# BIOD 760: National Security Technology and Policy

SYNCHRONOUS

CRN: 77041
Course/Section: BIOD 760 DL1
Course Title: National Sec Technology/Policy
Meeting Pattern: Tue 7:20 pm - 10:00 pm
Campus: Online/Synchronous

Instructor: Ronald A. Marks III

rmarks8@gmu.edu

(703) 919-7419

Office hours: By Appointment Only

## *Course Description*

This course introduces the non-technical student to the intersection of technology and policy in U.S. national security. The course will examine how technology has become increasingly important in U.S. national security policy and what kind of challenge a broad variety of new technologies represent.

*Technologies to be addressed include, but are not limited to: cyber space, artificial intelligence, supply chain, blockchain, climate threat, rare earth use, adoption of new technologies to conventional weapons and weapons of mass destruction, nanotechnology, space, and robotics.*

On occasion, outside experts in technology and national security will be brought in to meet with the students and present on their areas of expertise and interest.

Lastly, the course will identify the U.S. Government players in the formation of science and technology policy, the roles they play, how the types, uncertainties and availability of data affect technology policy debates, and how technology policy decisions are made.

## *Course Objectives*

This course is designed to provide the non-technical national security expert with a working understanding of modern science and technology issues and enable them to engage in an intelligent and effective dialog with other policymakers and technical experts.

The course will also focus on the use of modern technologies to disrupt or enhance national security decision making – political, military, and economic -- and influence the intelligence gathering and analysis capabilities which they use.

It will also contribute to the student development of a common knowledge of the concepts, principles, and applications of scientific and technical issues relevant to national security policy and its execution

The course will also cover technology from a global perspective:  state and nonstate actors' application of technologies as a threat to US national interests; adversarial development and acquisition of key technologies, elements of important scientific and technical systems

Students will analyze national security problems, identify challenges and opportunities technology issues, and examine how technology can enable and enhance, and challenge the decision-making process.

These goals will be accomplished through class lecture based on: selected readings including books and journal/news articles as provided, occasional lectures by subject matter experts, and role playing through the discussion questions and table top exercises designed to reinforce the material.

## *Learning Objectives:*

- Students will be familiarized with the general makeup and concepts of technologies effecting national security.
- Students will learn how to apply concepts from Security Studies and Science and Technology Studies to national security challenges including economic, homeland security, and military.

- By the conclusion of the course, students should be able to frame problems related to technology and security in an analytical framework.

- Students will master selected historical cases as well as materials related to contemporary events.


## *Grading: Grades will be based on the following:*

Discussion Questions: 20 Pts

Mid-term quiz: 40 Pts (T/F and Multiple Choice)

Final Exam:  40 Pts (T/F and Multiple Choice)

*Requirements for Class and Grading Standards*

*1) The course will consist of class readings, and a class lecture*

*Due to the cutting edge nature of the material, additional readings will be provided by the instructor weekly to enhance understanding of the materials.*

*2) There will be weekly discussion questions posted.  All are expected to answer them.*

*3) The mid-term and final exams will be no collaboration, open book, no time limit.  Send and returned by email to the instructor.*

*4) NO TERM PAPER*

## Class Absence

Class absence is allowed during the semester, but students must alert the instructor prior to any class absence.

After three times, we need to address your status in the class.

## University Policies & Information

### Academic Integrity

Students must be responsible for their own work, and students and faculty must take on the responsibility of dealing explicitly with violations. The tenet must be a foundation of our university culture. View the Academic Standards Code.

Students must adhere to the guidelines of the George Mason University Honor Code.

Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.

### MasonLive/Email

Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.

### Responsible Use of Computing

Students must follow the university policy for Responsible Use of Computing.

### Students with Disabilities

Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services and inform their instructor, in writing, at the beginning of the semester.

### University Libraries

University Libraries provides resources for distance students.

### Writing Center

The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing.

You can now sign up for an Online Writing Lab (OWL) session just like you sign up for a face-to-face session in the Writing Center, which means YOU set the date and time of the appointment! Learn more about the Online Writing Lab (OWL).

### Counseling and Psychological Services

The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance.

### Other Considerations

If there are any issues related to religious holidays, please inform the instructor the first week of class.

### COURSE MATERIALS

Students are responsible for completing the assigned reading prior to the class period date for which it is assigned.

*Because of the nature of the subject, additional articles will be passed to the students during the term as different issues come up and to enhance assigned readings.*

### TEXTBOOKS – Available through George Mason Library

*Reuben Steff, Joe Burton, Simona R. Soare*, Editors, *Emerging Technologies and International Security Machines, the State, and War* (London, U.K.: Routledge, September 2020)

## Academic Standards

Academic Standards exist to promote authentic scholarship, support the institution's goal of maintaining high standards of academic excellence, and encourage continued ethical behavior of faculty and students to cultivate an educational community which values integrity and produces graduates who carry this commitment forward into professional practice.

As members of the George Mason University community, we are committed to fostering an environment of trust, respect, and scholarly excellence. Our academic standards are the foundation of this commitment, guiding our behavior and interactions within this academic community. The practices for implementing these standards adapt to modern practices, disciplinary contexts, and technological advancements. Our standards are embodied in our courses, policies, and scholarship, and are upheld in the following principles:

- Honesty: Providing accurate information in all academic endeavors, including communications, assignments, and examinations.
- Acknowledgement: Giving proper credit for all contributions to one's work. This involves the use of accurate citations and references for any ideas, words, or materials created by others in the style appropriate to the discipline. It also includes acknowledging shared authorship in group projects, coauthored pieces, and project reports.
- Uniqueness of Work: Ensuring that all submitted work is the result of one's own effort and is original, including free from self-plagiarism. This principle extends to written assignments, code, presentations, exams, and all other forms of academic work.

Violations of these standards—including but not limited to plagiarism, fabrication, and cheating—are taken seriously and will be addressed in accordance with university policies. The process for reporting, investigating, and adjudicating violations is outlined in the university's procedures here. Consequences of violations may include academic sanctions, disciplinary actions, and other measures necessary to uphold the integrity of our academic community.

The principles outlined in these academic standards reflect our collective commitment to upholding the highest standards of honesty, acknowledgement, and uniqueness of work. By adhering to these principles, we ensure the continued excellence and integrity of George Mason University's academic community.

**Student responsibility:** Students are responsible for understanding how these general expectations regarding academic standards apply to each course, assignment, or exam they participate in; students should ask their instructor for clarification on any aspect that is not clear to them.

## Accommodations for Students with Disabilities

Disability Services at George Mason University is committed to upholding the letter and spirit of the laws that ensure equal treatment of people with disabilities. Under the administration of University Life, Disability Services implements and coordinates reasonable accommodations and disability-related services that afford equal access to university programs and activities. Students can begin the registration process with Disability Services at any time during their enrollment at George Mason University. If you are seeking accommodations, please visit the [Disability Services website](#) for detailed information about the Disability Services registration process. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email: [ods@gmu.edu](mailto:ods@gmu.edu). Phone: (703) 993-2474.

**Student responsibility:** Students are responsible for registering with Disability Services and communicating about their approved accommodations with their instructor in advance of any relevant class meeting, assignment, or exam.

## FERPA and Use of GMU Email Addresses for Course Communication

The Family Educational Rights and Privacy Act (FERPA) governs the disclosure of education records for eligible students and is an essential aspect of any course. **Students must use their GMU email account** to receive important University information, including communications related to this class. Instructors will not respond to messages sent from or send messages regarding course content to a non-GMU email address.

**Student responsibility:** Students are responsible for checking their GMU email regularly for course-related information, and/or ensuring that GMU email messages are forwarded to an account they do check.

## Title IX Resources and Required Reporting

As a part of George Mason University's commitment to providing a safe and non-discriminatory learning, living, and working environment for all members of the University community, the University does not discriminate on the basis of sex or gender in any of its education or employment programs and activities. Accordingly, **all non-confidential employees, including your faculty member, have a legal requirement to report to the Title IX Coordinator, all relevant details obtained directly or indirectly about any incident of Prohibited Conduct** (such as sexual harassment, sexual assault, gender-based stalking, dating/domestic violence). Upon notifying the Title IX Coordinator of possible Prohibited Conduct, the Title IX Coordinator will assess the report and determine if outreach is required. If outreach is required, the individual the report is about (the "Complainant") will receive a communication, likely in the form of an email, offering that person the option to meet with a representative of the Title IX office.

For more information about non-confidential employees, resources, and Prohibited Conduct, please see University Policy 1202: [Sexual and Gender-Based Misconduct and Other Forms of Interpersonal Violence](#).  Questions regarding Title IX can be directed to the Title IX

Coordinator via email to TitleIX@gmu.edu, by phone at 703-993-8730, or in person on the Fairfax campus in Aquia 373.

**Student opportunity:** If you prefer to speak to someone confidentially, please contact one of Mason's confidential employees in Student Support & Advocacy (SSAC), Counseling and Psychological Services (CAPS), Student Health Services (SHS), and/or the Office of the University Ombudsperson.