New Program Proposal

Date Submitted: 02/03/26 5:46 pm

Viewing: BS-CAI-1 : Bachelor of Science in Cybersecurity and AI

Will be changed to "with Artificial Intelligence"

Last edit: 02/03/26 5:46 pm

Changes proposed by: hajek

Program Status	Active		
Requestor	Name	Gurram Gopal	E-mail gopal@iit.edu
Origination Date	2026-2-3		
Is this an interdisciplinary program?	No		
Is this stem-eligible?	Yes		
Available for direct application?	Yes		
Academic Unit	Information Technology & Mgmt		
College	College of Computing		
Program Title	Bachelor of Science in Cybersecurity and AI		
Effective Academic Year	2026 - 2027	Effective Term	Summer 2026
Academic Level	Undergraduate		

In Workflow

1. ITMG Chair
2. Academic Affairs
3. Undergraduate Academic Affairs
4. Director of Assessment
5. CC Dean
6. Marketing and Communications
7. Undergraduate Studies Committee Chair
8. Faculty Council Chair
9. Faculty Council Chair
10. Provost
11. President
12. Board of Trustees
13. Academic Affairs

Approval Path

1. 02/03/26 8:18 pm Gurram Gopal (gopal): Approved for ITMG Chair
2. 02/05/26 9:04 am Ayesha Qamer (aqamer): Approved for Academic Affairs
3. 02/05/26 9:30 am Joseph Gorzkowski (jgorzkow): Approved for Undergraduate Academic Affairs
4. 02/05/26 11:42 am Nicholas Menhart (menhart): Approved for

Director of Assessment
5. 02/05/26 8:30 pm Nicole Beebe (nbeebe1): Approved for CC Dean
6. 02/12/26 10:06 am Chelsea Kalberloh Jackson (jacksonc): Approved for Marketing and Communications

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?	ITM 100-499 - Course ITM 100-499 not Found ITMD 300-499 - Course ITMD 300-499 not Found ITMO 300-499 - Course ITMO 300-499 not Found ITMS 300-499 - Course ITMS 300-499 not Found ITMM 300-499 - Course ITMM 300-499 not Found ITMT 300-499 - Course ITMT 300-499 not Found
Program Type	Degree
Degree Type	Bachelor of Science (BS)

CIP Code

11.1003 - Computer and Information Systems Security/Auditing/Information Assurance.

Is there more than one Academic Unit proposer?

No

Program Code	BS-CAI-1
Program Attribute	
Total Program Credit Hours	121

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.

The Bachelor of Science in Cybersecurity and AI (BSCAI) lays down a solid base of 36 hours of required courses in information technology as a foundation for the 24 hours of dedicated courses in cybersecurity, 9 hours in Secure AI and related areas, and includes a 3 credit hour capstone course. It includes a mathematics track which includes courses in Discrete Mathematics, Finite Mathematics, and Statistics. The Bulletin pages for the program follow this form and provide more complete details. This program prepares students to enter the workforce in cybersecurity roles, effectively securing AI systems and using AI to secure the enterprise. Students are prepared for entry-level security analyst positions or can continue on to advanced studies in the field.

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.

Cybersecurity is one of the fastest growing fields in the world. “ISACA, a non-profit information security advocacy group, predicts there will be a global shortage of two million cyber security professionals by 2019. Every year in the U.S., 40,000 jobs for information security analysts go unfilled, and employers are struggling
to fill 200,000 other cyber-security related roles, according to cyber security data tool CyberSeek.” (Forbes, “The Fast-Growing Job With A Huge Skills Gap: Cyber Security” by Jeff Kauflin, March 16, 2017) According to the U.S. Bureau of Labor Statistics, between 2012 and 2022, the rate of growth for information security analysts is expected to be 36.5 percent. With this huge gap in supply and demand, there is a clear need for
educated cybersecurity professionals in the job market, and an even bigger need for researchers in the field. ABET is expected to begin accrediting programs in cybersecurity possibly as early as 2018. Additional workforce demand details can be seen at the National Initiative for Cybersecurity Education (NICE) website at
https://www.nist.gov/sites/default/files/documents/2017/01/30/nice_workforce_demand.pdf

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.

Narrative in the attached supporting documents.

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.

This degree encompasses existing requirements for the Bachelor of Science in Applied Cybersecurity and Information Technology as a foundation and builds on this base to develop AI related knowledge, skills, and abilities. With a few minor changes this program as drafted will meet requirements for National Centers of Academic Excellence in Cybersecurity
CyberAI Programs of Study Validations Checklist
Overview: Institutions wishing to earn the Center of Academic Excellence CyberAI Programs of Study Validations will apply in one part. Part 1: Program of Study (PoS) Validation: The process will begin with the submission of elements pertaining to the academic PoS study for either Security of AI (SecureAI) or AI for Cybersecurity (AICyber). Elements include: curriculum, student and faculty profiles

Significant Federal scholarship opportunities are open to students in this curriculum including the CyberCorps® Scholarship for Service Scholarships, Department of Defense Information Assurance Scholarships, and the State Department Foreign Affairs Information Technology (IT) Fellowship Program. These programs not only cover two to three years of fully funded study, but also award stipends to students
ranging from $22,000 to $37,500 per year. In addition more limited scholarships are available nongovernment organizations such as the Cybersecurity Scholarships from the International Information System Security Certification Consortium's Center for Cyber Safety and Education. These opportunities already exist due to our designation by the National Security Agency and the Department of Homeland Security as a National Center of Academic Excellence in Cyber Defense Education.

Admission Entry Details

Available Fall Admit	Yes	Available Spring Admit	Yes
Available Summer Admit	No		
Available On Campus	Yes	Available Online	Yes
Available Full-Time	Yes	Available Part-Time	Yes
Available International	No	Available Domestic	Yes

What are the enrollment estimates?

Year 1	45	Year 2	60	Year 3	75

Attach Additional Program Justification Document(s)	National-Security-in-the-Age-of-AI-The-Illinois-Tech-SecureAI-Program-of-Study_compressed (1).pdf CyberAI POS CHECKLIST 2025 (June 2025 Draft)_12june25 (2).pdf

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 advised and mentored by existing advisers who are cybersecurity faculty members. No new advisers will be required for this program.

Program Resources

Which program resources are necessary to offer this program?

Proposed Catalog Entry

Admission Requirements

Course Requirements

Required Courses

* Note: ① The courses ITMD 361 and ITMM 471 are being removed from the list of required courses
② Two CS courses are going to be added as required courses. CS 480 and CS 484

Information Technology Core Requirements		(36)
ITM 301	Introduction to Contemporary Operating Systems and Hardware I	3
ITM 303	Introduction to Contemporary Operating Systems and Hardware II	3
ITM 311	Introduction to Software Development	3
ITM 313	Introduction to Open Source Application Development	3
ITMD 321	Data Modeling and Applications	3
ITMD 361 *	Fundamentals of Web Development	3
ITMD 362	Human-Computer Interaction and Web Design	3

ITMD 411	Intermediate Software Development	3
ITMM 471	Project Management for Information Technology and Management	3
ITMO 340	Introduction to Data Networks and the Internet	3
ITMO 356	Introduction to Open Source Operating Systems	3
ITMT 330	Introduction to Information Systems and the IT Profession	3
Cybersecurity Core Requirements		**(33)**
ITMM 485	Legal and Ethical Issues in Information Technology	3
ITMS 416	Foundations of Secure AI Systems	3
ITMS 418	Coding Security	3
ITMS 443	Vulnerability Analysis and Control	3
ITMS 448	Cyber Security Technologies	3
ITMS 458	Operating System Security	3
ITMS 460	Secure AI Systems Engineering and Defense	3
ITMS 483	Digital Evidence	3
ITMT 430	System Integration	3
ITMS 484	Governance, Risk, and Compliance	3
DS 151	Introduction to Data Science	3
Mathematics Requirements		**(9)**
MATH 180	Fundamentals of Discrete Mathematics (Select one course from the following:)	3
or MATH 230	Introduction to Discrete Math	
MATH 192	Linear Mathematics	3
Select one course from the following:		3
STAT 225	Introductory Statistics (Select one course from the following:)	3
BUS 221	Business Statistics (Select one course from the following:)	3
PSYC 203	Undergraduate Statistics for the Behavioral Sciences	4
Natural Science and Engineering Requirements		**(10)**
PHYS 200 is recommended		
See Illinois Tech Core Curriculum, section D		10
Humanities and Social Sciences Requirements		**(21)**
PSYC 301 is recommended		
See Illinois Tech Core Curriculum, sections B and C		21
Interprofessional Projects (IPRO)		**(6)**

See Illinois Tech Core Curriculum, section E	6
Free Electives	**(6)**
Select six credit hours	6
Total Credit Hours	121

Sample Curriculum/Program Requirements

Bachelor of Science in Cybersecurity and AI

Year 1

Semester 1	Credit Hours	Semester 2	Credit Hours
ITM 301	3	ITM 303	3
ITMT 330	3	ITMO 340	3
Natural Science or Engineering Elective	4	ITMO 356	3
Humanities 200-level Elective	3	MATH 180 or 230	3
		Natural Science or Engineering Elective	3
	13		15

Year 2

Semester 1	Credit Hours	Semester 2	Credit Hours
ITMD 361	3	ITMD 362	3
ITMD 321	3	ITMS 448	3
ITM 311	3	ITM 313	3
MATH 192	3	Statistics Elective (STAT 225, BUS 221, PSYC 203)	3
Natural Science or Engineering Elective	3	Social Science Elective	3
		Minor, Technical, or Free Elective	3
	15		18

Year 3

Semester 1	Credit Hours	Semester 2	Credit Hours
ITMD 411	3	ITMS 416	3
ITMM 485	3	ITMS 483	3
ITMS 484	3	ITMS 418	3
DS 151	3	ITMS 443	3
Humanities Elective (300+)	3	Social Sciences Elective (300+)	3
	15		15

Year 4

Semester 1	Credit Hours	Semester 2	Credit Hours
ITMM 471	3	ITMT 430	3
ITMS 458	3	IPRO Elective II	3

ITMS 460	3	Minor, Technical, or Free Elective	3
Humanities Elective (300+)	3	Social Sciences Elective (300+)	3
IPRO ELECTIVE 1	3	Humanities or Social Sciences Elective	3
	15		15

Total Credit Hours: 121

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.

Problem solve and create innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals

Perform requirements analysis, design, and administration of secure computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best practices as appropriate.

Apply current industry, technical, and mathematical concepts and practices in the core information technologies and recognize the need to engage in continuing professional development.

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.

Investigate information security incidents and violation of law using computer resources in a manner such that all evidence is usable for fault analysis and, when applicable, admissible in a court of law.

Upload your assessment plan here:

Assessment-Plan-2026-for-CS-CAI-1.xlsx

Undergraduate Program Requirements

What courses will factor the major GPA?

Undergraduate Degree Requirements

Minimum credit hours 121

Specialization required?
No

Minor required?
No

Proposed General Curriculum

List Major Course Requirements
See required courses above

List Mathematics Requirements
No change

List Science Requirements
No change

List Computer Science Requirements
No change

List Humanities and Social Sciences Requirements
No change

List Interprofessional Project (IPRO) Requirements
No change

List Technical Elective Course Options	No change
List Free Elective Credit Hours (if applicable)	3
Semester-by-semester plan of study for the degree program	See Sample Curriculum/Program Requirements above

Report to Faculty Council	
Reviewer Comments	

Key: 678