

B.S. in Cybersecurity Analytics and Operations/M.S. in Informatics

IUG Long-Range Planner

Name _____

PSU ID _____

30 Total credits for M.S.

At least 18 credits must be in the 500 or 600 series, combined.

At least 6 of the research methods credits or specialization credits must be in the major (IST)

**Core Curriculum
(3-6 credits)**

IST 504: Foundations of Theories and Methods for Information Sciences and Technology Research *(fall)*

IST 505*: Foundations of Research Design in Information Sciences and Technology *(spring)*

***OPTIONAL:** if taken, counts as research methods credits.

**Specialization Courses
(12-18 credits)**

Choose courses in one or more areas to support thesis or scholarly paper.

The shared UG courses will count as 6 specialization credits.

The specialization courses are listed on the [MS Informatics Audit Sheet](#)

**Research Methods
(6 credits)**

Select two research methods courses to develop a basic understanding of research methods.

[Click here](#) to view the approved methods course list.

**Capstone Experience
(3-6 credits)**

Choose capstone option.

Thesis - IST 600
Students who select the thesis option must take IST 505 and register for 6 credits of IST 600.

or

Scholarly Paper - IST 594

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.

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)

Double-counted IUG Courses
(if retroactive, list course & semester completed)

_____	_____
_____	_____

JUNIOR YEAR

Fall _____	Cr.	UG/ GR/ IUG
Total Credits		

Spring _____	Cr.	UG/ GR/ IUG
Total Credits		

Summer _____	Cr.	UG/ GR/ IUG
Total Credits		

SENIOR YEAR

Fall _____	Cr.	UG/ GR/ IUG
Total Credits		

Spring _____	Cr.	UG/ GR/ IUG
Total Credits		

Summer _____	Cr.	UG/ GR/ IUG
Total Credits		

FINAL YEAR

Fall _____	Cr.	UG/ GR/ IUG
Total Credits		

Spring _____	Cr.	UG/ GR/ IUG
Total Credits		

Required Signatures

<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 (if necessary)	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/Informatics MS

- GR courses (IST 504 required) used as CYAOP support option requirement.
- UG courses used as graduate specialization course 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 504	Foundations of Theories and Methods of Information Sciences and Technology Research	3.0
One of the following, based on concentration		
IST 521	Human-Computer Interaction: The User and Technology	3.0
IST 554	Network Management and Security	3.0
IST 557	Data Mining: Techniques and Applications	3.0
IST 815	Foundations of Information Security and Assurance	3.0

**Culminating Experience – Thesis or Scholarly paper (3-6 credits)

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

Thesis

Students who choose the thesis option must register for 6 credits of IST 600, write a satisfactory thesis accepted by the master's committee, the head of the graduate program, and the Graduate School, and pass a thesis defense. Selecting the thesis option may require more than 1-year to complete. Students who choose the thesis option must also complete IST 505.

Scholarly Paper

Students who choose the scholarly paper option must register for 3 credits of IST 594 and complete the scholarly paper. The scholarly paper will be a focused piece of technical work that applies the student's expertise and knowledge base, and that is documented and presented as a scholarly paper report.

Typical Course Offerings*	
Fall Offerings	Spring Offerings
IST 504 – Foundations of Theories and Methods	DS 560 E/O
IST 520 – Foundations in Human-Centered Design	IST 503 – Foundations of IST Research
IST 530 – Foundations in Social Informatics	IST 505 – Foundations of Research Design
IST 543 – Foundations of Software Security	IST 510 – Foundations in Computational Informatics
IST 557 – Data Mining: Techniques and Applications	IST 521 – Human-Computer Interaction: The User and Technology
IST 577 – Human Factors of Security & Privacy	IST 525 – Computer-Supported Cooperative Work
IST 597 – Topics Vary	IST 526 – Development Tools and Visualizations for Human-Computer Interactions
IST 815 – Foundations of Information Security and Assurance	IST 541 – Qualitative Research in IST
IST 830 E/O – Cybersecurity Project Management – next offerings Fall 2025, Fall 2027, Fall 2029.	IST 554 – Network Management and Security
	IST 558 – Data Mining II
	IST 561 – Data Mining Driven Design
	IST 564 – Crisis, Disaster, Risk Management
	IST 584 (also summer) – Cyber Simulation Event
	IST 594 (also summer) – Research (Scholarly Paper)
	IST 597 – Topics Vary
	IST 820 – Cybersecurity Analytics
	IST 825 – Technologies for Web and E-Commerce Application Security

*Course offerings subject to change