The Bachelor of Science in Computer Information Systems

Total Course Requirements for the Bachelor's Degree: 120 units

See Bachelor's Degree Requirements in the University Catalog for complete details on general degree requirements. A minimum of 40 units, including those required for the major, must be upper division.

A suggested Major Academic Plan (MAP) has been prepared to help students meet all graduation requirements within four years. You can view MAPs on the Degree MAPs page in the University Catalog or you can request a plan from your major advisor.

General Education Pathway Requirements: 48 units

See General Education in the University Catalog and the Class Schedule for the most current information on General Education Pathway Requirements and course offerings.

This major has approved GE modification(s). See below for information on how to apply these modification(s).

- CSCI 217 is an approved major course substitution for Critical Thinking (A3).
- MATH 217 is an approved major course substitution for Critical Thinking (A3).
- CSCI 301 is an approved major course substitution for Upper Division Social Science.
- CSCI 301 is also an approved GE Capstone substitution.

Diversity Course Requirements: 6 units

See Diversity Requirements in the University Catalog. Most courses taken to satisfy these requirements may also apply to General Education.

Literacy Requirement:

See Mathematics and Writing Requirements in the University Catalog. Writing proficiency in the major is a graduation requirement and may be demonstrated through satisfactory completion of a course in your major which has been designated as the Writing Proficiency (WP) course for the semester in which you take the course. Students who earn below a C- are required to repeat the course and earn a C- or higher to receive WP credit. See the Class Schedule for the designated WP courses for each semester. You must complete the GE Written Communication (A2) requirement before you may register for a WP course.
Requirements for enrollment in Upper Division CSCI or CINS courses:

Complete CSCI 111, CSCI 211, MATH 105, and CSCI/MATH 217 all with a grade of C or higher.

Enrollment in any upper division course that is required for the BS in Computer Information Systems is restricted to students who have a declared major or minor that names the course as a requirement or elective.

Course Requirements for the Major: 84 units

Completion of the following courses, or their approved transfer equivalents, is required of all candidates for this degree.

Completion of these requirements also satisfies requirements for a minor in Business Administration.

Lower-Division Requirements: 27 24 units

6 courses required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<th>Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CINS 110</td>
<td>Introductory Web Programming</td>
<td>3.0</td>
<td>FS</td>
<td></td>
</tr>
<tr>
<td>CINS 220</td>
<td>PCs and Peripherals</td>
<td>3.0</td>
<td>FS</td>
<td></td>
</tr>
<tr>
<td>CINS 242</td>
<td>Information Systems Design</td>
<td>3.0</td>
<td>FA</td>
<td></td>
</tr>
<tr>
<td>Prerequisites: CSCI 111 with a grade of C or higher.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSCI 111</td>
<td>Programming and Algorithms I</td>
<td>4.0</td>
<td>FS</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: Completion of ELM requirement.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSCI 211</td>
<td>Programming and Algorithms II</td>
<td>4.0</td>
<td>FS</td>
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</tr>
<tr>
<td>Prerequisite: CSCI 111 with a grade of C or higher.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>MATH 105</td>
<td>Statistics</td>
<td>3.0</td>
<td>FS</td>
<td>GE</td>
</tr>
<tr>
<td>Prerequisites: Completion of ELM requirement.</td>
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<td></td>
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</tr>
<tr>
<td>MATH 109</td>
<td>Survey of Calculus</td>
<td>4.0</td>
<td>FS</td>
<td>GE</td>
</tr>
<tr>
<td>Prerequisites: Completion of ELM requirement; MATH 118, MATH 119 (or High School equivalents).</td>
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</table>

1 course selected from:

<table>
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<tr>
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<th>Type</th>
<th>Notes</th>
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<tbody>
<tr>
<td>CSCI 217</td>
<td>Discrete Mathematics</td>
<td>3.0</td>
<td>INQ</td>
<td></td>
</tr>
<tr>
<td>Prerequisites: Completion of ELM, CSCI 111 with a grade of C or higher, MATH 119 (or equivalent).</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
MATH 217  Discrete Mathematics  3.0  FS
Prerequisites: Completion of ELM, CSCI 111 with a grade of C or higher, MATH 119 (or equivalent).

Upper-Division Requirements: 36 units

7 courses required:

CINS 370  Introduction to Databases  3.0  FS
Prerequisite: CSCI 211 with a grade of C or higher.
CINS 448  Computer Security  3.0  FS
Prerequisites: CSCI 446 with a grade of C or higher.
CSCI 301  Computer's Impact on Society  3.0  FS  WP
Prerequisites: Completion of GE Written Communication (A2) requirement; Junior standing.
CSCI 311  Algorithms and Data Structures  4.0  FS
Prerequisites: CSCI 211, CSCI 217 or MATH 217, all with a grade of C or higher.
CSCI 446  Introduction to Computer Networks and Network Management  3.0  FS
Prerequisites: CSCI 111 and either CINS 220 or EECE 237 all with a C or higher.
CINS 465  Web Programming Fundamentals  3.0  FS
Prerequisites: CINS 110, CINS 370 both with a grade of C or higher.
CINS 490  Computer Information Systems Capstone  3.0  FS
Prerequisites: CSCI 311 with a grade of C or higher, senior standing.

Database/ERP:

Note that prerequisites for the BSIS/MINS courses are waived for CINS students, but course content is unchanged.

1 course selected from:

CINS 570  Advanced Database Management Systems  3.0  SP
Prerequisite: CINS 370 with a grade of C or higher or MINS 235.
CINS 574  Advanced Database Architecture and Administration I  3.0  INQ
Prerequisite: CINS 370 with a grade of C or higher.
MINS 522  Enterprise Resource Planning: Systems Administration  3.0  FS
Prerequisites: MINS 235, MINS 346.

Networking/Security:

1 course selected from:
CINS 548  Advanced Computer Security     3.0 FA
Prerequisite: CINS 448 with a grade of C or higher.
CSCI 546  Computer Network Management     3.0 SP
Prerequisite: CSCI 446 with a grade of C or higher.
EECE 555 Advanced Computer Networks       4.0 FA
Prerequisites: CSCI 446.

Systems:

1 course selected from:

CSCI 340 Operating Systems              4.0 FS
Prerequisites: CSCI 311, EECE 320, both grade of C or higher.
CSCI 344 Shell Programming       3.0 SP
Prerequisite: CSCI 144 or CSCI 211 with a grade of C or higher.
CSCI 444 Fundamental UNIX System Administration  3.0 FA
Prerequisites: CSCI 144 or CSCI 211 with a grade of C or higher.
CSCI 515 Compiler Design           3.0 FS
Prerequisite: CSCI 311 with a grade of C or higher.

Elective:

3-5 units selected from:

Select from upper-division Computer Science (CSCI) or Computer Information Systems (CINS) courses. Select sufficient upper-division units to ensure at least 84 units in the major. A maximum of 3 units may be taken for credit/no credit grading.

Formal Business Minor Requirements: 24 units

The following courses, or their approved transfer equivalents, also fulfill requirements for a Minor in Business Administration. Students are responsible for formally declaring the Minor in Business Administration.

8 courses required:

ACCT 201 Introduction to Financial Accounting   3.0 FS
ACCT 202 Introduction to Managerial Accounting   3.0 FS
Prerequisites: ACCT 201.
BLAW 203 Introduction to Business Law           3.0 FS
BLAW 302 Managing the Legal Environment         3.0 FS
Prerequisites: At least junior standing.

ECON 103  Principles of Microeconomic Analysis  3.0 FS GE
FINA 307  Survey of Finance  3.0 FS
Prerequisites: ACCT 201, ECON 103.
MGMT 303  Survey of Management  3.0 FS
MINS 301  Corporate Technology Integration  3.0 FS
MKTG 305  Survey of Marketing  3.0 FS

Additional Computer Information Systems Graduation Requirement:

Graduating seniors must complete an exit exam as a requirement for graduation. Passing the exam is not required for the degree; the scores will be used for program assessment. Consult the department office for examination details.

Grading Requirement:

All courses taken to fulfill major course requirements must be taken for a letter grade except those courses specified by the department as Credit/No Credit grading only.

A grade of C or higher is required in all Computer Science (CSCI), Computer Information Systems (CINS), Electrical/Electronic Engineering (EECE), Business Information Systems (BSIS), or Management Information Systems (MINS) courses used for the major.

Advising Requirement:

Advising is mandatory for all majors in this degree program. Consult your undergraduate advisor for specific information.

Honors in the Major:

Honors in the Major is a program of independent work in your major. It requires 6 units of honors course work completed over two semesters.

The Honors in the Major program allows you to work closely with a faculty mentor in your area of interest on an original performance or research project. This year-long collaboration allows you to work in your field at a professional level and culminates in a public presentation of your work. Students sometimes take their projects beyond the University for submission in professional journals, presentation at conferences, or academic competition. Such experience is valuable for graduate school and professional life. Your honors work will be recognized at your graduation, on your permanent transcripts, and on your diploma. It is often accompanied by letters of commendation from your mentor in the department or the department chair.

Some common features of Honors in the Major program are:
1. You must take 6 units of Honors in the Major course work. All 6 units are honors classes (marked by a suffix of H), and at least 3 of these units are independent study (399H, 499H, 599H) as specified by your department. You must complete each class with a minimum grade of B.

2. You must have completed 9 units of upper-division course work or 21 overall units in your major before you can be admitted to Honors in the Major. Check the requirements for your major carefully, as there may be specific courses that must be included in these units.

3. Your cumulative GPA should be at least 3.5 or within the top 5% of majors in your department.

4. Your GPA in your major should be at least 3.5 or within the top 5% of majors in your department.

5. Most students apply for or are invited to participate in Honors in the Major during the second semester of their junior year. Then they complete the 6 units of course work over the two semesters of their senior year.

6. Your honors work culminates with a public presentation of your honors project.

While Honors in the Major is part of the Honors Program, each department administers its own program. Please contact your major department or major advisor to apply.

**Honors in Computer Information Systems**

In addition to the common requirements for the Honors in the Major program given above, the Honors in Computer Information Systems program includes the following:

1. You must be recommended by a faculty member.

2. Students who are admitted to the department's Honors in the Major program must complete 3 units of CINS 465H, CINS 548H, CINS 570H, CSCI 511H, or CSCI 515H with a minimum grade of B. Unless other arrangements are made, the professor instructing the course you take becomes your faculty mentor. It is during this time that you must define a research problem or performance area and develop an Honors Research Project/Thesis proposal in preparation for work in CSCI 499H. You must also maintain a minimum GPA of 3.0 in your senior year.

3. Each Honors in the Major class requires completion of the course plus an additional Honors project and culminates with a public presentation of your Honors project.
Minor Change to an Undergraduate Program

BS in Computer Information Systems

Program Name: __________________________

Complete only if applicable
Program named above is:

___ Option within __________________________
(degree program name)

___ Advising Pattern within __________________________
(option name)

within __________________________
(degree program name)

___ Minor

___ Certificate

___ Changes being made affect a subject matter preparation or credential program.

Brief rationale for change:

CINS 110, which was recently added as a requirement, has proven to be problematic in terms of the sequencing of courses. We have decided to remove the requirement and move the content back to an upper-division course where it used to be.

Does the proposed change enhance or support the Diversity Action Plan (see definition & Task 3.1)?  No

If yes, please explain.

Required Signatures

The Department of Computer Science has reviewed and approves this program change

Chair, Department Curriculum Committee

Department Chair

The College of ECC has reviewed and approves this program change

Chair, College Curriculum Committee

College Dean

Send signature page with proposal attached to Curriculum Services at Undergraduate Education, zip 128

Curriculum Technical Review Completed

Date __________________________

APR 05 2017

RECEIVED
Minor Change to an Undergraduate Program

Program Name: BS in Computer Information Systems

Complete only if applicable
Program named above is:
___ Option within ________________________________
(degree program name)
___ Advising Pattern within ________________________________
(option name)
within ________________________________
(degree program name)
___ Minor
___ Certificate

___ Changes being made affect a subject matter preparation or credential program.

Brief rationale for change:
The addition of a set of pre-major requirements will help the department support and guide students to select a major in which they will be likely to succeed, will reduce DWF rates, and increase retention and completion statistics in the program.

Does the proposed change enhance or support the Diversity Action Plan (see definition & Task 3.1)? No
If yes, please explain.

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<td>FA</td>
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<td>CSCI 111</td>
<td>Programming and Algorithms I</td>
<td>4.0</td>
<td>FS</td>
</tr>
<tr>
<td>CSCI 211</td>
<td>Programming and Algorithms II</td>
<td>4.0</td>
<td>FS</td>
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Prerequisites: CSCI 111 with a grade of C or higher.

Prerequisite: Completion of ELM requirement.

Prerequisite: CSCI 111 with a grade of C or higher.
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<td>MATH 105</td>
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<td>Prerequisites: Completion of ELM requirement.</td>
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<td>Survey of Calculus</td>
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Upper-Division Requirements: 36 units

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<tr>
<td>CINS 370</td>
<td>Introduction to Databases</td>
<td>3.0</td>
<td>FS</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: CSCI 211 with a grade of C or higher.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CINS 448</td>
<td>Computer Security</td>
<td>3.0</td>
<td>FS</td>
</tr>
<tr>
<td></td>
<td>Prerequisites: CSCI 446 with a grade of C or higher.</td>
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<tr>
<td>CSCI 301</td>
<td>Computer's Impact on Society</td>
<td>3.0</td>
<td>FS</td>
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<tr>
<td></td>
<td>Prerequisites: Completion of GE Written Communication (A2) requirement; Junior standing.</td>
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<tr>
<td>CSCI 311</td>
<td>Algorithms and Data Structures</td>
<td>4.0</td>
<td>FS</td>
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<tr>
<td></td>
<td>Prerequisites: CSCI 211, CSCI 217 or MATH 217, all with a grade of C or higher.</td>
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</tr>
<tr>
<td>CSCI 446</td>
<td>Introduction to Computer Networks and Network Management</td>
<td>3.0</td>
<td>FS</td>
</tr>
<tr>
<td></td>
<td>Prerequisites: CSCI 111 and either CINS 220 or EECE 237 all with a grade of C or higher.</td>
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</tr>
<tr>
<td>CINS 465</td>
<td>Web Programming Fundamentals</td>
<td>3.0</td>
<td>FS</td>
</tr>
<tr>
<td></td>
<td>Prerequisites: CINS 110, CINS 370 both with a grade of C or higher. CINS 370 with a grade of C or higher.</td>
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</tr>
<tr>
<td>CINS 490</td>
<td>Computer Information Systems Capstone</td>
<td>3.0</td>
<td>FS</td>
</tr>
<tr>
<td></td>
<td>Prerequisites: CSCI 311 with a grade of C or higher, senior standing.</td>
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</table>

Database/ERP:

Note that prerequisites for the BSIS/MINS courses are waived for CINS students, but course content is unchanged.

1 course selected from:

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<td>CINS 570</td>
<td>Advanced Database Management Systems</td>
<td>3.0</td>
<td>SP</td>
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<tr>
<td></td>
<td>Prerequisite: CINS 370 with a grade of C or higher or MINS 235.</td>
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</tr>
<tr>
<td>CINS 574</td>
<td>Advanced Database Architecture and Administration I</td>
<td>3.0</td>
<td>INQ</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: CINS 370 with a grade of C or higher.</td>
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</tr>
<tr>
<td>MINS 522</td>
<td>Enterprise Resource Planning; Systems Administration</td>
<td>3.0</td>
<td>FS</td>
</tr>
<tr>
<td></td>
<td>Prerequisites: MINS 235, MINS 346.</td>
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Networking/Security:

1 course selected from:

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<tr>
<td>CINS 548</td>
<td>Advanced Computer Security</td>
<td>3.0</td>
<td>FA</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: CINS 448 with a grade of C or higher.</td>
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<td></td>
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</table>
CSCI 546 Computer Network Management 3.0 SP
Prerequisite: CSCI 446 with a grade of C or higher.
EECE 555 Advanced Computer Networks 4.0 FA
Prerequisites: CSCI 446.

Systems:

1 course selected from:

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<tr>
<td>CSCI 340</td>
<td>Operating Systems</td>
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<td>FS</td>
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<tr>
<td>CSCI 344</td>
<td>Shell Programming</td>
<td>3.0</td>
<td>SP</td>
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<tr>
<td>CSCI 444</td>
<td>Fundamental UNIX System Administration</td>
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<td>FA</td>
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<td>CSCI 515</td>
<td>Compiler Design</td>
<td>3.0</td>
<td>FS</td>
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Elective:

4-5 units selected from:
Select from upper-division Computer Science (CSCI) or Computer Information Systems (CINS) courses.

Formal Business Minor Requirements: 24 units

The following courses, or their approved transfer equivalents, also fulfill requirements for a Minor in Business Administration. Students are responsible for formally declaring the Minor in Business Administration.

8 courses required:

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</table>

Additional Computer Information Systems Graduation Requirement:

Graduating seniors must complete an exit exam as a requirement for graduation. Passing the exam is not required for the degree; the scores will be used for program assessment. Consult the department office for examination details.

Grading Requirement:

All courses taken to fulfill major course requirements must be taken for a letter grade except those courses specified by the department as Credit/No Credit grading only.
A grade of C or higher is required in all Computer Science (CSCI), Computer Information Systems (CINS), Electrical/Electronic Engineering (EECE), Business Information Systems (BSIS), or Management Information Systems (MINS) courses used for the major.

**Advising Requirement:**

Advising is mandatory for all majors in this degree program. Consult your undergraduate advisor for specific information.

**Honors in the Major:**

Honors in the Major is a program of independent work in your major. It requires 6 units of honors course work completed over two semesters.

The Honors in the Major program allows you to work closely with a faculty mentor in your area of interest on an original performance or research project. This year-long collaboration allows you to work in your field at a professional level and culminates in a public presentation of your work. Students sometimes take their projects beyond the University for submission in professional journals, presentation at conferences, or academic competition. Such experience is valuable for graduate school and professional life. Your honors work will be recognized at your graduation, on your permanent transcripts, and on your diploma. It is often accompanied by letters of commendation from your mentor in the department or the department chair.

Some common features of Honors in the Major program are:

1. You must take 6 units of Honors in the Major course work. All 6 units are honors classes (marked by a suffix of H), and at least 3 of these units are independent study (399H, 499H, 599H) as specified by your department. You must complete each class with a minimum grade of B.
2. You must have completed 9 units of upper-division course work or 21 overall units in your major before you can be admitted to Honors in the Major. Check the requirements for your major carefully, as there may be specific courses that must be included in these units.
3. Your cumulative GPA should be at least 3.5 or within the top 5% of majors in your department.
4. Your GPA in your major should be at least 3.5 or within the top 5% of majors in your department.
5. Most students apply for or are invited to participate in Honors in the Major during the second semester of their junior year. Then they complete the 6 units of course work over the two semesters of their senior year.
6. Your honors work culminates with a public presentation of your honors project.

While Honors in the Major is part of the Honors Program, each department administers its own program. Please contact your major department or major advisor to apply.

**Honors in Computer Information Systems**

In addition to the common requirements for the Honors in the Major program given above, the Honors in Computer Information Systems program includes the following:

1. You must be recommended by a faculty member.
2. Students who are admitted to the department’s Honors in the Major program must complete 3 units of CINS 465H, CINS 548H, CINS 570H, CSCI 511H, or CSCI 515H with a minimum grade of B. Unless other arrangements are made, the professor instructing the course you take becomes your faculty mentor. It is during this time that you must define a research problem or performance area and develop an Honors Research Project/Thesis proposal in preparation for work in CSCI 499H. You must also maintain a minimum GPA of 3.0 in your senior year.
3. Each Honors in the Major class requires completion of the course plus an additional Honors project and culminates with a public presentation of your Honors project.
The Bachelor of Science in Computer Information Systems

Total Course Requirements for the Bachelor's Degree: 120 units

See Bachelor's Degree Requirements in the University Catalog for complete details on general degree requirements. A minimum of 40 units, including those required for the major, must be upper division.

A suggested Major Academic Plan (MAP) has been prepared to help students meet all graduation requirements within four years. You can view MAPs on the Degree MAPs page in the University Catalog or you can request a plan from your major advisor.

General Education Pathway Requirements: 48 units

See General Education in the University Catalog and the Class Schedule for the most current information on General Education Pathway Requirements and course offerings.

This major has approved GE modification(s). See below for information on how to apply these modification(s).

- CSCI 217 is an approved major course substitution for Critical Thinking (A3).
- MATH 217 is an approved major course substitution for Critical Thinking (A3).
- CSCI 301 is an approved major course substitution for Upper Division Social Science.
- CSCI 301 is also an approved GE Capstone substitution.

Diversity Course Requirements: 6 units

See Diversity Requirements in the University Catalog. Most courses taken to satisfy these requirements may also apply to General Education.

Literacy Requirement:

See Mathematics and Writing Requirements in the University Catalog. Writing proficiency in the major is a graduation requirement and may be demonstrated through satisfactory completion of a course in your major which has been designated as the Writing Proficiency (WP) course for the semester in which you take the course. Students who earn below a C- are required to repeat the course and earn a C- or higher to receive WP credit. See the Class Schedule for the designated WP courses for each semester. You must complete the GE Written Communication (A2) requirement before you may register for a WP course.

*insert here - see below*

Course Requirements for the Major: 84 units

Completion of the following courses, or their approved transfer equivalents, is required of all candidates for this degree.

Completion of these requirements also satisfies requirements for a minor in Business Administration.

Lower-Division Requirements: 27 units

7 courses required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>CINS 110</td>
<td>Introductory Web Programming</td>
<td>3.0</td>
<td>FS</td>
</tr>
<tr>
<td>CINS 220</td>
<td>PCs and Peripherals</td>
<td>3.0</td>
<td>FS</td>
</tr>
<tr>
<td>CINS 242</td>
<td>Information Systems Design</td>
<td>3.0</td>
<td>FA</td>
</tr>
<tr>
<td>CSCI 111</td>
<td>Programming and Algorithms I</td>
<td>4.0</td>
<td>FS</td>
</tr>
<tr>
<td>CSCI 211</td>
<td>Programming and Algorithms II</td>
<td>4.0</td>
<td>FS</td>
</tr>
</tbody>
</table>

Prerequisites:
- CSCI 111 with a grade of C or higher.
- CSCI 111 with a grade of C or higher.
MATH 105  Statistics  3.0  FS  GE
Prerequisites: Completion of ELM requirement.

MATH 109  Survey of Calculus  4.0  FS  GE
Prerequisites: Completion of ELM requirement; MATH 118, MATH 119 (or High School equivalents).

1 course selected from:

CSCI 217  Discrete Mathematics  3.0  INQ
Prerequisites: Completion of ELM, CSCI 111 with a grade of C or higher, MATH 119 (or equivalent).

MATH 217  Discrete Mathematics  3.0  FS
Prerequisites: Completion of ELM, CSCI 111 with a grade of C or higher, MATH 119 (or equivalent).

Upper-Division Requirements: 33 units

7 courses required:

CINS 370  Introduction to Databases  3.0  FS
Prerequisite: CSCI 211 with a grade of C or higher.

CINS 448  Computer Security  3.0  FS
Prerequisites: CSCI 446 with a grade of C or higher.

CSCI 301  Computer’s Impact on Society  3.0  FS  WP
Prerequisites: Completion of GE Written Communication (A2) requirement; Junior standing.

CSCI 311  Algorithms and Data Structures  4.0  FS
Prerequisites: CSCI 211, CSCI 217 or MATH 217, all with a grade of C or higher.

CSCI 446  Introduction to Computer Networks and Network Management  3.0  FS
Prerequisites: CSCI 111 and either CINS 220 or EECE 237 all with a grade of C or higher.

CINS 465  Web Programming Fundamentals  3.0  FS
Prerequisites: CINS 110, CINS 370 both with a grade of C or higher.

CINS 490  Computer Information Systems Capstone  3.0  FS
Prerequisites: CSCI 311 with a grade of C or higher, senior standing.

Database/ERP:

Note that prerequisites for the BSIS/MINS courses are waived for CINS students, but course content is unchanged.

1 course selected from:

CINS 570  Advanced Database Management Systems  3.0  SP
Prerequisite: CINS 370 with a grade of C or higher or MINS 235.

CINS 574  Advanced Database Architecture and Administration I  3.0  INQ
Prerequisite: CINS 370 with a grade of C or higher.

MINS 522  Enterprise Resource Planning: Systems Administration  3.0  FS
Prerequisites: MINS 235, MINS 346.

Networking/Security:

1 course selected from:

CINS 548  Advanced Computer Security  3.0  FA
Prerequisite: CINS 448 with a grade of C or higher.
CSCI 546 Computer Network Management 3.0 SP

Prerequisite: CSCI 446 with a grade of C or higher.

EECE 555 Advanced Computer Networks 4.0 FA

Prerequisites: CSCI 446.

Systems:

1 course selected from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 340</td>
<td>Operating Systems</td>
<td>4.0</td>
<td>FS</td>
</tr>
</tbody>
</table>

Prerequisites: CSCI 311, EECE 320, both grade of C or higher.

CSCI 344 Shell Programming 3.0 SP

Prerequisite: CSCI 144 or CSCI 211 with a grade of C or higher.

CSCI 444 Fundamental UNIX System Administration 3.0 FA

Prerequisites: CSCI 144 or CSCI 211 with a grade of C or higher.

CSCI 515 Compiler Design 3.0 FS

Prerequisite: CSCI 311 with a grade of C or higher.

Elective:

1-2 units selected from:

Select from upper-division Computer Science (CSCI) or Computer Information Systems (CINS) courses.

Formal Business Minor Requirements: 24 units

The following courses, or their approved transfer equivalents, also fulfill requirements for a Minor in Business Administration. Students are responsible for formally declaring the Minor in Business Administration.

8 courses required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201</td>
<td>Introduction to Financial Accounting</td>
<td>3.0</td>
<td>FS</td>
</tr>
<tr>
<td>ACCT 202</td>
<td>Introduction to Managerial Accounting</td>
<td>3.0</td>
<td>FS</td>
</tr>
</tbody>
</table>

Prerequisites: ACCT 201.

BLAW 302 Managing the Legal Environment 3.0 FS

Prerequisites: At least junior standing.

ECON 103 Principles of Microeconomic Analysis 3.0 FS GE

FINA 307 Survey of Finance 3.0 FS

Prerequisites: ACCT 201, ECON 103.

MGMT 303 Survey of Management 3.0 FS

MINS 301 Corporate Technology Integration 3.0 FS

MKTG 305 Survey of Marketing 3.0 FS

Additional Computer Information Systems Graduation Requirement:

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3. Each Honors in the Major class requires completion of the course plus an additional Honors project and culminates with a public presentation of your Honors project.

** Requirements for Declaring the CINS Major:
1) complete CSCI 111, CSCI 211, MATH 105 and CSCI/MATH 217, all with a grade of C or higher
2) the grade average over all attempts of the four courses listed above must be 2.0 or higher
Once these requirements are met students can declare the Major in Computer Information Systems. Students who do not meet these requirements will not be admitted to the CINS major.

Requirements for Enrollment in Upper Division CSCI or CINS courses:
Enrollment in any upper-division course that is required for the BS in Computer Science is restricted to students who have a declared major or minor that names the course as a core requirement or as a listed elective.
### California State University, Chico

#### 2018-19 Computer Information Systems MAJOR ACADEMIC PLAN (MAP)

**Major Units:** 84

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 111 Programming and Algorithms I [*C]</td>
<td>4</td>
<td>CSCI 211 Programming and Algorithms II [*C]</td>
</tr>
<tr>
<td>MATH 105 Statistics [*C-]</td>
<td>3</td>
<td>MATH/CSCI 217 Discrete Math (GE A3) [*C]</td>
</tr>
<tr>
<td>GE Area A1 [*C-]</td>
<td>3</td>
<td>ACCT 201 Introduction to Financial Accounting</td>
</tr>
<tr>
<td>GE Area A2 [*C-]</td>
<td>3</td>
<td>ECON 103 Principles of Micro Analysis (GE D1)</td>
</tr>
<tr>
<td>GE Area C1 [*GC/USD/WI]</td>
<td>3</td>
<td>GE Area B1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>16</td>
<td><strong>TOTAL</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Fourth Semester</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 109 Survey of Calculus (GE A4)</td>
<td>4</td>
<td>GE Area E [*GC/USD/WI]</td>
</tr>
<tr>
<td>ACCT 202 Introduction to Managerial Accounting</td>
<td>3</td>
<td>HIST 130 United States History</td>
</tr>
<tr>
<td>GE Area C2 [*GC/USD/WI]</td>
<td>3</td>
<td>CINS 220 PC and Peripherals [*C]</td>
</tr>
<tr>
<td>GE Area D2 [*GC/USD/WI]</td>
<td>3</td>
<td>GE Area B2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>16</td>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>

| Fifth Semester | Sixth Semester | | |
|----------------|-----------------| A grade of C or higher is required in all Computer Science (CSCI), Computer Information Systems (CINS), and Graduation requirements. |
| CSCI 311 Algorithms and Data Structures [*C] | 4 | CINS 448 Computer Security [*C] | 3 | |
| CSCI 446 Introduction to Computer Networks [*C] | 3 | BLAW 302 Managing the Legal Environment | 3 | |
| CINS 370 Introduction to Databases [*C] | 3 | MINS 301 Corporate Tech Integration | 3 | |
| CSCI 301 Computer's Impact on Society (GE UD) [*C] | 3 | CINS 570 (SP) or CINS 574 (INQ) or MINS 522 [*C] | 3 | |
| **TOTAL** | 13 | **TOTAL** | 15 | |

| Seventh Semester | Eighth Semester | | |
|------------------|-----------------| Complete a minimum of 4 Writing Intensive (WI) courses-one will be met by your Written Communication Course and one by your Capstone Course; select 2 additional WI courses. |
| CINS 465 Web Programming Fundamentals [*C] | 3 | MGMT 303 Survey of Management | 3 | 120 units required for Degree |
| MKTG 305 Survey to Marketing | 3 | CSCI 490 CSCI Capstone | 3 | |
| FINA 307 Survey to Finance | 3 | CSCI 340 or CSCI 344 (SP) or CSCI 444 (FA) or CSCI 548 (FA) or CSCI 546 (SP) or EECE 555 (FA) [*C] | 3-4 | |
| GE UD Pathway (UD-B or UD-C) [*GC/USD/WI] | 3 | CSCI/CINS Elective [*CINS/CS] | 1-2 | |
| CINS 548 (FA) or CSCI 546 (SP) or EECE 555 (FA) [*C] | 3 | CSCI/CINS Elective [*CINS/CS] | 3 | |
| **TOTAL** | 15 | **TOTAL** | 14 | |