B.S. in Cybersecurity Analytics & Operations/M.S. in Cybersecurity Analytics and Operations
IUG Long-Range Planner

Name _____ ***PSU ID*** _____

Core Curriculum (15 credits)

IST 543: Foundations of Software Security *(spring)*

IST 554: Network Management and Security *(spring)*

IST 815: Foundations of Information Security and Assurance *(fall)*

IST 820: Cybersecurity Analytics *(spring)*

IST 825: Technologies for Web and E-Commerce Application Security *(fall)*

Elective Courses (9-12 credits)

Choose courses from the elective course list.

UG courses will count as 6 elective credits.

The elective courses are listed on the **MS Cybersecurity Analytics and Operations Audit Sheet**

Capstone Experience (3-6 credits)

Choose capstone option

Capstone Course - IST 584

OR

Scholarly Paper - IST 594

OR

Thesis - IST 600

Total Undergrad Units Completed to Date: ___

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

Double-counted IUG Courses[1] (UG/GR)
(if retroactive, list course & semester completed)

_____ _____

_____ _____

JUNIOR YEAR

Fall _____	Cr.	UG/ GR/ IUG
Undergrad (UG+IUG)		

Spring _____	Cr.	UG/ GR/ IUG
Undergrad (UG+IUG)		

Summer _____	Cr.	UG/ GR/ IUG
Undergrad (UG+IUG)		

SENIOR YEAR

Fall _____	Cr.	UG/ GR/ IUG
Undergrad (UG+IUG)		
Grad (GR+IUG)		

Spring _____	Cr.	UG/ GR/ IUG
Undergrad (UG+IUG)		
Grad (GR+IUG)		

Summer _____	Cr.	UG/ GR/ IUG
Undergrad (UG+IUG)		
Grad (GR+IUG)		

FINAL YEAR

Fall _____	Cr.	UG/ GR/ IUG
Undergrad (UG+IUG)		
Grad (GR+IUG)		

Spring _____	Cr.	UG/ GR/ IUG
Undergrad (UG+IUG)		
Grad (GR+IUG)		

Required Signatures

Student Signature _____ Date _____

Undergraduate Advisor Signature _____ Date _____

Graduate Director Signature _____ Date _____

Schreyer's Advisor Signature *(if necessary)* _____ Date _____

Notes:

1. 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 count for both degrees must be at the 500 or 800-level.When we talk about these courses, we talk about them as:
   i. UG courses: appear only on the undergraduate transcript
   ii. IUG courses: courses that appear on both the undergraduate and graduate transcript.
   iii. GR courses: appear only on the graduate transcript.
2. Every semester, students must complete the "IUG Semester Report," obtain all signatures and submit to the Graduate School.
3. IUG students must maintain 12 credits to be a full-time student; 15 credits per semester is standard.

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

- 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 504	Foundations of Theories and Methods of Information Sciences and Technology Research	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 - Thesis, Scholarly paper, or Capstone course

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

Thesis

Students who choose the thesis option must register for 6 credits of IST 600 or IST 610, 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. We recommend you take IST 505 if you choose the thesis option, it can be applied as an elective.

Scholarly Paper

Students who choose the scholarly paper option must register for at least 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.

Capstone Course

Students who choose the capstone course option must register for IST 584 to complete the capstone course requirement. This course uses a Cyber event simulation (often referred as Cyber Range), which by its nature, allows for a variety of real-world Cybersecurity scenarios/problems to be simulated for students. Students are expected to utilize the knowledge and skills gained in previous coursework to solve each Cybersecurity scenario/problem in a given week of the class.
This course is only offered during summer (1yr plan) and spring (2yr plan).

Note: Students who choose the thesis or scholarly paper have the option to work on their research project in more than one semester.