Advisement Booklet
2024 – 2025

Department of Computing Undergraduate Advisement

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Bachelor of Science in Computing with concentrations in

- **Computer Science (CS)**
- **Cybersecurity and Modern Networks (CSMN)**
- **Information Systems (IS)**
- **Information Technology (IT)**

The four concentrations share a common core of courses that provides a strong background in programming, design, computer organization, database management, networking, security, and software engineering. All concentrations require a course in probability and statistics and in discrete mathematics. Concentrations emphasize practical skills needed to succeed in careers in computing, including practical skills for careers in computing, including technical skills, written and oral communication, project management, and teamwork. Graduates work in a wide variety of industries throughout the region, nation, and world at highly competitive salaries. Many graduates also complete advance degrees, including the department's graduate program.

COMPUTER SCIENCE (CS) - The Computer Science concentration is designed for students who wish to apply their knowledge to the development of systems level software programs. These applications include but not limited to: real-time graphics simulations, distributed systems, and operating systems. It will also be an asset for those students who are planning for graduate work in computer science. The CS concentration supplements the computing core curriculum with courses in data structures, algorithms, computer architecture, and operating systems. The concentration also requires additional credits of mathematics and science, including the calculus sequence required of mathematics majors and one additional lab science.

CYBERSECURITY AND MODERN NETWORKS (CSMN) – The CSMN concentration supplements the core curriculum with courses in secure software development and systems deployment; cloud, wireless, and mobile computing; and sensor-based (Internet of Things) computing. This concentration is designed for students who wish to pursue careers in computer security and in networking-enabled application development. This concentration is also recommended for those who plan to do graduate work in cybersecurity.
***The courses required for CSMN are on a two-year rotation. Students should plan to be at ETSU for 4 years starting in a fall semester.*

INFORMATION SYSTEMS (IS) - The IS concentration supplements the CSCI core curriculum with courses in e-Business, Enterprise Resource Planning, and Enterprise System implementation and programming. Students select an emphasis in accounting or management and explore the application of information systems in business process definition and execution. This concentration is designed for students who wish to apply their knowledge in e-Business development, Enterprise Resource Planning, Enterprise System implementation, or within their emphasis area, and for those who plan graduate work in information science or business administration.

INFORMATION TECHNOLOGY (IT) - The IT concentration supplements the CSCI core curriculum with courses in web development, database, system administration, and human computer interaction. This concentration is designed for students who wish to apply their knowledge in web development, database management, or system administration, and for those who plan graduate work in information technology.

The Bachelor's of Science in Computing with Concentrations in Computer Science, in Information Systems, in Information Technology and in Cybersecurity and Modern Networks are all accredited by the Computing Accreditation Commission of ABET, www.abet.org, under the General Criteria and Program Criteria for each area of study.

Grade Requirement Policy

For satisfactory progression in the major or minor, the student must attain:

1. An overall GPA of 2.5 or better; and
2. A GPA of 2.5 or better in all computing courses; and
3. A grade of B- or better in CSCI 1250 and CSCI 1260 .
4. A grade of "C-" or better in all other major requirements. This includes both common core and concentration-specific courses and all courses from other departments that satisfy major requirements.
5. A minimum grade of "C" in ENGL 1010 and ENGL 1020 .
6. Must complete the California Critical Thinking Skills Test (CCTST)
7. All concentrations must complete 124 credits, including the ETSU General Education Requirements, the common computing core, and the concentration-specific courses.
8. CISC majors must pass the proficiency exam or complete CSCI 1100 - Using Information Technology prior to accumulating 30 credits.
9. No Minor is required for a Bachelor of Science in Computing

Computing Repeat Policy

All computing majors or minors may attempt Computing (CSCI) courses a maximum of three times. An attempt is defined as registering for and remaining in a class until the last day to drop the course without a 'W' grade as specified in the Academic Calendar. (Earning a grade in the class, including W or WF, counts as an attempt.)

If a student, following a third attempt to take a given course, fails to earn a grade that meets the Department's standard for minimal performance in that course as specified in the Catalog, the student will be barred from further opportunity to enroll in that class. If this class is integral to that student's current program of study, the student will be required to change his/her program of study. Depending on the course, this may disqualify the student from continuing in a minor; in one or more concentrations; or in the major.

A student may file an appeal with the Chair of the Department of Computing requesting a fourth attempt to take a course. Such an appeal can only be made once by a student concerning any and all Computing (CSCI) courses.

Computing majors and minors will be required to change their program of study if these requirements cannot be met.

Graduation Policy

Students must successfully complete the Computing Senior Exam (CSE) before graduation. Students are eligible to complete the CSE during the student's last semester at East Tennessee State University. The CSE is administered in-person within the Testing Center on ETSU's main campus, at approved off-campus instructional sites, or other department-approved locations. Students who do not successfully complete the CSE must retake the CSE at a time and location designated by the Department and continue to retake the CSE until completion. For more information about completing the CSE, please contact the Department's Academic Advisor.

Compass Core Curriculum 2024-2025

ETSU's general education requirements are as follows:

- **Strengthening Foundations** (15-16 credits, consisting of 6 credits of written composition, 3 credits of oral communication, 3 credits of critical thinking, and 3-4 credits of quantitative reasoning)
- **Understanding Natural and Social Worlds** (10-11 credits, consisting of at least 3 credits of social and behavioral sciences and at least 4 credits natural sciences)
- **Exploring Connections** (9 credits, consisting of at least 3 credits of history and at least 3 credits of humanities outside of history)
    - Tennessee Law (TCA 49-7-110) requires students to submit proof of one unit (one year) of American History completed in high school **or** earn 6 credits of American History prior to the awarding of a bachelor's degree from any Tennessee public institution of higher education.
- **Cultivate Artistic Awareness** (3 credits)
- **Growing as an Individual and Global Citizen** (3-4 credits)

**For more information about this, please visit: https://www.etsu.edu/compass/.

Major Specific courses listed in Compass Core Curriculum Requirements:

Computer Science (CS) & Cybersecurity and Modern Networks (CSMN)

- MATH 1910 Calculus I
- 8 credits of Natural Science excluding those for non-science majors

Information Systems (IS) & Information Technology (IT)

- MATH 1530 Probability and Statistics - Noncalculus
- 8 credits of Natural Science excluding those for non-science majors

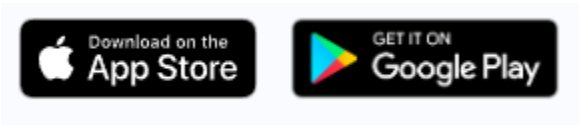
Degree Works

- **What is Degree Works?** It is a Web-based tool for students to monitor their academic progress toward degree completion. Degree Works allows students and their advisors to plan future academic coursework.
    - You can log into Degree Works through Goldlink from any computer using your ETSU username and password. If you are unable to log in, please email degreeworks@etsu.edu.
- **WORKSHEETS** Tab
    - This is the default tab when accessing DegreeWorks. This is an Audit of the student's file and is a review of past, current and "planned" coursework that provides information on completed and outstanding requirements necessary to complete a degree/major/minor/concentration.
- **PLANS** Tab
    - A student and/or Academic Advisor can use the Plan function to create a long-term plan for degree completion, and then check that plan to make sure that the courses taken will fulfill degree requirements.
- *Benefits and Features of Degree Works*
    - Provides real-time degree audit, history and information and allows for improved course and degree planning
    - Provides planning scenarios if you change majors, concentrations or plans
    - Improves Advisor communication for courses and requirements
    - GPA calculator - See how final grades may affect the overall GPA
    - Still Need Courses- Hyperlinks to information about the course, section and scheduling information
- **"What If..."** scenarios, allow students to experiment with changing majors or degree plans.

You will not be cleared for graduation until completion of everything in your DegreeWorks.

Recommended Mobile Apps

- **ETSU App**
  - Go Grab the New ETSU App! The new ETSU app has an updated interface and all the safety features you need. Additionally, the new app allows you to view parking availability, dining options, campus map, faculty & staff directory listings, library computer availability and much more!
- **EAB Navigate App**
  - ETSU utilizes the EAB Navigate system to link college leaders, advisors, staff, and students in a coordinated care network.
  - You can use this app to make appointments with your Academic Advisor, Tutoring, Financial Aid, and more!
- **The Pulse App**
  - ETSU uses Desire2Learn (D2L) to deliver your course information. You can access the main D2L site in the ETSU Goldlink and use this app to stay on top of your courses. Your instructor will upload assignments, grade information, make announcements, and more using D2L.
- **Microsoft Outlook App**
  - As an ETSU student you now have free access to Microsoft Products including Outlook, Word, Excel, PowerPoint, etc. We recommend you use the Outlook App on your mobile device. This will enable you to stay up to date on your emails and can also be used to help you with time management and planning throughout your semester.
  - For more information about the Microsoft products you can have access to, please visit: https://www.etsu.edu/365/.



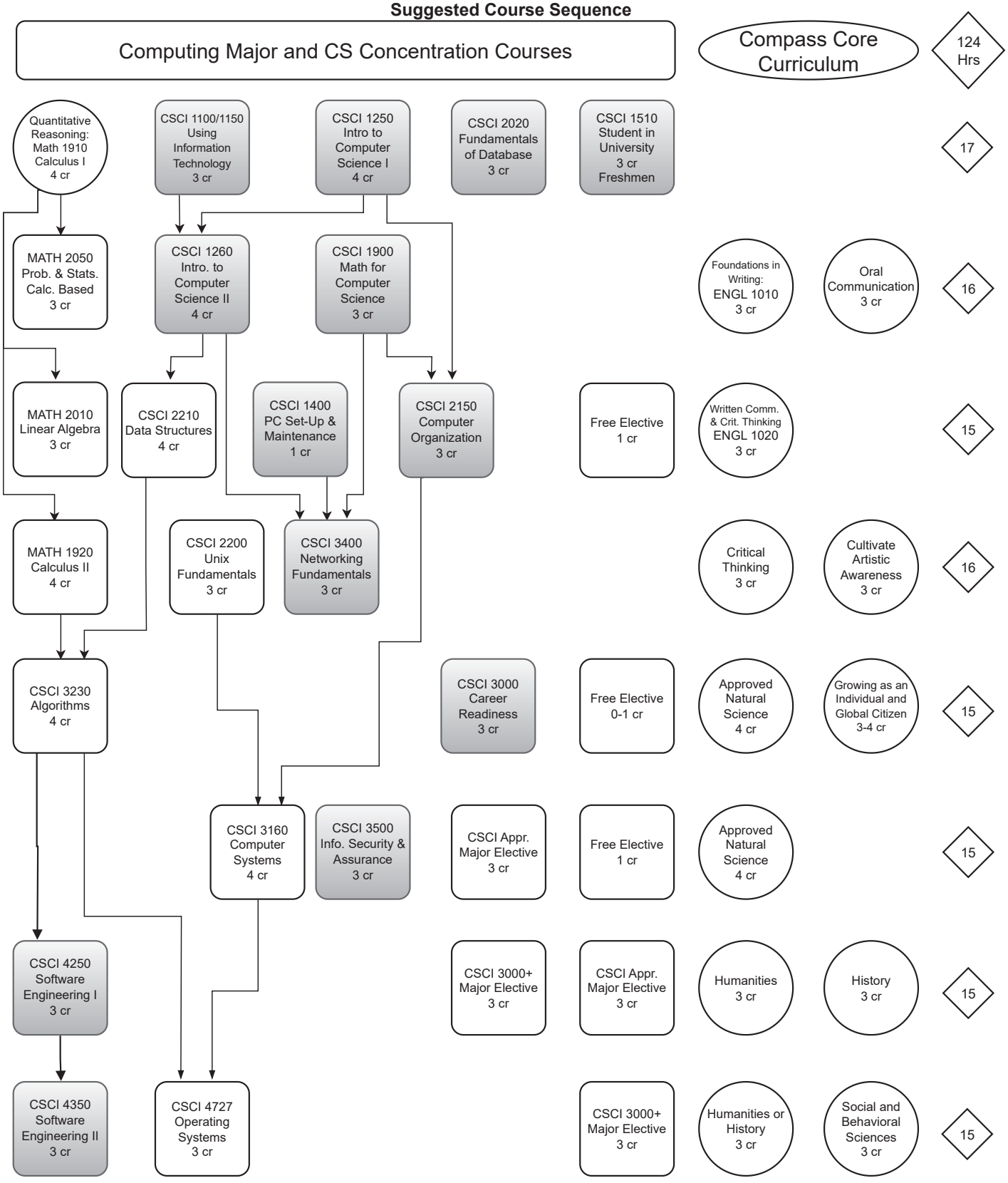
International Student Seminar Policy

The College of Business and Technology (CBAT) offers this course to help orient, develop, and educate international students to aid their assimilation and acculturation, enhance their academic performance, improve their professional skills, and enhance their integration into the university community. The course provides international students with the knowledge and skills to engage successfully in their coursework, the College, the university community, the American Culture, and their chosen professions. The goals of the course are to: improve international students' knowledge and skills to enhance their academic success, clarify expectations for academic tasks and professional behavior, address challenges unique to international students, and build a strong international student community within the College. Course topics include: academic expectations and ensuring academic integrity, how American academic and professional expectations differ from the students' home culture, written and oral communications skills, teamwork skills, cultural intelligence, and cross-cultural competency and skills development.

All students pursuing a degree from the College of Business and Technology on an international student visa must successfully complete 4 credit hours of International Student Seminar (CBAT 4107/CBAT 5107) as a part of their undergraduate or graduate program. Beginning with their first semester in residence, students will take International Student Seminar each semester in residence at ETSU until they have successfully earned 4 credit hours. Students may petition the College of Business and Technology Associate Dean for a waiver of one or more semesters of this requirement based on exceptional circumstances.

If you have questions about the International Student Seminar, please contact Dr. Karen Ann Tarnoff at 423-429-5299, tarnoffk@etsu.edu or CBATInternationl@etsu.edu.

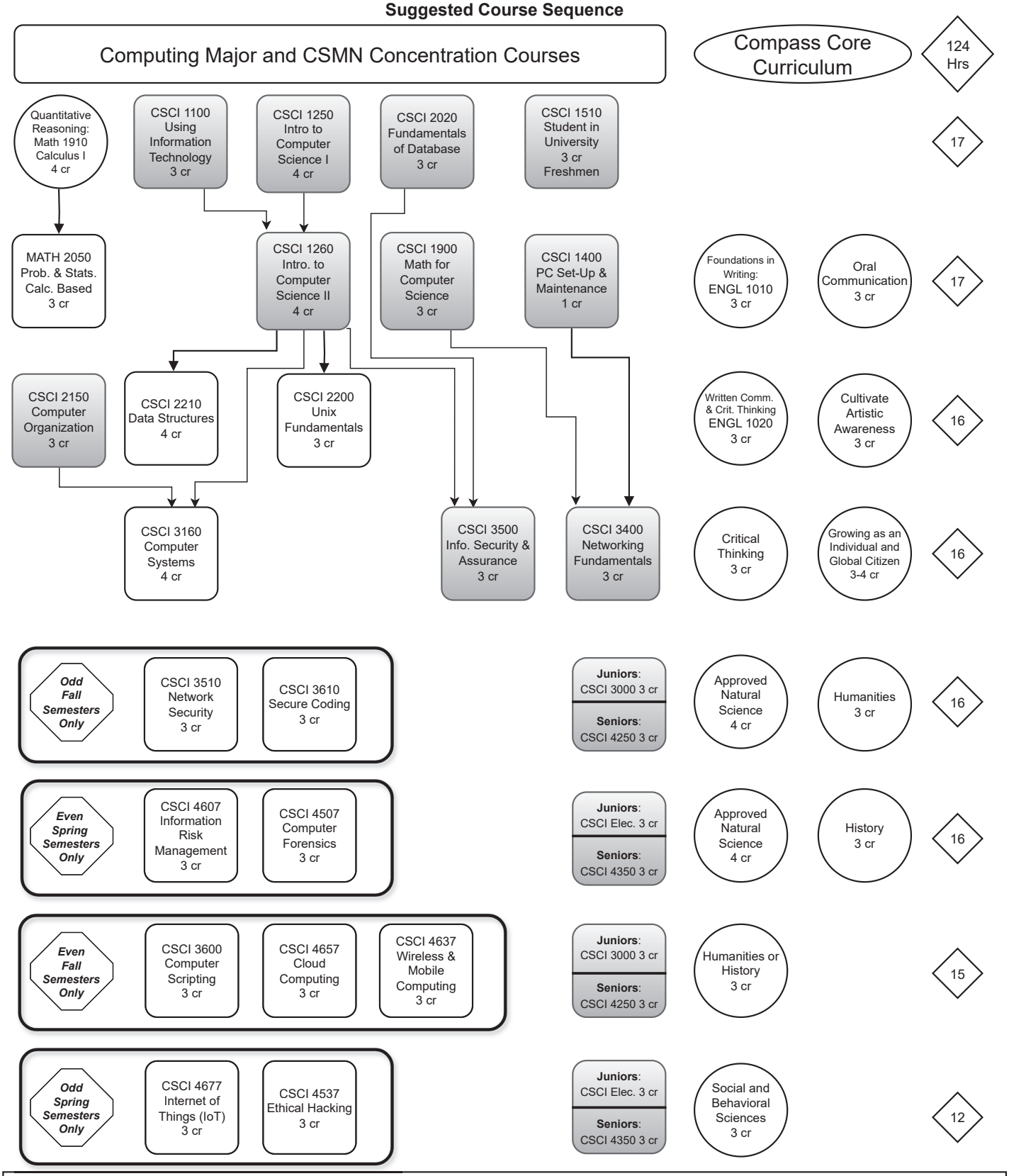
Catalog Year 2024-2025
Computer Science (CS)
Suggested Course Sequence



Notes:

- Each row represents 1 semester in Computing
- Not all prerequisites are represented in this chart
- Course prerequisites are on page 10-11 in booklet
- Shaded courses are part of the Computing Core
- Semesters may vary depending on availability & student progress

Catalog Year 2024-2025
Cybersecurity and Modern Networks (CSMN)
Suggested Course Sequence



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- Shaded courses are part of the Computing Core
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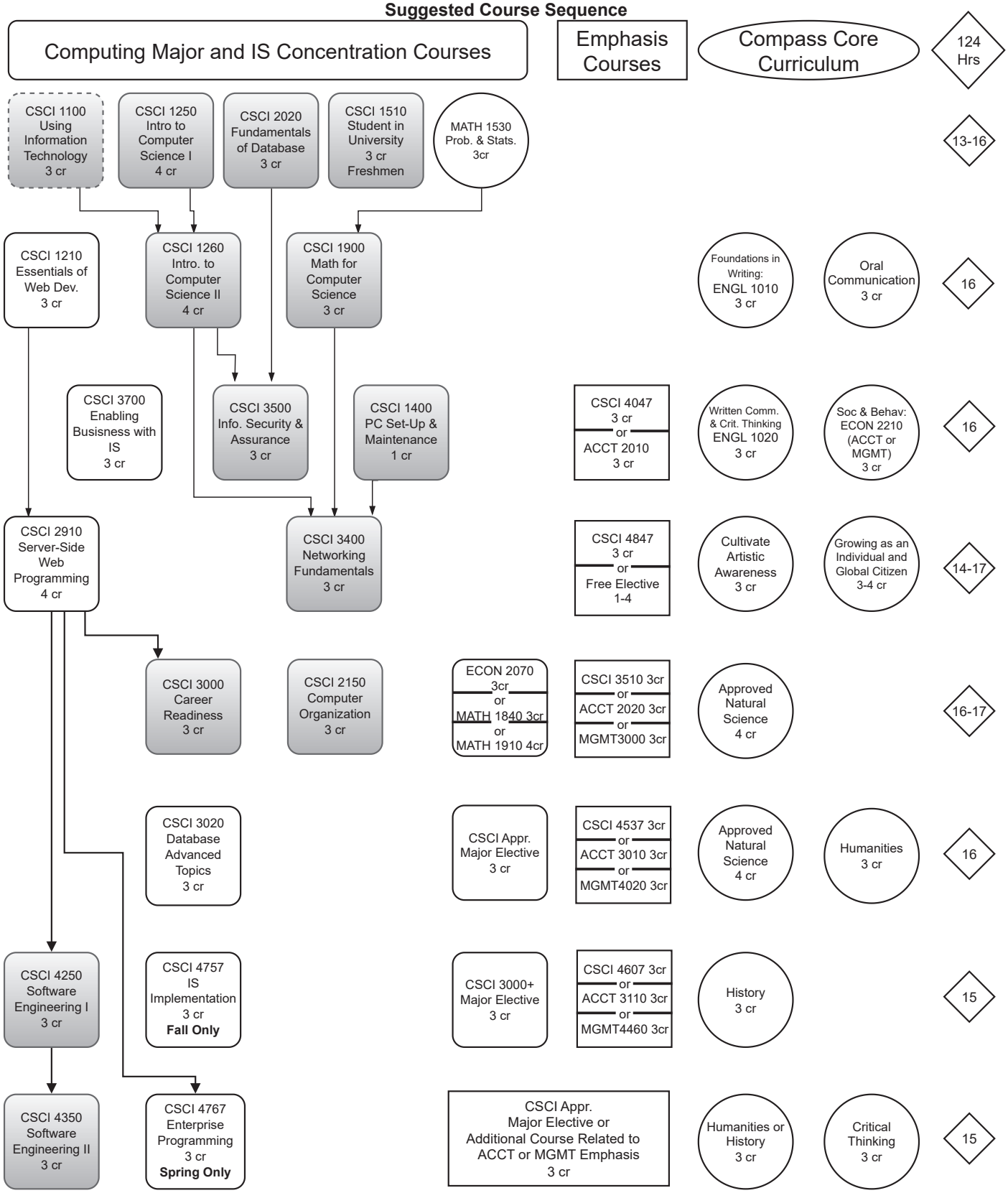
Catalog Year 2024-2025
Information Systems (IS)
Suggested Course Sequence



Notes:

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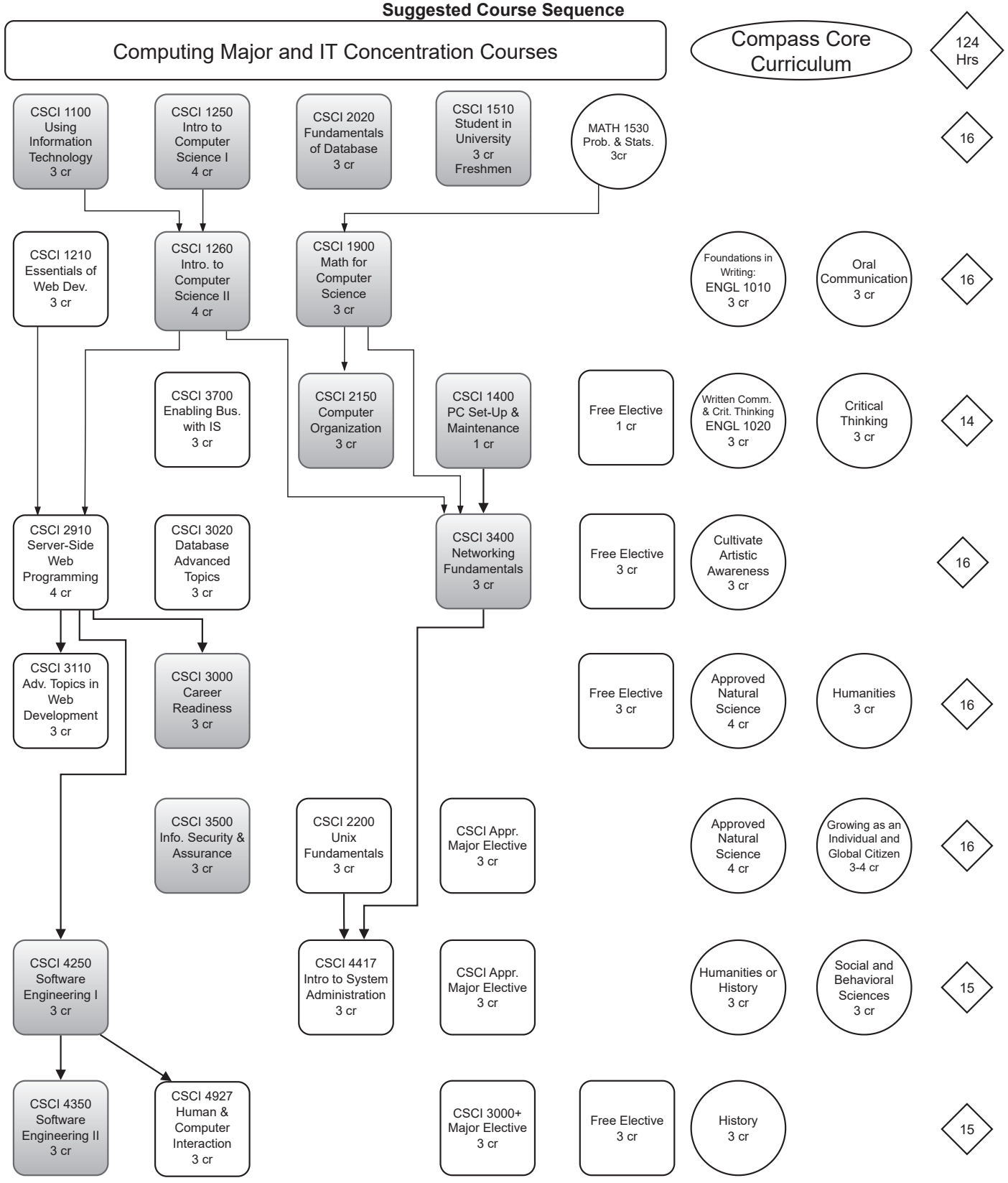
- Not all prerequisites are represented in this chart
- Course prerequisites are on page 10-11 in booklet
- Student chooses emphasis in Accounting or Managment.
- Shaded courses are part of the Computing Core
- Semesters may vary depending on availability & student progress

Catalog Year 2024-2025
Information Technology (IT)
Suggested Course Sequence



Notes:

- Each row represents 1 semester in Computing
- Not all prerequisites are represented in this chart
- Course prerequisites are on page 10-11 in booklet
- Shaded courses are part of the Computing Core
- Semesters may vary depending on availability & student progress

Catalog Year 2024-2025
Course List with Prerequisites
(All PreReq Courses Require a C- or better unless otherwise notated)

CSCI Major Electives

CSCI 1720 (3 cr)
Intermediate Web

PreReqs:
CSCI 1210

CSCI 1120 (3 cr)
Advanced Spreadsheets

PreReqs:
CSCI 1100

CSCI 4317 (3 cr)
Internet and Computer Law

PreReqs:
60 hours completed

CSCI 4957 (3 cr)
Special Topics

PreReqs:
Varies

CSCI 4910 (3 cr)
Select Topics

PreReqs:
Varies

CSCI 4037 (3 cr)
NLP and Text Analysis

PreReqs:
CSCI 3020

CSCI 4157 (3 cr)
Interactive Graphics

PreReqs:
CSCI 2210 & MATH 2010

CSCI 4905 (3 cr)
Internship

PreReqs:
CSCI 2210 or CSCI 2910

Students can find additional CSCI Major Electives options from concentrations other than the one they are currently enrolled.

You can also view a rough list of elective options in your *DegreeWorks*.

Computing Core and CSCI 1100 (Required for ALL Computing Majors)

CSCI 1100 (3 cr)
Using Information Technology

PreReqs:
None

CSCI 1250 (4 cr)
Intro. Computer Science I

PreReqs:
LS-Math

CSCI 1260 (4 cr)
Intro. Computer Science II

PreReqs:
CSCI 1100 &
CSCI 1250 (B- or Better)

CSCI 1400 (1 cr)
PC Set-Up & Maintenance

PreReqs:
CSCI 1100

CSCI 1510 (3 cr)
Student in University

PreReqs:
1st or 2nd Semester Freshman

CSCI 1900 (3 cr)
Math for Computer Science

PreReqs:
MATH 1530, MATH 1720, or MATH 1910

CSCI 2020 (3 cr)
Fundamentals of Database

PreReqs:
None

CSCI 2150 (3 cr)
Computer Organization

PreReqs:
CSCI 1250 (B- or Better) & CSCI 1900

CSCI 3000 (3 cr)
Career Readiness

PreReqs:
CSCI 2210 or CSCI 2910

CSCI 3400 (3 cr)
Networking Fundamentals

PreReqs:
CSCI 1400, CSCI 1900, CSCI 1260 (B- or Better) & (MATH 1530 or MATH 2050)

CSCI 3500 (3 cr)
Info. Security & Assurance

PreReqs:
CSCI 1260 (B- or Better) & CSCI 2020

CSCI 4250 (3 cr)
Software Engineering I

PreReqs:
(CSCI 2910 or CSCI 3230)

CSCI 4350 (3 cr)
Software Engineering II

PreReqs:
CSCI 4250

Computer Science (CS)

CSCI 2200 (3 cr)
Unix Fundamentals

PreReqs:
CSCI 1260 (B- or Better)

CSCI 2210 (4 cr)
Data Structures

PreReqs:
CSCI 1900 &
CSCI 1260 (B- or Better)

CSCI 3160 (4 cr)
Computer Systems

PreReqs:
CSCI 2150, CSCI 2200, &
CSCI 1260 (B- or Better)

CSCI 3230 (4 cr)
Algorithms

PreReqs:
CSCI 2210 & MATH 1920

CSCI 3000 (3 cr)
Career Readiness

PreReqs:
CSCI 2210 or CSCI 2910

CSCI 4727 (3 cr)
Operating Systems

PreReqs:
CSCI 3160 & CSCI 3230

MATH 1920 (4 cr)
Calculus II

PreReqs:
MATH 1910

MATH 2010 (3 cr)
Linear Algebra

PreReqs:
MATH 1840 or MATH 1910

MATH 2050 (3 cr)
Probability & Statistics - Calculus Based

PreReqs:
MATH 1910

Catalog Year 2024-2025
Course List with Prerequisites
(All PreReq Courses Require a C- or better unless otherwise notated)

Cybersecurity and Modern Networks (CSMN)

CSCI 2200 (3 cr)
Unix Fundamentals

PreReqs:
CSCI 1260 (B- or Better)

CSCI 2210 (4 cr)
Data Structures

PreReqs:
CSCI 1900 &
CSCI 1260 (B- or Better)

CSCI 3160 (4 cr)
Computer Systems

PreReqs:
CSCI 2150, CSCI 2200, &
CSCI 1260 (B- or Better)

CSCI 3510 (3 cr)
Network Security

PreReqs:
CSCI 3400 & CSCI 3500

CSCI 3600 (3 cr)
Computer Scripting

PreReqs:
CSCI 2200 & CSCI 3500

CSCI 3610 (3 cr)
Secure Coding

PreReqs:
CSCI 2150 &
(CSCI 2910 or CSCI 2210)

CSCI 4507 (3 cr)
Computer Forensics

PreReqs:
(CSCI 2210 or CSCI 2910)

CSCI 4537 (3 cr)
Ethical Hacking

PreReqs:
(CSCI 2210 or CSCI 2910)

CSCI 4607 (3 cr)
Information Risk Mgmt.

PreReqs:
CSCI 3510

CSCI 4637 (3 cr)
Wireless & Mobile
Computing

PreReqs:
CSCI 3160, CSCI 2200,
& CSCI 3500

CSCI 4657 (3 cr)
Cloud Computing

PreReqs:
CSCI 2210 & CSCI 3500

CSCI 4677 (3 cr)
Internet of Things (IoT)

PreReqs:
CSCI 3400 & (CSCI 2210,
CSCI 2910, OR CSCI 4767)

MATH 2050 (3 cr)
Probability & Statistics -
Calculus Based

PreReqs:
MATH 1910

Information Systems (IS)

CSCI 1210 (3 cr)
Essentials of Web Dev.

PreReqs:
None

CSCI 2910 (4 cr)
Server-Side Web
Programming

PreReqs:
CSCI 1210, CSCI 2020, &
CSCI 1260 (B- or Better)

CSCI 3020 (3 cr)
Database Advanced Topics

PreReqs:
CSCI 2020

CSCI 3700 (3 cr)
Enabling Business with
Information Systems

PreReqs:
(MGMT 3000 or CSCI 2020)
& CSCI 1100

CSCI 4757 (3 cr)
IS Implementation
Fall Only

PreReqs:
CSCI 3700

CSCI 4767 (3 cr)
Enterprise Programming
Spring Only

PreReqs:
(CSCI 2210 or CSCI 2910)
& CSCI 3700

CSCI 3000 (3 cr)
Career Readiness

PreReqs:
CSCI 2210 or CSCI 2910

ECON 2070 (3 cr)
Quant. Methods for Bus. Meth.
OR
MATH 1910 (4 cr)
Calculus I
OR
MATH 1840 (3 cr)
Analytic Geom. & Diff. Calculus

Accounting Emphasis 15 credits
ECON 2210 Principles of Macro. (3 cr)
ACCT 2010 Princ. of Accounting I (3 cr)
ACCT 2020 Princ. of Accounting II (3 cr)
ACCT 3020 Financial Accounting (3 cr)
ACCT 3110 Mgmt Accounting (3 cr)

Management Emphasis 15 credits
ECON 2210 Principles of Macro. (3 cr)
ACCT 2010 Princ. of Accounting I (3 cr)
MGMT 3000 Org. Behavior & Mgmt (3 cr)
MGMT 4020 Org. Theory & Dev. (3 cr)
MGMT 4460 Org. Leadership (3 cr)

Healthcare Mgmt & Analytics 15 credits
CSCI 3510 Network Security (3 cr)
CSCI 4047 Data Analytics and Vis. (3 cr)
CSCI 4537 Ethical Hacking(3 cr)
CSCI 4607 Info. Risk Management(3 cr)
CSCI 4847 Health Info. Systems (3 cr)

Information Technology (IT)

CSCI 1210 (3 cr)
Essentials of Web Dev.

PreReqs:
None

CSCI 2200 (3 cr)
Unix Fundamentals

PreReqs:
CSCI 1260 (B- or Better)

CSCI 2910 (4 cr)
Server-Side Web
Programming

PreReqs:
CSCI 1210, CSCI 2020, &
CSCI 1260 (B- or Better)

CSCI 3020 (3 cr)
Database Advanced Topics

PreReqs:
CSCI 2020

CSCI 3110 (3 cr)
Adv. Topics in Web
Development

PreReqs:
CSCI 2910

CSCI 3700 (3 cr)
Enabling Business with
Information Systems

PreReqs:
(MGMT 3000 or CSCI 2020)
& CSCI 1100

CSCI 4417 (3 cr)
Intro to System Admin.

PreReqs:
CSCI 2150, CSCI 2200,
& CSCI 3400

CSCI 3000 (3 cr)
Career Readiness

PreReqs:
CSCI 2210 or CSCI 2910

CSCI 4927 (3 cr)
Human & Computer
Interaction

PreReqs:
CSCI 4250

Additional Opportunities

Double Concentrating:

Students are able to declare two concentrations. The Computing Core will remain the same, but the student will be required to meet the concentration specific courses for each of their chosen concentrations. Any courses that overlap in the concentrations will count for both. Additionally, the extra courses related to each specific concentration can be used as the major electives for the other concentration being pursued.

Choosing to pursue two concentrations will typically postpone graduation by one or more semesters.

Your diploma will read **Bachelor of Science in Computing**, but your transcript will list both concentrations.

Accelerated Bachelors to Masters (ABM) Degree Program:

What is the Accelerated Bachelor's to Master's Degree program?

Sometimes called 4+1 programs, the Accelerated Bachelor's to Master's Degree program provides high performing ETSU undergraduate students an opportunity to complete both the bachelor's and master's degrees at an accelerated pace.

What is the Accelerated Bachelor's to Master's Degree program?

Sometimes called 4+1 programs, the Accelerated Bachelor's to Master's Degree program provides high performing ETSU undergraduate students an opportunity to complete both the bachelor's and master's degrees at an accelerated pace.

What majors and graduate programs are eligible?

ETSU's ABM program provides flexibility for undergraduate majors and graduate programs. Students, along with their undergraduate advisor and the graduate coordinator of a graduate program, work to develop a Plan of Study that is appropriate to each student's background and career goals. Some students complete the master's degree in the discipline of their undergraduate degree. (E.g. An undergraduate major in Sociology may also complete the Master's degree in Sociology as an ABM student.) Other students move from a related undergraduate major into a different master's program. (E.g. A student with a health sciences major may complete the Master's degree in Public Health.) This flexibility is a real asset to students to create a program that aligns with their career aspirations and passions.

How do I qualify for an ABM program?

To qualify for the Accelerated Bachelor's to Master's Degree Program, an ETSU undergraduate student must:

- Have a minimum ETSU undergraduate GPA of 3.25. Individual programs may have higher GPA requirements.
- Have completed 75 credits in their undergraduate programs, including credits earned from dual enrollment or advanced placement prior to starting the ABM program. Transfer students must have completed at least one year (2 semesters) at ETSU prior to starting the ABM program.
- Complete an application, pay the application fee, and be accepted to the accelerated program (including acceptance into the graduate program) prior to earning the undergraduate degree.

Additional Opportunities

Internships (CSCI 4905):

An internship is a great opportunity to gain valuable, real-world experience in your field of study. This experience can differentiate you from your competition when applying for full-time employment. In some cases, internships can even turn into full-time employment. The summer before your senior year is an ideal time for an internship. You should utilize the College of Business and Technology Career Services office to make an internship part of your academic experience. Internships can also be used as one of your Approved CSCI Electives in your program. For information, please visit: https://www.etsu.edu/cbat/careerservices/internships.php.

Here are some places previous students have interned at:

Amazon
Avero Advisors
BAE Systems
Ballad Health
Bell Flight
Bright Ridge
BSI Financial Services
Building Information
Business Info Systems (BIS)
BWXT
CGI/CGI Federal
CJT Software
Clayton Homes
Commonwealth Computer Research
Comprehensive Com. Based Services
Crown Laboratories
Cruze Computer System
DENSO
Drake Software
Eastman Credit Union
Eastman Chemical Company
Eastman - Capital Intelligence and Process
Eastman - CSS
Eastman - Trade and Regulatory
Eastman - Global IT Security
Eastman - SQL Database Team
EFC Systems
ElectroMotor
EPI-USE Labs
ETSU
ETSU Research Corp
Farmers State Bank
FBI
Federal Reserve Bank of Atlanta
Food City
Forward Air Corporation
GPM Investments, LLC
Guidance Residential
HPA, A Cognizant Company
Hungate Engineering
Immersed Scuba
InfoSystems, Inc
IT Consulting
Kroger
Lockheed Martin
NFS
NN, Inc
Noveta
Nuclear Fuel Services
Oak Ridge National Laboratory
OnePartner
ORAU
ORNL
OSIsoft
Pointech
PSAV
PX8 Solutions
Q2
Randstad Sourceright
Revature
Riparian LLC
RJP Systems LLC
Rogers Group Inc
Ryman Hospitality Properities
Securities Service Network
Siemens
Smarty Pants
Star Construction
Strongwell
Tele-Optics
Tennessee Valley Authority
The AAM Group
TTP Solutions
U.S. Department of Justice
UTC-Research
VISA
Vollara
Wells Fargo
X, The Moonshot Factory
Y-12 National Security Complex

DEPARTMENT *of* COMPUTING

College of Business & Technology

EAST TENNESSEE STATE UNIVERSITY