The ETSU Department of Computer and Information Sciences’ (CSCI) undergraduate program offers three concentrations: Computer Science, Information Systems Science, and Information Technology. The concentrations share a core of computer and information science courses that give students a strong background in programming, design, computer organization, database management, networking, and software engineering. The concentrations emphasize practical skills needed to succeed in careers in computer and information sciences, including technical skills, written and oral communication, project management, and teamwork. Graduates work throughout the region and nation, at highly competitive salaries and in a wide variety of industries. In addition, many of our graduates go on to further studies, including the department’s masters programs. The computer science concentration is accredited by the Computing Accreditation Commission (CAC) of ABET, a specialized accrediting body recognized by the Council for Higher Education Accreditation (CASA).

The computer science concentration (CS) supplements the CSCI core curriculum with courses in object-oriented programming and design, computer architecture and operating systems. The concentration also requires 18 hours of mathematics, including the calculus sequence required of mathematics majors. This concentration is designed for students who wish to apply their knowledge in a scientific, engineering, or mathematical environment, or for those who plan graduate work in computer science or applied computational mathematics.

The information systems science (IS) concentration supplements the CSCI core curriculum with courses in object-oriented programming and design, database, and system administration. The concentration also requires a minor in management or accountancy. This concentration is designed for students who wish to apply their knowledge in web development, database management, network administration, or within their minor area, and for those who plan graduate work in certain areas of management or information science.

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

Regardless of concentration, CSCI majors receive a strong liberal arts background in addition to their major course work. For further information contact Professor Bob Riser by mail at Department of Computer and Information Sciences, ETSU Box 70711, Johnson City, TN 37614-0711, by telephone at (423) 439-5609, or by e-mail at CSCIUG@etsu.edu. The department web address is http://csciwww.etsu.edu.
GRADUATION REQUIREMENTS

To earn a Bachelor of Science degree in Computer and Information Sciences, you must:

- complete 128 semester hours;
- meet all requirements of the General Education core, including the General Education Proficiency Requirements (see below);
- meet all CSCI Common Core requirements;
- meet all CSCI requirements specific to your concentration (CS, IS, or IT);
- attain an overall grade point average of 2.5 or better;
- attain a grade point average 2.5 or better in all computer science courses; and
- achieve a grade of “C-” or better in all CSCI major requirements, including both common core and concentration specific-courses (with the exception of the natural science courses); and achieve a grade of “C-” or better in the required freshman English courses.

General Education Proficiency Requirements

WRITING  Students must complete a minimum of four writing-intensive courses with a minimum of two from the major field of study and two from the 3000-4000 levels.

COMMUNICATING ORALLY  Students must complete a minimum of two oral-intensive courses with a minimum of one course from the major field of study.

USING INFORMATION TECHNOLOGY  Students must complete a minimum of one using information technology-intensive course from the major field of study.

READING  Students who are required to take the AAPP test (see enrolling at ETSU in your catalog) and who are assessed as being deficient in reading must complete DSPR 0800 prior to accumulating 33 semester credits at ETSU. Faculty in any course who question whether a student is reading at a reasonable college level may remand the student to the Developmental Studies Program for assessment.

NOTE:  Transfer students with an associate degree or with 60 or more transferable semester hours are required to complete only two writing-intensive courses, one oral communication-intensive course, and one using information technology-intensive course.

ADVISEMENT REQUIRED FOR ALL CSCI MAJORS

Advisement is required for all CSCI majors, from the time they enter the major until graduation. CSCI majors must schedule a meeting with their assigned advisor prior to registering each semester. Only then will the “registration hold” be removed by the advisor so that the student may register.

All entering CSCI majors will be assigned to either Professor Riser or Loyd for their first two semesters at ETSU. At that point they will be reassigned to another advisor. A list of each major and his/her assigned advisor will be posted in the department office and on bulletin boards throughout Gilbreath Hall during the month preceding registration each semester.
Catalog Year 2003-2004
CSCI General Education Requirements (46-47 credit hours)

**WRITING: 6 credits**
- ENGL 1010 Crit. Reading & Exp. Writing (3)
- ENGL 1020 Crit. Thinking & Argument. (3)

**Heritage: 9 credits**
- HIST 2010 U.S. to 1877 (3)
- HIST 2020 U.S. Since 1877 (3)
  
  and one of the following:
- ENGL 2030 Literary Heritage (3)
- ENGL 2130 American Literature (3)
- ENGL 2210 British Literature I (3) [W]
- ENGL 2220 British Literature II (3) [W]
- ENGL 2330 World Language (3)
- ENGL 2430 European Literature (3) [W]

**Using Mathematics: 3-4 credits**
- MATH 1840 Anal. Geom. & Diff. Calc. (3) *IS*
- MATH 1910 Calculus I (4) *CS or IS*
- MATH 1530 Probability and Statistics (3) *CS, IS, IT*

**Using Information Technology: 3 credits**
- CSCI 1100 Using Info Technology (3) (challenge test available)

**Science: 8 credits** [Take one of the following sequences; note that CSCI majors may not take any of the science sequences specifically intended for non-science majors: BIOL 1010/1011 1020/1021, CHEM 1000 and 1030, or PHYS 1030]
- BIOL 1110/1111 and BIOL 1120/1121 Biology for Science Majors Sequence
- CHEM 1110/1111 and CHEM 1120/1121 General Chemistry Sequence
- PHYS 2010/2011 and PHYS 2020/2021 General Physics Sequence
- GEOG 1110 and GEOG 1120 Earth Sci: Weather & Climate, Landforms & Processes
- GEOL 1040 and GEOL 1050 Physical and Historical Geology
- ASTR 1010 and ASTR 1020 Astronomy I and II
- HSCI 2010/2011 and HSCI 2020/2021 Anatomy & Physiology I and II

**Arts & Artistic Vision: 3 credits** (select one of following)
- ARTA 2010 Art History Survey I (3)
- ARTA 2020 Art History Survey II (3)
- HUMT 2310 Humanities I (to 1600) (3)
- HUMT 2320 Humanities II (1600 - ) (3)
- MUSC 1030 Music Appreciation (3)
- MUSC 1035 History of Jazz (3)
- PEXS 3500 Dance as Human Exp. (3)
- THEA 1030 Intro. to the Theater (3)

**Institutions and Society: 6 credits** (select one of following, however only one may be from ECON)
- ECON 1050 Economics & Society (3)
- ECON 2210 Principles of Econ. I (3)
- GEOG 1012 Intro to Cultural Geog. (3)
- PSCI 1120 Intro to American Govt. (3)
- PSYC 1310 Intro to Psychology (3)
- SOAA 1020 Intro to Sociology (3)
- SOAA 1240 Intro. to Cultural Anthropology (3)

**Identity, Ethics, and Soc. Res.: 3 credits** (select one of following)
- ENGL 3150 Literature, Ethics, and Values (3) [W]
- PHIL 2020 Values and Society (3) [W]
- PHIL 1030 Self and World (3)
- PHIL 2040 Philosophy as Conversation (3) [O]
- PHIL 2210 Intro. to Religion (3) [W]
- PSCI 1110 Political Life (3) [W/O]
- SOAA 2020 Social Prob. and Human Val. (3) [W]
- WMST 2010 Intro. to Women's Studies (3) [W]
- HUMT 1020 Intro. to Service Learning (3)

**Humanities Elective: 3 credits** (Select one of following OR one one unduplicated course from Heritage, Arts/Artistic Vision, or Identity/Ethics/Social Responsibility areas above)
- ENGL 3280 Mythology (3) [W]
- ENTC 3020 Technology and Society (3)
- HIST 1110 World Hist. & Civ. to 1500 (3)
- HIST 1120 World Hist.& Civ. since 1500 (3)
- PHIL 2640 Science and the Mod. World (3)

**Physical Education: 2 credits**
- PHED 1xxx "Fitness Activity" (1)
  or MUSC 1201 or MSCI 2130, 1217, or 3217

- PHED 2xxx "Lifetime Activity" (1)
  or MUSC 1201 or MSCI 2130, 1217, or 3217
Catalog Year 2003-2004

>>> Computer Science Concentration <<<

**Major Requirements**

<table>
<thead>
<tr>
<th>Common Core Courses (57 Hours)</th>
<th>Other Major Requirements (18 Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1510 Student in University (3)</td>
<td>MATH 1530 Probability &amp; Statistics (3)</td>
</tr>
<tr>
<td>CSCI 1250 Intro to Comp. Sci. (4)</td>
<td>MATH 1531 Statistical Computing (1)</td>
</tr>
<tr>
<td>CSCI 1260 Intro to Comp. Sci. II (4)</td>
<td>MATH 1910 Calculus I (4)</td>
</tr>
<tr>
<td>CSCI 2150 Computer Organization (4)</td>
<td>MATH 1920 Calculus II (4)</td>
</tr>
<tr>
<td>CSCI 2160 Assembly Language (4)</td>
<td>MATH 2010 Linear Algebra (3)</td>
</tr>
<tr>
<td>CSCI 2210 Data Structures (4)</td>
<td>MATH 2710 Discrete Structures (3)</td>
</tr>
<tr>
<td>CSCI 2230 File Processing (4)</td>
<td>Science (4) ____________________________</td>
</tr>
<tr>
<td>CSCI 3220 Intro to Database Systems (3)</td>
<td>(one additional lab science)</td>
</tr>
<tr>
<td>CSCI 3250 Software Engineering I (3)</td>
<td></td>
</tr>
<tr>
<td>CSCI 3350 Software Engineering II (3)</td>
<td></td>
</tr>
<tr>
<td>CSCI 3400 Networking Fundamentals (3)</td>
<td></td>
</tr>
<tr>
<td>CSCI 4717 Computer Architecture (3)</td>
<td></td>
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<tr>
<td>CSCI 4727 Operating Systems (3)</td>
<td></td>
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<tr>
<td>CSCI ______ major elective (3)</td>
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<tr>
<td>CSCI ______ major elective (3)</td>
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<tr>
<td>CSCI ______ major elective (3)</td>
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<tr>
<td>CSCI ______ major elective (3)</td>
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</tbody>
</table>

**Free Electives: (5 hours)**

<table>
<thead>
<tr>
<th>Major Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Of the four major electives required in the Computer Science concentration, at least one must be from Category A and at least one from Category B below. Courses required in a particular concentration may not also be counted as a major elective in that concentration.</td>
</tr>
</tbody>
</table>

**Major Electives Category A:** CSCI 1250, CSCI 1260, CSCI 1270, CSCI 2160, CSCI 3800, CSCI 4910 (with departmental approval as Category A), or CSCI 4956/4957 (with departmental approval as Category A)

**Major Electives Category B:** CSCI 1710, CSCI 2210, CSCI 2230, CSCI 2910, CSCI 4157, CSCI 4217, CSCI 4227, CSCI 4317, CSCI 4417, CSCI 4517, CSCI 4527, CSCI 4717, CSCI 4727, CSCI 4800, CSCI 4857, MATH 4257, MATH 4267, CSCI 4910 (with departmental approval as Category B), or CSCI 4956/4957 (with departmental approval as Category B)

- If, for any reason, you do not take or do not pass CSCI 1510, you must take another approved CSCI major elective in its place.
Catalog Year 2003-2004
Prerequisite Tree – Required Major Courses

Computer Science (CS) Concentration
Department of Computer and Information Sciences

CSCI 1100
Using Info Technology

CSCI 1250
Intro to CSci I

CSCI 1260
Intro to CSci II

CSCI 2150
Computer Organization

CSCI 2160
Assembly Lang

CSCI 2210
Data Structures

CSCI 3220
Database Systems

CSCI 3250
Software Engineering I

CSCI 4717
Computer Arch.

CSCI 3350
Software Engineering II

CSCI 3400
Networking Fundamentals

CSCI 3220
Database Systems

CSCI 4727
Operating Systems

CSCI 1510
Student in University

CSCI 2230
File Processing
## Catalog Year 2003-2004

### >>> Information Technology Concentration <<<

## Major Requirements

### Common Core Courses (57 Hours)
- CSCI 1510 Student in University (3) [W]
- CSCI 1710 WWW – Design & Creation (3)
- CSCI 1800 Visual Programming I (3)
- CSCI 2150 Computer Organization (4)
- CSCI 2235 Intro to UNIX (1)
- CSCI 2800 Visual Prog – Adv Concepts (3)
- CSCI 2910 Client & Server Side Prog (4)
- CSCI 3220 Intro Database Systems (3) [T]
- CSCI 3250 Software Engineering I (3) [O]
- CSCI 3350 Software Engineering II (3) [W]
- CSCI 3400 Networking Fundamentals (3) [W]
- CSCI 4217 Ethical Issues in Computing (3) [W]
- CSCI 4227 Advanced Database Systems (3)
- CSCI 4417 Intro to System Administration (3)
- CSCI 4800 Senior Project in IT (3)
- CSCI ______ major elective (3)
- CSCI ______ major elective (3)
- CSCI 3xxx/4xxx ______ major elective (3)
- CSCI 3xxx/4xxx ______ major elective (3).

### Other Major Requirements (4 Hours)
- MATH 1530 Probability & Statistics (3)
- MATH 1531 Statistical Computing (1)
- MATH 2870 Statistical Data Analysis (3)

### Free Electives: (21 Hours)
- [Any courses you care to take.]

### Major Electives

**Major Electives Category A:** CSCI 1250, CSCI 1260, CSCI 1270, CSCI 2160, CSCI 3800, CSCI 4910 (with departmental approval as Category A), or CSCI 4956/4957 (with departmental approval as Category A)

**Major Electives Category B:** CSCI 1710, CSCI 2210, CSCI 2230, CSCI 2910, CSCI 4157, CSCI 4217, CSCI 4227, CSCI 4317, CSCI 4417, CSCI 4517, CSCI 4527, CSCI 4717, CSCI 4727, CSCI 4800, CSCI 4857, MATH 4257, MATH 4267, CSCI 4910 (with departmental approval as Category B), or CSCI 4956/4957 (with departmental approval as Category B)

- If, for any reason, you do not take or do not pass CSCI 1510, you must take another approved 3 hour CSCI course in its place.
Catalog Year 2003-2004
Prerequisite Tree – Required Major Courses
Information Technology (IT) Concentration
Department of Computer and Information Sciences

CSCI 1100
Using Info Technology

CSCI 1800
Visual Prog I

CSCI 2150
Computer Organization

CSCI 2235
Intro to Unix

CSCI 2800
Visual Prog Adv Concepts

CSCI 3220
Intro to Database

CSCI 3250
Software Engineering I

CSCI 3350
Software Engineering II

CSCI 3400
Network Fundamentals

CSCI 4227
Advanced Database

CSCI 4217
Ethical Issues

CSCI 4417
System Administration

CSCI 4800
Senior Capstone
Catalog Year 2003-2004

>>> Information Systems Science Concentration <<<

Major Requirements

Common Core Courses (51 Hours)

☐ CSCI 1510 Student in University (3) [W]
☐ CSCI 1250 Intro to Comp. Sci. (4) [T]
☐ CSCI 1260 Intro to Comp. Sci. II (4)
☐ CSCI 1710 WWW – Design & Creation (3)
☐ CSCI 2150 Computer Organization (4)
☐ CSCI 2210 Data Structures (4)
☐ CSCI 2235 Intro to UNIX (1)
☐ CSCI 2910 Client & Server Side Prog (4)
☐ CSCI 3220 Intro to Database Systems (3) [T]
☐ CSCI 3250 Software Engineering I (3) [O]
☐ CSCI 3350 Software Engineering II (3) [W]
☐ CSCI 3400 Networking Fundamentals (3) [T]
☐ CSCI 4227 Advanced Database Systems (3)
☐ CSCI 4417 Intro to System Administration (3)
☐ CSCI ____ major elective, Category A (3)
☐ CSCI ____ major elective, Category B (3)

Other Major Requirements (7 Hours)

☐ MATH 1530 Probability & Statistics (3)
☐ MATH 1531 Statistical Computing (1)
☐ MATH 1840 Analytic Geom & Diff Calc (3)
or MATH 1910 Calculus I (4)
☐ MATH 2710 Discrete Structures (3)

Information Systems Emphasis (15-18 Hours)

☐

Free Electives: (6-8 hours)

☐

Major Electives Category A: CSCI 1250, CSCI 1260, CSCI 1270, CSCI 2160, CSCI 3800, CSCI 4910 (with departmental approval as Category A), or CSCI 4956/4957 (with departmental approval as Category A)

Major Electives Category B: CSCI 1710, CSCI 2210, CSCI 2230, CSCI 2910, CSCI 4157, CSCI 4217, CSCI 4227, CSCI 4317, CSCI 4417, CSCI 4517, CSCI 4527, CSCI 4717, CSCI 4727, CSCI 4800, CSCI 4857, MATH 4257, MATH 4267, CSCI 4910 (with departmental approval as Category B), or CSCI 4956/4957 (with departmental approval as Category B)

Information Systems Emphasis Areas

All students in the Information Systems Science Concentration must complete one of the following two emphases. These are intended to prepare the student to "function effectively as an IS professional" in a specific business area. Each of the following sequences will provide depth in the particular area and as well as satisfying the requirements for a minor in the area.

<table>
<thead>
<tr>
<th>Management Emphasis</th>
<th>Accountancy Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 2210* - Principles of Economics I (3)</td>
<td>ACCT 2010 - Principles of Accounting I (3)</td>
</tr>
<tr>
<td>ACCT 2010 - Principles of Accounting I (3)</td>
<td>ACCT 2020 - Principles of Accounting II (3)</td>
</tr>
<tr>
<td>MGMT 3000 - Organizational Behavior &amp; Mgmt (3)</td>
<td>ACCT 3010 - Financial Accounting I (3)</td>
</tr>
<tr>
<td>MGMT 4010 - Advanced Organizational Behavior (3)</td>
<td>ACCT 3020 - Financial Accounting II (3)</td>
</tr>
<tr>
<td>MGMT 4020 - Organizational Theory &amp; Dev (3)</td>
<td>ACCT 3110 - Management Accountancy (3)</td>
</tr>
<tr>
<td>MGMT 4210 – Systems Analysis and Design (3)</td>
<td>ACCT 4310 - Accounting Information Sys (3)</td>
</tr>
<tr>
<td>One approved MGMT elective (3)</td>
<td></td>
</tr>
</tbody>
</table>

* also satisfies a General Education Core requirement

- If, for any reason, you do not take or do not pass CSCI 1510, you must take another approved CSCI major elective in its place.
Catalog Year 2003-2004
Prerequisite Tree – Required Major Courses
Information Systems Science (IS) Concentration
Department of Computer and Information Sciences

- CSCI 1100 Using Info Technology
- CSCI 1710 WWW Design & Creation
- CSCI 1260 Intro to CSci II
- CSCI 1250 Intro to CSci I
- CSCI 2150 Computer Organization
- CSCI 2210 Data Structures
- CSCI 2235 Intro to Unix
- CSCI 3400 Network Fundamentals
- CSCI 3220 Database Systems
- CSCI 3250 Software Engineering I
- CSCI 4417 System Administration
- CSCI 4227 Advanced Database
- CSCI 3350 Software Engineering II
- CSCI 2235 Intro to Unix
- CSCI 2235 Intro to Unix
Minor in Computer and Information Sciences – 2003/2004

Computer Science/Information Science (CS/IS) minor track (27 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1250</td>
<td>Introduction to Computer Science I</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 1260</td>
<td>Introduction to Computer Science II</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2150</td>
<td>Computer Organization</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2210</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>CSCI ____</td>
<td>Approved CSCI major electives, including at least 6 hours at 3000 level or above; CSCI 1100, 110x, and 1510 may not be included</td>
<td>11</td>
</tr>
</tbody>
</table>

Information Technology (IT) minor track (27 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1710</td>
<td>World Wide Web - Design and Creation</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 1800</td>
<td>Visual Programming Design With Applications</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 2150</td>
<td>Computer Organization</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2800</td>
<td>Visual Programming - Advanced Concepts</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2910</td>
<td>Client &amp; Server Side Programming</td>
<td>4</td>
</tr>
<tr>
<td>CSCI ____</td>
<td>Approved CSCI major electives, including at least 6 hours at 3000 level or above; CSCI 1100, 110x, and 1510 may not be included</td>
<td>9</td>
</tr>
</tbody>
</table>