

Interdisciplinary Major: Cyber Security, Politics, and History

(Computer Science, Political Science, History)

Name

Class of XXX

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Advisors

First and Last Name, [Email address](#) (Principle, Computer Science)

First and Last Name, Email address(Political Science)

First and Last Name, Email address(History)

As the technology of the world has evolved, so too have the political systems and powerful organizations that control it. In our present era, dubbed the “The Age of Information”, we are more connected than at any previous period in human history, and are increasingly reliant on the networks, both digital and political, that connect us. As a result of our dependence on computers, their study has come to play an ever greater role in all disciplines, with political science and modern history chief among them. In a world where hackers influence elections, tech firms start trade wars, and cyberattacks preface invasions, the influence of information technology, and of the people who wield it, is of paramount importance. In this brave new world of data leaks, cyberweapons, and self driving cars, we need people who understand not just details the technology we employ, but also the consequences of its application.

In just the last few years there have been a staggering number of high profile international incidents fueled by dangerous use of advanced cyber technology. There was the social media powered Russian interference in the US election, the North Korean WannaCry virus that paralyzed Europe, and the Huawei security exploits that prompted the present trade war, to name but a few. As each of these events unfolded I was astounded by the extent to which modern governments and leaders floundered, failing to comprehend and address the issues at play. Senior members of Congress and the Executive Branch alike consistently lacked the requisite technical knowledge to fully grasp the situation. Moreover, even the computer scientists and security experts who stepped forward to fill the gaps in technical knowledge were themselves often lacking in their analyses of the political and strategic consequences. In all of these cases the fault does not necessarily lie with the people in question, but rather, with the rapid pace at which computers have come to underlie the most fundamental building blocks of our society. From

social media to transportation to health systems, the pervasiveness of computers and internet enabled networks has simply exploded, leaving many leading members of politics and industry behind.

My aim with my proposed IDS major is to help bridge the gap between knowledge of technology, and of its political applications. I'll study computer systems: how to build them and how to break them, to build a foundation of technical skills. I'll examine political science: when and why cyberwar is applied, and the consequences of doing so. I'll delve into history: the conflicts, treaties, and personalities that form the backdrop of modern international relations. I'll create a diverse but deep curriculum to advance my mastery of everything from hacking systems to writing briefings. As the technology of the world evolves, so too must the people who use it. This interdisciplinary major is an opportunity to adapt my education to fit the unique era in which I find myself, and to bring together my passions for technology, politics, and history into a cohesive program that will prepare me for our ever changing, ever volatile world.

Courses Taken that Apply to the Major

- COMP 0015: Data Structures
- COMP 0040: Machine Structure and Programming
- COMP 0061: Discrete Mathematics
- COMP 0170: Computation Theory

Courses to be Taken

Fall 2019

- COMP 0105: Programming Languages
- COMP 0116: Cybersecurity
- ITAL 0004: Intermediate Italian
- PS 0061: Introduction to International Relations

Spring 2020 (Abroad in Italy)

- PS: Italian Politics, Laboratory of Populism
- HIST: Twentieth Century Europe

Fall 2020

- MATH 0034: Calc 2
- COMP 0111: Operating Systems
- HIST 0029: US Foreign Relations since 1900
- PS 0138: Democracy and its Alternatives

Spring 2021

- COMP 0160: Algorithms
- COMP 0112: Networks
- HIST 0054: Europe Since 1815
- PS 0187: Intelligence and National Security

Alternative Courses

- COMP 0020: Web Development
 - COMP 0055: CS for Future Presidents
 - COMP 0050: Cybersecurity and Cyberwar
 - COMP 0150: Cyberlaw and Cyberpolicy
 - COMP 0117: Internet-Scale Distributed Systems
 - COMP 0150: Cyber in the Civil Sector
 - DHP P249: International Cyber Conflict
 - COMP 250: Privacy in the Digital Age
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- PS 0115: Information, Tech, and Politics
 - PS 0138: Political Violence in State and Society
 - PS 0138-02: Policing in the US and Europe
 - PS 0160: Force, Strategy, and Arms Control
 - PS 0165: US Foreign Policy
 - PS 0166: Seminar: Causes of Modern Interstate War
 - PS 0168: International Law
 - PS 0188-01: The Causes and Consequences of Foreign Military Intervention
 - PS 0189-03: Seminar: American Primacy
 - PS 0188-26: International Security Threats in a Global Environment
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- HIST 0001: International Relations: The Historical Perspective
 - HIST 0002: Globalization
 - HIST 0012: History of Science, Tech, Medicine
 - HIST 0022: Changing American Nation
 - HIST 0028: US Foreign Relations to 1900
 - HIST 0046: Modern South Asia
 - HIST 0059: Continent in Conflict Europe 1914-2000

Texts Consulted and to be Consulted

Clarke, Richard A., and Robert K. Knake. *Cyber War: the next Threat to National Security and What to Do about It*. Ecco, an Imprint of HarperCollins Publishers, 2012.

Wittes, Benjamin, and Gabriella Blum. *The Future of Violence: Robots and Germs, Hackers and Drones: Confronting a New Age of Threat*. Amberley Publishing, 2017.

Weimann, Gabriel. *Terrorism in Cyberspace: the next Generation*. Woodrow Wilson Center Press, 2015.

Russell, Alison Lawlor, and Bruce Gore. *Cyber Blockades*. Georgetown University Press, 2014.

Morozov, Evgeny. *The Net Delusion: the Dark Side of Internet Freedom*. PublicAffairs, 2012.

Poulsen, Kevin. *Kingpin: How One Hacker Took over the Billion-Dollar Cybercrime Underground*. Broadway Paperbacks, 2012.

Kaplan, Fred M. *Dark Territory: the Secret History of Cyber War*. Simon & Schuster Paperbacks, 2016.

Levy, Steven. *Hackers: Heroes of the Computer Revolution: 25th Anniversary Edition*. O'Reilly, 2010.

Vogelstein, Fred. *Battle of the Titans: How the Fight to the Death between Apple and Google Is Transforming Our Lives*. William Collins, 2014.

Petzold, Charles. *The Annotated Turing: a Guided Tour through Alan Turings Historic Paper on Computability and the Turing Machine*. Wiley Pub., 2008.

Slaughter, Anne-Marie. *The Chessboard and the Web: Strategies of Connection in a Networked World*. Yale University Press, 2017.

Snyder, Timothy. *The Road to Unfreedom Russia, Europe, America*. The Bodley Head, 2018.

Levitsky, Steven, and Daniel Ziblatt. *How Democracies Die*. Broadway Books, 2019.

Singer, Peter Warren., and Emerson T. Brooking. *Likewar: the Weaponization of Social Media*. Houghton Mifflin Harcourt, an Eamon Dolan Book., 2018.