

# B.S. in Cybersecurity Analytics and Operations/M.P.S. in Cybersecurity Analytics and Operations

Name \_\_\_\_\_

## IUG Long-Range Planner

PSU ID \_\_\_\_\_

**33 Total credits for M.P.S.**

At least 18 credits must be in the 500 or 800 series, combined.

<b>Core Curriculum (18 credits)</b>
<b>IST 543:</b> Foundations of Software Security
<b>IST 554:</b> Network Management and Security
<b>IST 815:</b> Foundations of Information Security and Assurance
<b>IST 820:</b> Cybersecurity Analytics
<b>IST 825:</b> Technologies for Web and E-Commerce Application Security
<b>IST 830:</b> Cybersecurity Project Management

<b>Elective Courses (12 credits)</b>
Choose courses from the elective course list.
UG courses will count as 6 elective credits.
The elective courses are listed on the <a href="#">MPS Cybersecurity Analytics and Operations Audit Sheet</a>

<b>Capstone Experience (3 credits)</b>
Choose capstone option
<b>Capstone Course - IST 894</b>
<b>OR</b>
<b>Scholarly Paper - IST 594</b>

**Double-Counted Courses** - Up to 12 credits/four courses may be "double counted" on both the undergraduate and graduate transcripts. A minimum of 50% of the courses proposed to double count must be at the 500 or 800-level.

**IUG Semester Reports** - Every semester, students must complete the "IUG Semester Report," obtain all signatures and submit to the Graduate Program Office at [istgradprograms@psu.edu](mailto:istgradprograms@psu.edu).

### Course Labels

- **UG** courses: appear only on the undergraduate transcript
- **GR** courses: appear only on the graduate transcript
- **IUG** courses: courses that appear on both the undergraduate and graduate transcript

**Total Undergraduate Credits (towards your major) Completed to Date:**

\_\_\_\_\_

*(Do not include in-progress courses, list in-progress courses below)*

**Expected Undergraduate Graduation Semester:** \_\_\_\_\_

*(indicate the semester you would complete the undergraduate degree if you did not pursue an IUG)*

<b>Double-counted IUG Courses</b>	
<i>(if retroactive, list course &amp; semester completed)</i>	
_____	_____
_____	_____

### JUNIOR YEAR

Fall ____	Cr.	UG/ GR/ IUG
<b>Total Credits</b>		

Spring ____	Cr.	UG/ GR/ IUG
<b>Total Credits</b>		

Summer ____	Cr.	UG/ GR/ IUG
<b>Total Credits</b>		

### SENIOR YEAR

Fall ____	Cr.	UG/ GR/ IUG
<b>Total Credits</b>		

Spring ____	Cr.	UG/ GR/ IUG
<b>Total Credits</b>		

Summer ____	Cr.	UG/ GR/ IUG
<b>Total Credits</b>		

### FINAL YEAR

Fall ____	Cr.	UG/ GR/ IUG
<b>Total Credits</b>		

Spring ____	Cr.	UG/ GR/ IUG
<b>Total Credits</b>		

<b>Required Signatures</b>	
<input type="text"/>	<input type="text"/>
Student Signature	Date
<input type="text"/>	<input type="text"/>
Undergrad Advisor Signature	Date
<input type="text"/>	<input type="text"/>
Graduate Director Signature	Date
<input type="text"/>	<input type="text"/>
Schreyer's Advisor Signature <i>(if necessary)</i>	Date

Please be advised that any changes to your finalized plan could potentially affect the completion timeline. It is important to review and discuss any proposed changes with your academic advisor/graduate program before implementing a change.

## Courses eligible to double count for both Cybersecurity Analytics and Operations BS/MPS

- GR courses used in either as application focus requirement OR replacing up to six credits from the following courses: IST 451, IST 454, or IST 456.
- UG courses used in the graduate elective requirement.

Course	Title	Credits
IST 432	Legal and Regulatory Environment of Information Science and Technology	3.0
IST 451	Network Security	3.0
IST 454	Computer and Cyber Forensics	3.0
IST 456	Information Security Management	3.0
IST 554	Network and Management Security	3.0
IST 815	Foundations of Information Security and Assurance	3.0
IST 820	Cybersecurity Analytics	3.0

### \*\*Culminating Experience - Scholarly paper, or Capstone course (3 credits)

Students may choose a scholarly paper or capstone course to fulfill the culminating experience.

#### Scholarly Paper

Students who choose the scholarly paper option must register for 3 credits of IST 594 and complete the scholarly paper. Students are trained to identify a specific problem within a general topic area, frame a research question, conduct a literature review, and develop a research plan to collect and analyze data. Then students continue by implementing the research plan, actually collecting and analyzing a small amount of data, and presenting results in a formal research paper.

#### Capstone Course

Students who choose the capstone course option must register for IST 894 to complete the capstone course requirement. This course is a laboratory-based course that requires students to apply skills and course requirement. This course is a knowledge from previous coursework to "real world" cybersecurity scenarios and problems. The course combines analyses of cybersecurity issues with the critical thinking required to resolve them. Students will be faced with a variety of laboratory assignments spanning a wide range of cybersecurity vulnerabilities and scenarios they must deal with. Each module's laboratory assignment requires a thorough analysis in order to apply the proper tools and techniques for a successful resolution. Peer reviews of work ensure that students grow in their understanding of the skills involved for a given exercise and, in their ability, to judge alternate approaches to resolution.

Typical Course Offerings		
Fall Offerings	Spring Offerings	Summer Offerings
EA 871	EA 871	EA 873
EA 874	EA 873	EA 874
EA 876	EA 876	EA 878
EA 878	EA 878	IST 543
IST 554	IST 543	IST 554
IST 564	IST 555 E/O – 24/26/28	IST 564
IST 594	IST 594	IST 594
IST 815	IST 805	IST 820
IST 820	IST 815	IST 894
IST 821	IST 830	
IST 825	IST 866	
IST 894	IST 868 E/O – 24/26/28	
	IST 894	