATIVE COURSE SCHEDULE OF ASSIGNMENTS AND EXAMS

Week	Date	Topic	Readings/Assignments/Exams/Etc.
1	31 May	Course Outline	Course Structure and Syllabus
2	7 Jun	Writing and Briefing Intelligence	Exercise
3	14 Jun	Big Data, Storage, Processing and Retrieval	Exercise
4	21 Jun	Intelligence Tools	Exercise
5	28 Jun	Midterm	Project Draft
6	5 Jul	Intelligence and Analysis	Exercise

7	12 Jul	Analytic Methods	In-class Case Study
8	19 Jul	Intelligence Products	Project Final
9	26 Jul	Management and Display of Data	Review
10	2 Aug	Final	Presentation of Project

DETAILED GRADING SCHEME EXAMPLE

Exercises	40%	Exercises will be conducted during scheduled meeting times.
Activity	20%	Case Study
Mid Term	20%	Written Project Report
Final Exam	20%	Presentation of Project Report
Total Final Grade	100%	

LETTER GRADE EXAMPLE

This example is provided for demonstration purposes only. Instructors are to create their own grading scheme based upon UTSA guidelines found <http://utsa.edu/infoguide/ch4ug.html#uggrades>. All instructors are reminded that all grades are to be kept in Blackboard as outlined.

The final course grade will be based on the following scale:

(Plus or Minus scoring is determined by each college)

A = 93-100	B = 88-92	C = 78-87	D = 70-77	F = 0-69
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EXTRA CREDIT (PROVISION OF EXTRA CREDIT IS DETERMINED BY THE INSTRUCTOR)

The instructor for the course determines extra credit and the policy, if any.

UTSA SERVICES AND POLICIES

COUNSELING SERVICES

Counseling Services provides confidential, professional services by staff psychologists, social workers, counselors and psychiatrists to help meet the personal and developmental needs of currently enrolled students. Services include individual brief therapy for personal and educational concerns, couples/relationship counseling, and group therapy on topics such as college adaptation, relationship concerns, sexual orientation, depression and anxiety. Counseling Services also screens for possible learning disabilities and has limited psychiatric services. Visit Counseling Services at <http://utsa.edu/counsel/> or call (210) 458-4140 (Main Campus) or (210) 458-2930 (Downtown Campus).

STUDENT CODE OF CONDUCT AND SCHOLASTIC DISHONESTY

The Student Code of Conduct is Section B of the Appendices in the Student Information Bulletin. Scholastic Dishonesty is listed in the Student Code of Conduct (Sec. B of the Appendices) under Sec. 203 <http://utsa.edu/infoguide/appendices/b.html#sd>

STUDENTS WITH DISABILITIES

The University of Texas at San Antonio in compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act provides "reasonable accommodations" to students with disabilities. Any student with a disability who is requesting an accommodation for this course must provide the instructor with official documentation in the form of a letter from Student Disability Services. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.utsa.edu/disability or by calling Student Disability Services at (210) 458-4157 (Main) or (210) 458-2945 (Downtown).

TOMÁS RIVERA CENTER

I encourage you to utilize the Tomás Rivera Center's (TRC) student support services for assistance in study strategies and course content. These services are available to you at no additional cost. For more information regarding these services, please visit the TRC web site at www.utsa.edu/trcss.

- Academic Success Coaching provides one-on-one study skills assistance through Academic Coaching and group study skills assistance through the Expert Learner Series Workshops. Call the office to schedule an Academic Coaching appointment at (210) 458-4694, visit the TRC web site for the Expert Learner Series schedule, or stop by MS 1.02.02.
- Supplemental Instruction (SI) offers student-led study groups using collaborative learning for historically difficult classes. Supported courses and schedules can be found on the TRC web site or check with your class SI Leader for details. You can call the SI office if you have questions or for more information at (210) 458-7251.
- Tutoring Services provides walk-in tutoring in a variety of subjects with several locations to choose from and the Math Assistance Program (MAP) for assistance in College Algebra and Pre-Calculus. Call (210) 458-6783 for more information or visit the TRC web site for tutoring schedules.

If you are taking classes at the DT Campus, the TRC Downtown offers a variety of services to assist you. Stop by the TRC at the Downtown Campus in DB 2.114 or call (210) 458-2838.

WRITING CENTER

At the Judith G. Gardner Center for Writing Excellence, peer tutors help undergraduate and graduate students with any step in the writing process, from brainstorming and understanding an assignment to planning and revising. They can help with all types of writing assignments. In addition to one-on-one tutoring, they offer workshops throughout the semester on documentation and other writing topics. There are two locations: JPL 2.01.12D (main campus) and FS 4.432 (downtown campus). They also offer online tutoring seven days a week. To learn more about their hours and to make an appointment, visit the website: utsa.edu/twc.

TRANSITORY/MINOR MEDICAL ISSUES

In situations where a student experiences a transitory/minor medical condition (e.g. broken limb, acute illness, minor surgery) that impacts their ability to attend classes, access classes or perform tasks within the classroom over a limited period of time, the student should refer to the class attendance policy in their syllabus.

COPYRIGHT AND FAIR USE

For more information on copyright, see the University of Texas System Office of General Counsel web site. A printed copy is also available at the Reference, Circulation and Multimedia Center service desks in the Library. For local guidance, please contact the UTSA Library at 210.458.7506 and check the information at <http://lib.utsa.edu/About/Policies/copyright.html>.

THE ROADRUNNER CREED

The University of Texas at San Antonio is a community of scholars, where integrity, excellence, inclusiveness, respect, collaboration, and innovation are fostered.

As a Roadrunner, I will:

- Uphold the highest standards of academic and personal integrity by practicing and expecting fair and ethical conduct;
- Respect and accept individual differences, recognizing the inherent dignity of each person;
- Contribute to campus life and the larger community through my active engagement; and
- Support the fearless exploration of dreams and ideas in the advancement of ingenuity, creativity, and discovery.

Guided by these principles now and forever, I am a Roadrunner!



Course Philosophy and Policies

- Learning – First and foremost, the instructor is committed to student learning and students achieving the stated objectives in this course. If you have or experience any issues that might impede your performance in this course, please bring it to the attention of the instructor immediately. Please also see <http://utsa.edu/syllabus> for information regarding counseling, tutoring, disability office, etc.
- Class Attendance, Participation, Tardiness – Class attendance is essential for success in this course, however, attendance will not be taken. Each student is expected to attend all classes and come prepared to

participate fully in class discussions and exercises. This means all reading and homework assignments must be completed before the end of the days they are due. Without such preparation, class discussions and exercises will suffer, as will your understanding of the material. Being prompt is also important, especially on days with in-class lab exercises. Because the processes often take time, we often get processes running, then cover new material, and then return to the computers. Coming in late makes this very difficult. Your instructor will not slow class down to get you caught up, and your classmates often miss new material while trying to bring you up to speed. If you come in late, you might need to just watch the exercise as opposed to participate in it. This is suboptimal for your learning, however.

- **Communication** – You are responsible for checking your Blackboard email and “Important Announcements” on a regular basis. You are responsible for any changes or updates sent to you by mail or posted on the web site.
- **Absences** – If you miss a scheduled exam for a valid non-academic reason (listed below), your average grade on the remaining exams will be used to substitute for the missed exam (and the final exam will no longer be optional). A make-up final exam will only be given under extremely special circumstances, at the discretion of the instructor. No make-up exam or grade substitution will be given unless the instructor is notified of your situation prior to the scheduled exam. Examples of valid non-academic reasons: - Serious illness documented with a note from a doctor. (UTSA clinic does not provide notes.) - Business trip documented with a note from your supervisor. - Death in family documented with a note from a parent. - Accident documented with a note from a law enforcement officer. - Withdraws – “W” grades will be assigned only if students withdraw before the Withdraw Date. Refer to ASAP for the withdraw date.
- **Incompletes** – Students who, for non-academic reasons beyond their control, are unable to meet the full requirements of the course should notify the instructor. Refer to catalog for details on Incomplete Grades. Note: Giving of such grades is at the discretion of the instructor. Currently failing the course is not an appropriate reason to seek an ‘incomplete’ grade.
- **Scholastic Dishonesty** – Scholastic dishonesty is NOT excusable under ANY circumstances. Your instructor places an extremely high importance on honesty and integrity and will take all occurrences very seriously. See <http://utsa.edu/syllabus> for more information, including the Roadrunner Creed. This is also double emphasized in the next section.
- **Counseling and other Services** – <http://provost.utsa.edu/syllabus.asp> provides information about counseling services, supplemental instruction, tutoring, and other services. I highly encourage you to utilize the academic and other support services available to you, many at no additional cost.
- **Respect** – Successful learning requires respect—respect by the instructor for the students, respect by the students for the instructor, and respect by the students for each other. Respect is demonstrated by participating, listening, sharing. Respect does not require agreement with one another, but rather requires that the disagreement is delivered in a polite, measured way. Respect also includes considerate behavior that facilitates, rather than hinders teaching and learning. Examples of non-considerate behavior include: use of cell phones, pagers, and other communication devices during class, listening to headphones, eating, sleeping, using computers for anything other than class-related notetaking, making noise packing/unpacking stuff, etc. One of the most disrespectful, disruptive, and counterproductive activities students historically engage in – web surfing, emailing, and otherwise using computing devices for non-class related purposes during class.
- **Disclaimer** – This syllabus is provided for informational purposes regarding the anticipated course content and schedule of this course. It is based upon the most recent information available on the date of its issuance and is as accurate and complete as possible. I reserve the right to make any changes I deem necessary and/or appropriate. I will make my best efforts to communicate any changes in the syllabus in a timely manner. Students are responsible for being aware of these changes.

Your Work must Be Your Own To minimize the possibility of violations, the following guidelines must be observed.

- You can of course study with other students, but you may NOT receive assistance from other individuals while completing the quizzes, tests, and exam. These assessments are to be your independent work.
- You may not record any aspect of the quiz/test/exam or the quiz/test/exam feedback in any form. Printing the questions or feedback, taking screen shots or photos of the screen, writing down the questions are all prohibited and doing so would be a violation of the honor code.
- Further, you may not describe or otherwise convey to other students the contents or specific topics or questions from the test.
- Unless stated otherwise, all work in this course is to be completed on an individual basis. When you submit your initial discussion posts, wiki entries, journal entries, or blogs, this work must be completely your own. Any deviation from this policy or other acts, or attempted acts, of cheating, collusion or plagiarism will be considered scholastic dishonesty. Visit the Student Conduct and Community Standards to be aware of consequences related to scholastic dishonesty: <https://www.utsa.edu/conduct/resourcesprograms/scholastic-dishonesty.html>.
- Coding assignments that are clearly identical, without no adaptation or customization, will be given a 0.

Course Resources

- Access the Online UTSA Library (<http://libguides.utsa.edu/ODL>) with your myUTSA ID (abc123) username and password.
- Go to Google Scholar (<http://lib.utsa.edu/find-information/google-scholar/>) to find relevant information for your assignments.
- Visit the Tomas Rivera Center (<https://www.utsa.edu/trcss/>) for a number of online academic resources to help you with your coursework.

Technology Requirements • Basic computer skills, i.e., the ability to communicate, verbally and in writing, information and ideas, through software tools. • Internet access, with a wired connection recommended for online tests. • Supported web browser: Internet Explorer, Firefox, Safari, or Chrome. Run the Blackboard Browser Check to make sure your computer browser supports all functionalities in Blackboard.

(https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support/Browser_Checker).

TECH SUPPORT FOR CYBER SECURITY STUDENTS FOR ADMINISTRATIVE/ADVISING/TECHNICAL SUPPORT, STUDENTS CAN CONTACT ONLINEPROGRAMS@UTSA.EDU OR 210458-4000 (AND LEAVE A VOICEMAIL). DURING BUSINESS HOURS, THE SUPPORT TEAM WILL STRIVE TO ANSWER THOSE CALLS LIVE. AFTER HOURS, EMAILS WILL BE MONITORED (WHERE THE VOICEMAILS FOR X4000 ARE DELIVERED) UNTIL 10PM ON WEEKDAYS AND BASICALLY THE ENTIRE DAY UNTIL 10PM ON SATURDAY/SUNDAY.

FREQUENTLY ASKED QUESTIONS • GO TO UTSA'S ONLINE FAQs ([HTTP://ODL.UTSA.EDU/ONLINE/SUBPAGES/FAQS.HTML](http://odl.utsa.edu/online/subpages/faqs.html)) FOR QUICK ANSWERS TO YOUR MOST COMMON QUESTIONS. • FOR COUNSELING SERVICES, VISIT UTSA'S COUNSELING SERVICES ([HTTP://UTSA.EDU/COUNSEL/](http://utsa.edu/counsel/)) ONLINE.

CODE OF CONDUCT HONESTY, INTEGRITY, AND RESPECT FOR OTHERS ARE DEMANDED IN THIS COURSE AND AT UTSA AS A WHOLE.

ALL STUDENTS ARE EXPECTED TO FOLLOW THE BEHAVIORAL AND ACADEMIC STANDARDS DESCRIBED IN THE UTSA STUDENT CODE OF CONDUCT. ([HTTP://WWW.UTSA.EDU/OSJA/CONDUCTOUTLINE.CFM](http://www.utsa.edu/osja/conductoutline.cfm)).

CHANGES

This syllabus is provided for informational purposes regarding anticipated course content and schedule of courses. It is based upon the most recent information available on the date of its issuance and is as accurate and complete as possible. I reserve the right to make any changes necessary and/or appropriate. I will make every effort to communicate any changes in a timely manner. Students are responsible for the awareness of these changes.