



CHICAGO  
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UNIVERSITY



## Cyber Security in Education

Presenter: Dr. Moussa Ayyash

April 1, 2016

Spring 2016 Imagining Schools: New Teacher Induction Conference

- **Keep Schools Secure for Better Learning**
- **Security and Education**
- **CINSER Curriculum**
- **Opportunities for students in any major**
- **Q&A**

- ***Security Experts estimate that 15% of information security issues happen at schools and universities. 140000 children are victims of identity theft each year*** (THE JOURNAL – March 2016)
  - Since 2005, 10 million educational records were compromised
  - What is a cyber attack? Data breach? -- Sensitive files and data are lost
  - Several examples of data breaches:
    - **May 2015:** Unauthorized individuals gained access to the student information system at San Dimas High School, San Dimas, CA, and changed the grades of several students. The suspects also downloaded personal student information, including social security numbers, birthdates, and medical information.
    - **July 2014:** The Park Hill School District in Kansas City, MO, notified parents and faculty a data breach had potentially compromised personal information of more than 10,000 students and district employees, including social security numbers, student records and employee evaluations.
    - **November 2015:** The Salt Lake City School district experienced a DDoS attack. These are designed to disrupt or disable the district's information network (as opposed to actually accessing information about students or employees). A similar cyberattack on the Kentucky Department of Education's Infinite Campus information network in August 2013 tricked hundreds of thousands of computers around the world into sending signals to the Infinite Campus portal, jamming up the firewalls.
- Source: [DataSecurity\\_THEJournalEditOnDemand\\_finalonline.pdf](#)

- **Money (\$\$\$) – Most obvious and can be very high**
- **Reputation**
- **Legal implications**

## To Help ...

- U.S. department of Education created the Privacy Technical Assistance Center (PTAC). This is a “one-stop” resource for education stakeholders to learn about data privacy, confidentiality, and network security.
- The PTAC recently released a security checklist designed to help school districts develop privacy programs.

## Intelligence

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1. Intelligence is a **product** that consists of information that has been refined to meet the needs of policymakers.
2. Intelligence is also a **process** through which that information is identified, collected, and analyzed.
3. And intelligence refers to both the individual **organizations** that shape raw data into a finished intelligence product for the benefit of decision makers and the larger **community** of these organizations.

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- There are 17 US Intelligence Agencies.



- Office of the Director of National Intelligence
- Air Force Intelligence
- Army Intelligence
- Central Intelligence Agency
- Coast Guard Intelligence
- Defense Intelligence Agency
- Department of Energy
- Department of Homeland Security
- Department of State
- Department of the Treasury
- Drug Enforcement Administration
- Federal Bureau of Investigation
- Marine Corps Intelligence
- National Geospatial-Intelligence Agency
- National Reconnaissance Office
- National Security Agency
- Navy Intelligence

# CINSER Overview

- CINSER stands for Center for Information & Security Education and Research
- Funded by DoD/DIA in 2014
- **“Empowering Global Understanding”**
- What is in our logo?
- Home for Intelligence Community Center for Academic Excellence (IC CAE)
- Only center in Illinois and Great Lakes



- The Center for Information & Security Education and Research (CINSER) is the home of the Intelligence Community Center for Academic Excellence (IC CAE) at CSU.
- The core objective underlying CINSER is to provide significant opportunities for a diverse pool of high-quality students in any field and critical language (Arabic, Kswahili, Hausa, and French) students to acquire unique skill sets, enrichment experiences, and the personal motivation required to develop the next generation of information analyst, psychologist, criminologist, scientists, engineers, mathematicians, and linguists necessary to ensure the Nation's security.

- Students need to develop their skills to enter the field of information security, assurance, and intelligence.
- A CSU graduate with a minor in SIS has an excellent opportunity to work in national security agencies

- **Intelligence Analysis:**

- You enjoy transforming raw information into critical reports used to understand intelligence issues within the United States and abroad. Your quick mind can analyze complex situations under pressure. You have an aptitude for identifying intelligence gaps, **evaluating information from multiple sources, monitoring trends and interpreting events** related to particular countries or issues. Serve among best-in-class professionals on the front lines of the nation's defense. Collect, analyze and report intelligence that uncovers the intentions of foreign governments and non-state entities worldwide.
- Education: Data Science and Analysis, Geography, Cartography or Geographic Information Systems (GIS), History, Government or Political Science, Intelligence, International Affairs, International Relations or International Studies, Library Sciences or Information Sciences, National Security Studies, Science (e.g., Biology, Chemistry, Geology)
- **Example Positions: DIA, Geospatial, ODNI, NSA**

- **Computer Science:**

- As a computer scientist in the Intelligence Community, you will solve complex problems, test innovative approaches and research new solutions to storing, manipulating and presenting information. Successful candidates will know how to apply the theoretical models of computer science to complex system architecture and system software organization challenges. Apply your computer science expertise to projects that seek to create new standards for the transformation of information.
- Education: Computer Engineering, Computer Networking and Security, Computer Networking or Information Assurance, Computer Science or Computer Engineering, Computer Science or Computer Programming, Data Science & Analysis, Electrical Engineering, Information Assurance Certification, Information Technology or Information Systems
- Example Positions: **DIA, Geospatial, ODNI, NSA**

# Is Intelligence for our CSU Students?

- Must be Organized and Disciplined?
- The ability to Communicate with Confidence, Clarity and Credibility?
- Ability to find Meaningful Patterns in Meaningless Noise?
- The ability to adopt a Patient and Methodical Approach?
- Able to See the Bigger Picture?
- Must be Flexible and Responsive to Change?
- Ability to Learn from Mistakes?

# CINSER Curriculum

**Part A: Core Courses (3 courses – 9 total credit hours)**

- 1) SIS5050: The Intelligence Community
- 2) SIS5060: Collection and Use of Intelligence Information
- 3) SIS5070: Intelligence Analysis and Security

**Part B: Four possible options (4 courses --12 total credit hours)**

<b>Option 1</b> Language+ (A study abroad component is required)	<b>Option 2</b> Cybersecurity+	<b>Option 3</b> Geospatial Intelligence+	<b>Option 4</b> Information Analytics+	<b>Option 5</b> Open Track+
Two Undergraduate Courses in an Approved Foreign Language (Arabic, Hausa, Swahili)	TPS 5070: Informatics Essentials	GEOG 5805: GIS for Homeland Security (New)	LIS 5510: Database Design for Information Storage and Retrieval	3 approved courses from a related Intelligence area (e.g. Criminal Justice, Business, etc.) and a 1st course from option 2, 3, or 4
Two Study Abroad Undergraduate Language/Cultural Immersion courses (Students graded Pass or Fail)	TPS 5600: Applied Cybersecurity (New)	GEOG 5820: Environmental Remote Sensing	LIS 5580: Introduction to Information Analytics (New)	
Two Approved Courses from Option 2, 3, or 4	TPS 5605: Applied Ethical Hacking (New)	GEO 5840: Advanced Remote Sensing	LIS 5590: Introduction to Information Visualization (New)	
	1st Course from option 3 or 4	1st Course from option 2 or 4	1st Course from option 2 or 3	

**Part C: Internship (3 credit hours)**

- Security Intelligence is new field of education
- Security Intelligence Agencies have many job openings
- Students have excellent opportunity to diversify their educational background
- Security is an excellent field to add as a minor
- Chicago State University offers this education as a minor and as a graduate certificate
- If you have any questions, feel free to contact us 773995-2509 or [cinser@csu.edu](mailto:cinser@csu.edu)

