ENTERPRISE TECHNOLOGY INTEGRATION, B.S. (INFORMATION SCIENCES AND TECHNOLOGY)

Seven Penn State campuses are scheduled for closure after Spring 2027: DuBois, Fayette, New Kensington, Mont Alto, Shenango, Wilkes-Barre, and York. New students are not being admitted at these campuses.

Begin Campus: Any Penn State Campus

End Campus: University Park, World Campus

Program Description

The Enterprise Technology Integration (ETI) major in the College of Information Sciences and Technology is a Bachelor of Science degree program that prepares students to lead at the intersection of business, technology, and artificial intelligence (AI). As AI, cloud computing, and data analytics reshape how organizations operate and compete, the ETI major focuses on how these technologies are applied in real-world business environments. The program emphasizes the integration of enterprise systems, data, and AI-enabled technologies to improve decision-making, automate workflows, and support organizational performance.

Grounded in core business disciplines such as accounting, supply chains, and organizational strategy, ETI students learn how technology supports and transforms business operations. Rather than focusing on the development of AI algorithms, the program centers on how AI is embedded into business processes, decision systems, and enterprise platforms. Students develop foundational knowledge in information technology, data management, enterprise systems, cloud computing, data analytics, and project management, alongside strong business and organizational understanding. The program emphasizes applied, hands-on learning through real-world tools and scenarios that help students design AI-enabled solutions, assess data readiness, and connect business needs with technical capabilities. Graduates are prepared for careers across industries and government in roles such as business analyst, systems analyst, technology consultant, and positions focused on AI-enabled operations, digital transformation, and enterprise technology integration.

What is Enterprise Technology Integration?

Why Study Enterprise Technology Integration? Enterprise technology integration is critical for business efficiency and innovation. Organizations must seamlessly connect their IT infrastructure, applications, and data to support operations and strategic goals. ETI professionals play a key role in ensuring smooth system interoperability, process automation, and digital transformation across industries. This major equips students to analyze business needs, propose technology solutions, and optimize enterprise-wide systems for maximum performance. With the increasing influence of AI-driven automation, ETI graduates are well-positioned to use a variety of technologies including AI related solutions and intelligent process automation to enhance business operations.

What you'll learn:

- Enterprise System Design: Understand how cloud computing, databases, AI and API's work together.
- Business & IT Strategy: Learn how technology, including AI, drives business decisions in finance, supply chain, and marketing.
- Process Optimization: use workflow automation, AI-Driven decision-making and data analytics to improve efficiency.
- AI & Data Protection: Ensure data integrity, privacy, and regulatory adherence while utilizing AI for enhanced risk management and compliance strategies.
- Team Collaboration & Project Leadership: Develop communication and leadership skills essential for IT and business roles, including those integrating AI-drive tools for workflow improvements.

More Information About Enterprise Technology Integration (https://ist.psu.edu/degree-programs/undergraduate/enterprise-technology-integration)

You Might Like This Program If...

- You enjoy solving complex problems using technology, including AI-base solutions.
- You are interested in how businesses operate and want to improve their efficiency through AI and automation.
- You like working in teams and collaborating on large-scale, tech-driven projects.
- You want to develop skills in cloud computing, system integration, AI technologies and data management.
- You're curious about emerging technologies like AI, blockchain, and automation, and how they transform industries.

More Information About Why Students Choose to Study Enterprise Technology Integration (https://ist.psu.edu/degree-programs/undergraduate/enterprise-technology-integration)

Entrance to Major

To be eligible for the Enterprise Technology Integration major, students must:

1. Have completed the following entrance-to-major requirements with a grade of C or better in each: (ETI 100 OR HCDD 113S (FYS) or HCDD 113 or CYBER 100 or CYBER 100S (FYS) or IST 110 or A-I 100), and (IST 140 or CMPSC 121 or CMPSC 131), and IST 210, IST 220, and (IST 242 or CMPSC 122 or CMPSC 132), and (STAT 200 or SCM 200)
2. Have achieved a minimum cumulative grade point average of 2.00 prior to and through the end of the semester during which the entrance to major is requested.

Degree Requirements

For the Bachelor of Science degree in Enterprise Technology Integration, a minimum of 120 credits is required:

Requirement	Credits
General Education	45
Electives	1-2
Requirements for the Major	91-92

18 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 3 credits of GS courses, 6 credits of GQ courses, 9 credits of GWS courses.

Requirements for the Major

A grade of C or better is required for all courses in the major. To graduate, a student enrolled in the major must earn at least a C grade in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/).

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
ACCTG 211	Financial and Managerial Accounting for Decision Making	4
ETI 200	Designing AI for the Enterprise	3
ETI 300W	Cloud Design	3
ETI 301	Technology Adoption and Organizational Change	3
ETI 302	IT Project Management	3
ETI 420	Fundamentals of Systems and Enterprise Integration	3
ETI 421	Advanced Enterprise Integration: Technologies and Applications	3
ETI 461	Database Management and Administration	3
IST 210	Organization of Data	3
IST 220	Networking and Telecommunications	3
IST 230	Language, Logic, and Discrete Mathematics	3
IST 256	Programming for the Web	3
IST 495	Internship	1
Additional Courses		
Additional Courses: Require a grade of C or better		
BA 302	Supply Chains	3
or SCM 301	Supply Chain Management	
ECON 102	Introductory Microeconomic Analysis and Policy	3
or ECON 104	Introductory Macroeconomic Analysis and Policy	
ENGL 202C	Effective Writing: Technical Writing	3
or ENGL 202D	Effective Writing: Business Writing	
ETI 400	Delivering AI for the Enterprise	3
or ETI 423	Enterprise Information Management and Storage Architecture	
ETI 435	Enterprise Analytics	3
or ETI 463	Distributed Database Management Systems	
MATH 110	Techniques of Calculus I	4
or MATH 140	Calculus With Analytic Geometry I	
STAT 200	Elementary Statistics	4
or SCM 200	Introduction to Statistics for Business	
Select 3 credits from the following:		3
CAS 100A	Effective Speech	
CAS 100B	Effective Speech	
CAS 100C	Effective Speech	
CAS/ENGL 138T	Rhetoric and Civic Life II	
Select 3 credits from the following:		3
CAS/ENGL 137H	Rhetoric and Civic Life I	
ENGL 15	Rhetoric and Composition	
ENGL 30H	Honors Rhetoric and Composition	
Select 3-4 credits from the following:		3-4
BA 243	Social, Legal, and Ethical Environment of Business	
BA 301	Finance	
BA 303	Marketing	
BA 304	Management and Organization	
BLAW 243	Legal Environment of Business	
FIN 301	Corporation Finance	
IB 303	International Business Operations	
MGMT 301	Basic Management Concepts	
MKTG 301	Principles of Marketing	
Select 3 credits from the following:		3
CMPSC 121	Introduction to Programming Techniques	
CMPSC 131	Programming and Computation I: Fundamentals	
IST 140	Introduction to Application Development	
Select 3 credits from the following:		3
CMPSC 122	Intermediate Programming	
CMPSC 132	Programming and Computation II: Data Structures	
IST 242	Intermediate & Object-Oriented Application Development	
Select 3 credits from the following:		3
A-I 100	Artificial Intelligence: Automated Thinking to Augment Human Intellect	
CYBER 100	Computer Systems Literacy	
CYBER 100S	Computer Systems Literacy	
ETI 100	Introduction to Enterprise Technology Integration	
HCDD 113	Foundations of Human-Centered Design and Development	
HCDD 113S	Foundations of Human-Centered Design and Development FYS	
IST 110	Information, People and Technology	
Supporting Courses and Related Areas		
Supporting Courses and Related Areas: Require a grade of C or better		
A student must complete 12 credits from a single Application Focus. For most focuses, at least 3 of those credits must be at the 400-level. [1]		12

[1] As an alternative to the pre-defined application focuses, a student may select 12 credits, with at least 3 credits at the 400-level from any courses offered by the university if done so in consultation with an academic adviser and with approval of a teaching faculty member of the Enterprise Technology Integration major.

General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education

Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)

- **Quantification (GQ):** 6 credits
- **Writing and Speaking (GWS):** 9 credits

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)

- **Arts (GA):** 3 credits
- **Health and Wellness (GHW):** 3 credits
- **Humanities (GH):** 3 credits
- **Social and Behavioral Sciences (GS):** 3 credits
- **Natural Sciences (GN):** 3 credits

Integrative Studies

- **Inter-Domain Courses (Inter-Domain):** 6 credits

Exploration

- **GN,** may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher**:** 6 credits

University Degree Requirements

First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/)). For more information, check the Suggested Academic Plan for your intended program.

Integrated B.S. in Enterprise Technology Integration and M.S. in Cybersecurity Analytics and Operations

Undergraduate degree available at the following campuses: Harrisburg, University Park, World Campus

Graduate degree available at the following campuses: University Park

Requirements for the Integrated B.S. in Enterprise Technology Integration and M.S. in Cybersecurity Analytics and Operations can be found in the Graduate Bulletin (https://bulletins.psu.edu/graduate/programs/majors/cybersecurity-analytics-operations/#integratedundergradgradtext).

Program Learning Objectives

1. **Knowledge Application:** Understand and apply the interdisciplinary, theoretical knowledge of enterprise technology integration (ETI)
   a. Define and explain the core concepts, principles, processes, and theories within the academic major
   b. Apply the core concepts of ETI to real-world problems
2. **Problem Solving:** Understand, apply and adapt various problem solving strategies, using appropriate technology and methods
   a. Identify information problems and/or opportunities in terms of the human, informational and technology dimensions
   b. Analyze issues surrounding the problem and/or opportunity in terms of the human, informational, and technology dimensions; and determine the requirements appropriate to understanding the situation
   c. Design systems, architectures, processes, components, or programs to meet desired needs of the human context at varying levels of analysis (e.g., individual, group, organization, society, and/or world)
   d. Deploy up-to-date and appropriate techniques, methodologies, and/or tools necessary for understanding opportunities and constraints and/or the optimal design, implementation and continuance of an information-based solution
   e. Evaluate the success of systems, architecture, processes, components, or programs intended to meet desired needs of the human context at varying levels of analysis (e.g., individual, group, organization, society, and/or world)
3. **Communication:** Communicate and work effectively (both individually and in teams) with a range of perspectives and audiences through a variety of media
   a. Participate effectively on teams in order to accomplish a common goal

   b. Communicate effectively with a range of audiences, formally or informally, through writing and the spoken word
   c. Seek out, analyze, and incorporate diverse ideas and broader perspectives represented in the diversity of people
   d. Make respectful and inclusive choices in interacting with customers, peers, supervisors, and/or subordinates with a diversity of identity characteristics (e.g., age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, gender identify, or veteran status)
4. **Professional Responsibilities:** Understand professional responsibilities in terms of the ethical, legal, security and social aspects of any given problem and its solution
   a. Demonstrate an understanding of the cognitive, social, legal, ethical, diversity, and security perspectives surrounding a given problem
   b. Assess the impact of information, computing and technology on individuals, groups, organizations, society, and the world for the purpose of making informed decisions from a sociological, governmental, legal, and/or security perspective.
5. **Lifelong Learning:** Commit to the continuous acquisition of relevant knowledge for professional development by self-teaching and/or on-going education and learning
   a. Employ information-seeking strategies and self-directed learning in pursuit of current knowledge
   b. Enroll in professional development and tutoring opportunities

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

Read Senate Policy 32-00: Advising Policy (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

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Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2026-27 academic year. To access previous years' suggested academic plans, please visit the archive (https://bulletins.psu.edu/undergraduate/archive/) to view the appropriate Undergraduate Bulletin edition.

Enterprise Technology Integration, B.S. at University Park Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits	Spring	Credits
IST 140[*#1]	3	IST 242[*#1]	3
ETI 100[*]	3	ETI 200[*]	3
MATH 110[*‡]	4	ECON 102 or 104[*]	3
ENGL 15 or 30H[‡]	3	General Education Selection	3
General Education Selection	3	General Education Selection	3
	16		**15**

Second Year

Fall	Credits	Spring	Credits
IST 210[*#]	3	IST 220[*#]	3
IST 230[*]	3	ACCTG 211[*]	4
IST 256[*]	3	CAS 100A, 100B, or 100C[‡]	3
Pick from Smeal College Business Fundamentals Certificate List[*]	3	STAT 200[‡#]	4
General Education Selection	3		
	15		**14**

Third Year

Fall	Credits	Spring	Credits	Summer	Credits
ETI 300W[*]	3	ETI 302[*]	3	IST 495[*2]	1
ETI 301[*]	3	ETI 461[*]	3		

BA 302*	3	ETI 400 or 423*	3	
ENGL 202C or 202D‡	3	Application Focus Selection[1]	3	
Application Focus Selection[1]	3	General Education Selection[1]	3	
	15		**15**	**1**

Fourth Year

Fall	Credits	Spring	Credits	
ETI 420*	3	ETI 421*	3	
ETI 435 or 463*	3	Application Focus Selection[1]	3	
Application Focus Selection[1]	3	General Education Selection[1]	3	
General Education Selection[1]	3	General Education Selection[1]	3	
General Education Selection[1]	3	Elective	2	
	15		**14**	

Total Credits 120

* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

1 Student can also take CMPSC 121 and CMPSC 122; or CMPSC 131 and CMPSC 132
2 1 credit of IST 495 is required. A grade of "SA" must be earned in this course. This course can be completed at any time before graduation.

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

Application Focus Areas:

- Students pick one of the tracks below or create a custom 4-course application focus. All 12 credits must be in the same application focus area.
- **Application Development**
  - Select 12 credits from below, with at least three (3) credits at the 400 level:
    - Any 200-400 level HCDD Course
    - IST 261
    - HCDD 311
    - HCDD 361
    - HCDD 411
    - HCDD 412
    - HCDD 413
- **Business Competency**
  - Select 12 credits from the courses below:
    - BA 301 or FIN 100 or FIN 301
    - BA 303 or MKTG 221W or MKTG 301 or MKTG 301W
    - BA 304 or MGMT 100 or MGMT 100W or MGMT 301 or MGMT 301W
    - BLAW 243
    - IB 303
  - Note 1: This option does not require 3-credits of 400-level courses as part of the application focus.
  - Note 2: Students are encouraged to take these courses from the Smeal College of Business at University Park.
  - Note 3: One of these courses is required to be taken to satisfy major requirements. The student needs to take the remaining courses on this list to complete the application focus. The student may not double-count these credits as both a requirement of the major and to meet the requirements of the application focus.
  - Note 4: Taking all of the courses listed here, along with BA 302, ECON 102 or ECON 104, a Statistics course, and ACCTG 211 (which are requirements of the ETI major) will meet the requirements for the Smeal Business Fundamentals Certificate.
- **Cybersecurity**
  - Select 12 credits from below, with at least three (3) credits at the 400 level:
    - CYBER 221
    - CYBER 262
    - Any CYBER course at the 300- or 400-level
    - CYBER 451
    - CYBER 454
    - CYBER 456
    - SRA 111
- **International and World Cultures**
  - Select 12 credits from below, with at least three (3) credits at the 400 level:
    - AFR 440
    - IST 199
    - IST 299

    - IST 399
    - IST 445
- **People, Policy and Context**
    - Select 12 credits from below, with at least three (3) credits at the 400 level:
        - IST 234N
        - IST 431
        - IST 432
        - IST 442
        - IST 452
        - IST 453
        - SRA 472
- **ROTC, Intelligence and Cyberwarfare**
    - Select 12 credits from below, with at least three (3) credits at the 400 level:
        - Any courses in AIR, NAVSC or ARMY ROTC Programs
        - SRA 211
        - SRA 231
        - SRA 421
        - SRA 450
- **Custom Application Focus**
    - There is an option for a student to create a custom 4-course application focus sequence. It must be a coherent sequence of courses that provides context for the student in terms of ETI content. Students can select the custom application focus in consultation with an academic adviser, and courses must be selected in consultation with an ETI teaching faculty member. Students may want to consider choosing courses that also fulfill US and/or IL requirements.

Career Paths

The Enterprise Technology Integration program responds to growing national and international needs in organizational computing, particularly in the areas of application systems integration, cloud computing and database technologies. The ETI degree prepares students to analyze organizational challenges and employ information technology solutions.

IST's Office of Career Solutions helps students navigate their internship and career development in the field through coaching, workshops, interview preparation, resume reviews, career fairs, job postings, and networking opportunities.

Careers

Graduates of the ETI program are prepared for **high-demand roles** in IT and business consulting, enterprise solutions, and systems integration across various industries, including **finance, healthcare, manufacturing, and government**. The increasing adoption of **AI and machine learning** in enterprise applications means ETI graduates are also well-suited for roles focused on AI-powered systems integration and automation. Potential job titles include: Enterprise Systems Analyst, It Business consultant, Could & solutions engineer, systems Integration Specialist, IT Project Manager, Digital Transformation Consultant, AI Process Automation Specialist

More Information About Potential Career Options for Graduates of the Enterprise Technology Integration Program (https://ist.psu.edu/current-students/career-solutions)

Contact

University Park

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https://www.worldcampus.psu.edu/degrees-and-certificates/penn-state-online-enterprise-technology-integration-bachelor-of-science-degree

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https://harrisburg.psu.edu/business-administration/enterprise-technology-integration-bs