

BACHELOR OF SCIENCE IN ECONOMICS AND CYBERSECURITY

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.

Stuart School of Business is a global leader in bridging technology and business, offering distinctive education that provides students with the knowledge and skillsets to become outstanding professionals.

Business, economics and technology at Illinois Tech have a prestigious history that dates back to the 1880s, with the establishment of the Armour Institute of Technology in 1890 and the Lewis Institute in 1895. Economics at Illinois Tech began at the Lewis Institute, Stuart's original home, with some of the nation's first courses in "Family and Consumer Science" (including "Home Economics" and "Household Management"), and the Institute's subsequent formation of the university's Department of Business and Economics in 1926. The merger of the Lewis Institute with the Armour Institute of Technology in 1940 brought business and technology under one entity. The Armour Institute of Technology itself was founded through the pioneering works of Philip D. Armour, a merchant financier, Julia A. Beveridge, a librarian turned public administrator, and Frank W. Gunsaulus, an entrepreneurial preacher. The Department Business and Economics ultimately grew into a separate school at Illinois Institute of Technology – the Stuart School of Business, in 1969, with a gift from Lewis Institute alum and renowned financier Harold Leonard Stuart. Harold L. Stuart himself was a national leader in the field of investment banking in the first half of the 20th century, and his Chicago investment bank played a pivotal role in establishing the city as a global financial hub, as well as financing some incredible engineering feats, including Chicago's elevated train lines.

Over a period of more than 125 years, harnessing curricular innovations by Julia A. Beveridge and George N. Carman, and incredible scholarly works by trailblazing Illinois Tech scholars Herb A. Simon (author of Administrative Behavior, later awarded the Nobel Prize in Economics), Karl Menger (developer of the St. Petersburg paradox in economics) and Abe Sklar (developer of the Copula in financial modeling), the Stuart School of Business has refined business education. A long-standing leader in curricular innovation, in 1990, building on the foundational works of numerous Illinois Tech scholars, and Harold L. Stuart's own contributions to finance and the broader business community, the Stuart School of Business established quantitative finance as an academic discipline, with a world's first postgraduate Master's program in Financial Markets and Trading – a program that highlighted a new model for embedding into a postgraduate academic program the emphases on career readiness and connectedness with the business community, and transformed business school education.

The Bachelor of Science in Economics and Cybersecurity brings together world-class faculty from the College of Computing and the Stuart School of Business, offering students an incredible opportunity to complete a core set of courses in both disciplines, with expanded access to subject matter experts from both colleges. The United States Department of Homeland Security and the National Security Agency have designated Illinois Institute of Technology as a National Center of Academic Excellence in Cyber Defense Education. The program builds on Stuart's and Computing's prestige and tradition of undergraduate education that prepares students to add value to any organization they may join on day 1 of their roles. The innovative interdisciplinary program requires the successful completion of 126 credit hours.

Required Courses

Code	Title	Credit Hours
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

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

Bachelor of Science in Economics and Cybersecurity Curriculum

		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