Date Submitted: 08/25/25 11:47 am

Viewing: BS-ECYB : Bachelor of Science in Economics and Cybersecurity

Last approved: 05/07/24 2:45 pm

Last edit: 08/25/25 11:47 am

Changes proposed by: skang21

Catalog Pages Using this Program

Bachelor of Science in Economics and Cybersecurity

Program Status	Hiatus ~~Active~~		
Requestor	Name	Sang-Baum Kang	E-mail skang21@stuart.iit.edu
Origination Date	2025-8-25 ~~2024-4-16~~		
Is this an interdisciplinary program?	No		
Academic Unit	Business Administration		
College	Stuart School of Business		
Program Title	Bachelor of Science in Economics and Cybersecurity		
Effective Academic Year	2025 ~~2024~~ - 2026 ~~2025~~	Effective Term	Fall 2025
Academic Level	Undergraduate		

In Workflow

1. SB Associate Dean
2. Academic Affairs
3. Undergraduate Academic Affairs
4. SB Dean
5. Undergraduate Studies Committee Chair
6. Faculty Council Chair
7. Faculty Council Chair
8. Provost
9. President
10. Academic Affairs

Approval Path

1. 08/25/25 11:48 am M Krishna Erramilli (krish): Approved for SB Associate Dean
2. 09/03/25 12:04 pm Ayesha Qamer (aqamer): Approved for Academic Affairs
3. 09/03/25 12:23 pm Joseph Gorzkowski (jgorzkow): Approved for Undergraduate Academic Affairs
4. 09/03/25 1:36 pm Rich Klein (rklein6): Approved for SB Dean

History

1. Jun 12, 2023 by Roland Calia (rcalia)

2. May 7, 2024 by Sang-Baum Kang (skang21)

If all courses in a subject in your department are required, please enter each subject followed by the number ranges in the "Quick Add" field in the pop up box when you click the green plus button below. For example: ARCH 100-499.

What courses will factor the major GPA?

Program Type Degree

Degree Type Bachelor of Science (BS)

CIP Code
30.3901 - Economics and Computer Science.

Is there more than one Academic Unit proposer?

No

Program Code BS-ECYB

Program Attribute

Total Program Credit Hours 120

Please provide a summary and rationale for the requested program revision.

The program has enrolled only three students since its inception, with no new students expected to join in Fall 2025. Stuart's Business Tech+ programs have demonstrated stronger enrollment demand, which justifies the allocation of research faculty to support business school accreditation requirements. We have a proposal pending for a new BS in Business and Cybersecurity, and Stuart is developing a BS in Business Economics and revising a Minor in Economics. ~~To reduce two business electives from 6 credits to 0 credit.To align the assessment plan with the curriculum map.~~

Program Narrative and Justification

Narrative description of how the institution determined the need for the program. For example, describe what need this program will address and how the institution became aware of that need. If the program is replacing a current program(s), identify the current program(s) that is being replaced by the new program(s) and provide details describing the benefits of the new program(s). If the program will be offered in connection with, or in response to, an initative by a governmental entity, provide details of that initiative.

This program is part of the undergraduate program incubator.
See https://docs.google.com/document/d/1e5Mlgsk_Fh4CJgkSBxhUjW--KqFrzZa3QMAYNd8uDO0/edit

The Bachelor of Science in Economics and Cybersecurity degree is a cross-disciplinary program that provides a technical and security-focused degree with a strong grounding in business. The curriculum combines core economics and business knowledge with an understanding of the conceptual and practical computer science and cybersecurity skills that will enable them to contribute to ensuring the reliability and security of cyberspace. Graduates will be prepared to become cybersecurity and information technology practitioners, investigators, managers, and leaders in one of the fastest growing job sectors.

Narrative description of how the program was designed to meet local market needs, or for an online program, regional or national market needs. For example, indicate if Bureau of Labor Statistics data or State labor data systems information was used, and/or if State, regional, or local workforce agencies were consulted. Include how the course content, program length, academic level, admission requirements, and prerequisites were decided; including information received from potential employers about course content; and information regarding the target students and employers.

The Bachelor of Science in Economics and Cybersecurity was developed by the Stuart School of Business in consultation with the faculty and leadership of was developed by the Stuart School of Business faculty in consultation with the faculty and leadership of the Department of Information Technology and Management in the College of Computing as as well as industry experts and practitioners.

Narrative description of any wage analysis the institution may have performed, including any consideration of Bureau of Labor Statistics wage data related to the new program.

A Bachelor of Science in Economics and Cybersecurity degree can provide an excellent preparation for private sector job markets, particular in the technology sector. Students with this degree have a relatively high mean salary of between $102,000 to $113,000 according to the Bureau of Labor Statistics. The job outlook is good, with job growth projected to increase by 35% for information security analysts and 36% for data science analysts. See https://www.bls.gov/ooh/computer-and-information-technology/software-developers.htm#tab-8 and https://www.bls.gov/ooh/math/data-scientists.htm.

Narrative description of how the program was reviewed or approved by, or developed in conjunction with, one or more of the following: a) business advisory committees; b) program integrity boards; c) public or private oversight or regulatory agencies (not including the state licensing/authorization agency and accrediting agency); and d) businesses that would likely employ graduates of the program. For example, describe the steps taken to develop the program, identify when and with whom discussions were held, provide relevant details of any proposals or correspondence generated, and/or describe any process used to evaluate the program.

The Bachelor of Science in Economics and Cybersecurity was developed by the Stuart School of Business in consultation with the faculty and leadership of was developed by the Stuart School of Business faculty in consultation with the faculty and leadership of the Department of Information Technology and Management in the College of Computing as as well as industry experts and practitioners.

Admission Entry Details

What are the enrollment estimates?

Year 1 5 Year 2 10 Year 3 12

Attach Additional Program Justification Document(s)

Academic Information

Advising

Since quality advising is a key component of good retention, graduation, and career placement, how will students be mentored? What student professional organizations will be formed? How will the department work with the Career Services office to develop industry connections?

Students will be primarily advised by the Stuart Undergraduate Program Director with the assistance of a designated advisor in the Department of Information Technology and Management.

Program Resources

Which program resources are necessary to offer this program?

Personnel

Facilities

Describe the personnel requirements necessary to offer the program. Describe how and when resources will be made available to hire any additional personnel that are required.

No new personnel are required.

Describe the facilities requirements necessary to offer the program. Describe how and when resources will be made available to obtain any additional facilities that are required.

No new facilities are required.

Proposed Catalog Entry

Admission
Requirements

The Bachelor of Science in Economics and Cybersecurity degree is a cross-disciplinary program that provides a technical and security-focused degree with a strong grounding in business. The curriculum combines core economics and business knowledge with an understanding of the conceptual and practical computer science and cybersecurity skills that will enable them to contribute to ensuring the reliability and security of cyberspace. Graduates will be prepared to become cybersecurity and information technology practitioners, investigators, managers, and leaders in one of the fastest growing job sectors.

Course Requirements

Required Economics Courses		**(36)**
BUS 100	Introduction to Business and Economics	3
BUS 102	Introduction to Business Analytics	3
BUS 221	Business Statistics	3
BUS 321	Analytics for Optimization	3
BUS 480	Strategic Management and Design Thinking	3
ECON 151	Microeconomics	3
ECON 152	Macroeconomics	3
ECON 251	Introduction to Econometrics	3
ECON 311	Intermediate Microeconomics	3
ECON 312	Intermediate Macroeconomics	3
ECON/BUS 382	Business Economics	3
ECON 423	Economics of Capital Investments	3
Information Technology and Cybersecurity Required Courses		**(36)**
ITM 301	Introduction to Contemporary Operating Systems and Hardware I	3
ITM 313	Introduction to Open Source Application Development [1]	3

ITMD 321	Data Modeling and Applications	3
ITMO 340	Introduction to Data Networks and the Internet	3
ITMO 356	Introduction to Open Source Operating Systems	3
ITMS 418	Coding Security [2]	3
ITMS 438	Cyber Forensics	3
ITMS 443	Vulnerability Analysis and Control	3
ITMS 448	Cyber Security Technologies	3
ITMS 458	Operating System Security	3
ITMS 478	Cyber Security Management	3
ITMS 483	Digital Evidence	3
Mathematics Requirement		**(7)**
MATH 180	Fundamentals of Discrete Mathematics	3
MATH 148	Preparation for Calculus	4
or MATH 151	Calculus I	
or MATH 191	Business Calculus	
or MATH 192	Finite Mathematics	
Natural Science and Engineering Requirements		**(10)**
See Illinois Tech Core Curriculum, section D		10
Humanities and Social Science Requirements		**(21)**
See Illinois Tech Core Curriculum, section B and C		21
Interprofessional Projects (IPRO)		**(6)**
See Illinois Tech Core Curriculum, section E		6
Free Electives		**(4)**
Select 4 credit hours.		4
Total Credit Hours		120

1 ITM 313 satisfies Computer Science Requirement

2 Prerequisite ITMD 411--conditional permission to enroll in ITMS 418

Sample Curriculum/Program Requirements

Year 1

Semester 1	Credit Hours	Semester 2	Credit Hours
BUS 100	3	BUS 102	3

ECON 151	3	ECON 152	3
ITM 301	3	ITM 313[1]	3
Humanities Elective (200 Level)	3	MATH 180	3
MATH 148 or 151	4	Science Elective	4
	16		16

Year 2

Semester 1	Credit Hours	Semester 2	Credit Hours
BUS 321	3	BUS 221	3
ECON 311	3	ECON 312	3
ITMO 340	3	ITMS 448	3
ITMO 356	3	ITMD 321	3
Science Elective	3	Science Elective	3
	15		15

Year 3

Semester 1	Credit Hours	Semester 2	Credit Hours
ECON 251	3	ECON 382	3
ITMS 443	3	ITMS 418[2]	3
ITMS 478	3	ITMS 458	3
Humanities Elective (300+)	3	Humanities Elective (300+)	3
Social Science Elective	3	IPRO Elective I	3
	15		15

Year 4

Semester 1	Credit Hours	Semester 2	Credit Hours
ECON 423	3	BUS 480	3
ITMS 438	3	ITMS 483	3
IPRO Elective II	3	Humanities or Social Science Elective	3
Social Science Elective (300+)	3	Social Science Elective (300+)	3
Free Elective	4		
	16		12

Total Credit Hours: 120

1 ITM 313 satisfies Computer Science Requirement

2 Prerequisite ITMD 411 - conditional permission to enroll in ITM 418

Specialization Requirements

Program Outcomes and Assessment Process

What are your learning objectives in this program? Please list each learning objective in the boxes below:

Note: These should be the same as described in your assessment plan at the bottom of this form.

Students will prepare and deliver oral presentations that are well-structured, technically competent and make good use of aids to support evidence-driven conclusions.

Students will prepare documents in text-based media that are clear, accurate, and appropriate for the intended audience.

Students will be able to develop well-reasoned arguments and conclusions.

Graduates will possess the analytical skills to support business decision making.

Design and implement an enterprise security program using policy, technology, and awareness to implement appropriate controls and technically secure enterprise information assets and resources to deter, detect, and prevent the success of attacks and intrusions

Upload your assessment plan here:

Assessment Plan v2023 Stuart BS Economics and Cybersecurity.xlsx

Undergraduate Program Requirements

What courses will factor the major GPA?

Undergraduate Degree Requirements

Minimum credit hours	120

Specialization required?

No

Minor required?

No

Proposed General Curriculum

List Major Course Requirements		
Required Economics Courses		
BUS 100	Introduction to Business and Economics	3
BUS 102	Introduction to Business Analytics	3
BUS 221	Business Statistics	3
BUS 321	Analytics for Optimization	3
BUS 480	Strategic Management and Design Thinking	3
ECON 151	Microeconomics	3
ECON 152	Macroeconomics	3
ECON 251	Introduction to Econometrics	3
ECON 311	Intermediate Microeconomics	3
ECON 312	Intermediate Macroeconomics	3
ECON 382	Business Economics	3
ECON 423	Economics of Capital Investments	3
Information Technology and Cybersecurity Required Courses		
ITM 301	Introduction to Contemporary Operating Systems and Hardware I	3
ITM 313	Introduction to Open Source Application Development	3
ITMD 321	Data Modeling and Applications	3
ITMO 340	Introduction to Data Networks and the Internet	3
ITMO 356	Introduction to Open Source Operating Systems	3
ITMS 418	Coding Security	3
ITMS 438	Cyber Forensics	3
ITMS 443	Vulnerability Analysis and Control	3
ITMS 448	Cyber Security Technologies	3
ITMS 458	Operating System Security	3
ITMS 478	Cyber Security Management	3
ITMS 483	Digital Evidence	3
Total Credit Hours		72
List Mathematics Requirements		

MATH 180	Fundamentals of Discrete Mathematics	3
MATH 148	Preparation for Calculus	4
or MATH 151	Calculus I	
or MATH 191	Business Calculus	
or MATH 192	Finite Mathematics	
Total Credit Hours		7
List Science Requirements		
Natural Science and Engineering Requirements		
See Illinois Tech Core Curriculum, section D		10
Total Credit Hours		10
List Computer Science Requirements		
Computer Science Requirement		
Fulfilled by ITM 313		
Total Credit Hours		0
List Humanities and Social Sciences Requirements		
Humanities and Social Science Requirements		
See Illinois Tech Core Curriculum, section D		21
Total Credit Hours		21
List Interprofessional Project (IPRO) Requirements		
Interprofessional Projects (IPRO)		
See Illinois Tech Core Curriculum, section E		6
Total Credit Hours		6
List Technical Elective Course Options		

List Free Elective Credit Hours (if applicable)	4
Semester-by-semester plan of study for the degree program	

Year 1

Semester 1	Credit Hours	Semester 2	Credit Hours
BUS 100	3	BUS 102	3
ECON 151	3	ECON 152	3
ITM 301	3	ITM 313	3
Humanities Elective (200 Level)	3	MATH 180	3
MATH 148 or 151	4	Science Elective	4
	16		16

Year 2

Semester 1	Credit Hours	Semester 2	Credit Hours
BUS 321	3	BUS 221	3
ECON 311	3	ECON 312	3
ITMO 340	3	ITMS 448	3
ITMO 356	3	ITMD 321	3
Science Elective	3	Science Elective	3
	15		15

Year 3

Semester 1	Credit Hours	Semester 2	Credit Hours
ECON 251	3	ECON 382	3
ITMS 443	3	ITMS 418 (Prerequisite ITMD 411 - conditional permission to enroll in ITM 418)	3
ITMS 478	3	ITMS 458	3
Humanities Elective (300+)	3	Humanities Elective (300+)	3
Social Science Elective	3	IPRO Elective I	3
	15		15

Year 4

Semester 1	Credit Hours	Semester 2	Credit Hours
ECON 423	3	BUS 480	3
ITMS 438	3	ITMS 483	3
IPRO Elective II	3	Humanities or Social Science Elective	3
Social Sciences Elective (300+)	3	Social Science Elective (300+)	3
Free Elective	4		
	16		12

Total Credit Hours: 120

Report to Faculty Council

Reviewer Comments

Key: 615