# Suggested Course Plan for a UC Riverside Major in BUSINESS INFORMATICS

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Units</th>
<th>Winter Quarter</th>
<th>Units</th>
<th>Spring Quarter</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST YEAR</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CS 010&lt;sup&gt;1&lt;/sup&gt;</td>
<td>4</td>
<td>CS 012&lt;sup&gt;2&lt;/sup&gt; or CS 013</td>
<td>4</td>
<td>CS 014</td>
<td>4</td>
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<tr>
<td>C++ Programming I</td>
<td></td>
<td></td>
<td></td>
<td>Intro to Data Structures &amp; Algorithms</td>
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<tr>
<td>ENGL 001A</td>
<td>4</td>
<td>ENGL 001B</td>
<td>4</td>
<td>MATH 009C</td>
<td>4</td>
</tr>
<tr>
<td>Beginning Composition</td>
<td></td>
<td>Intermediate Composition</td>
<td></td>
<td>First Year Calculus</td>
<td></td>
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<tr>
<td>ENGR 001M</td>
<td>1</td>
<td>MATH 009B</td>
<td>4</td>
<td>Breadth</td>
<td>4</td>
</tr>
<tr>
<td>Professional Dev. &amp; Mentoring</td>
<td></td>
<td>First Year Calculus</td>
<td></td>
<td>Humanities/Natural Sciences</td>
<td></td>
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<tr>
<td>MATH 009A</td>
<td>4</td>
<td>MATH/CS 011</td>
<td>4</td>
<td></td>
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<tr>
<td>First Year Calculus</td>
<td></td>
<td>Intro to Discrete Structures</td>
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| SECOND YEAR | | | | | |
| BUS 020 | 4 | MATH 010A | 4 | ECON 003 | 5 |
| Financial Accounting & Reporting | | Multivariable Calculus | | Intro to Microeconomics | |
| CS 061 | 4 | CS 111 | 4 | MATH 031 | 5 |
| CS 100 | 4 | STAT 155 | 4 | Breadth | 4 |
| Software Construction | | Probability & Statistics for Engr | | Humanities/Natural Sciences | |
| ECON 002 | 5 | Breadth | 4 | Breadth | 4 |
| Intro to Macroeconomics | | Humanities/Natural Sciences | | Humanities/Natural Sciences | |

| THIRD YEAR | | | | | |
| BUS 103 | 4 | BUS/STAT 104 | 4 | BUS 106/ECON 134 | 4 |
| Marketing & Distribution Mgmt | | Decision Analysis & Mgmt Science | | Intro to Financial Mgmt | |
| CS 141 | 4 | CS 153 | 4 | ENGR 180W<sup>**</sup> | 4 |
| SOC 150 | 4 | CS Technical Elective<sup>***</sup> | 4 | CS Technical Elective<sup>***</sup> | 4 |
| Soc. of Economic Organizations | | | | | |
| ENGR 101M | 1 | Breadth | 4 | Breadth | 4 |
| Professional Dev. & Mentoring | | Humanities/Natural Sciences | | Humanities/Natural Sciences | |

| FOURTH YEAR | | | | | |
| CS 165 | 4 | CS Elective | 4 | CS Technical Elective<sup>***</sup> | 4 |
| Computer Security | | | | | |
| CS Elective | 4 | CS Technical Elective<sup>***</sup> | 4 | BUS Technical Elective<sup>***</sup> | 4 |
| CS 164, CS 166, CS 172 or CS 180 | | | | | |
| BUS Technical Elective<sup>***</sup> | 4 | BUS Technical Elective<sup>***</sup> | 4 | BUS Technical Elective<sup>***</sup> | 4 |
| BUS Technical Elective<sup>***</sup> | 4 | BUS Technical Elective<sup>***</sup> | 4 | | |
| BUS Technical Elective<sup>***</sup> | 4 | | | | |
| | | | | | |

<sup>1</sup> CS 010V may be used to satisfy this requirement.
<sup>2</sup> CS 012V may be used to satisfy this requirement.

**Total Units:** 185  **Maximum Units:** 222

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To earn a B.S., you must complete all College and University requirements. For a complete list: [www.catalog.ucr.edu](http://www.catalog.ucr.edu).

**ENGLISH COMPOSITION**

A C or better is required in three quarters of English Composition courses to satisfy the graduation requirement. ENGR 180W fulfills the third quarter of English Composition.

**BREADTH REQUIREMENTS**

For an approved list of Breadth courses: [http://student.engr.ucr.edu/policies/requirements/breadth.html](http://student.engr.ucr.edu/policies/requirements/breadth.html).

**Humanities: (3 courses)**

A. World History: 

B. Fine Arts, Lit., Phil. or Rlst: 

C. Human Persp. on Science:

**Natural Sciences: (4 courses)**

A. Biological Science: 

B. Physical Science: 

**Ethnicity: (1 course)**

1. __________

**Upper Division Depth: (1 course)**

1. __________

**TECHNICAL ELECTIVES***

Please note that Technical Electives may be offered throughout the Academic Year. Consult with your Academic Advisor about potential offerings. See approved technical electives on back.

**Computer Science Technical Electives:**

1. __________  
2. __________  
3. __________  
4. __________

**Business Administration Technical Electives:**

1. __________ (IS)  
2. __________ (IS)  
3. __________  
4. __________  
5. __________  
6. __________

Course Plan is subject to change.
**Business Informatics Technical Electives**\(^1\)

**Computer Science Technical Electives:**
You must complete at least 16 units of upper division Computer Science Technical Electives which must be distinct from major requirements. These 16 units may be chosen from upper division requirements or technical electives for the Computer Science Major. At least three courses must be in the Department of Computer Science and Engineering.

- CS 120A Logic Design
- CS 120B Introduction to Embedded Systems (5)
- CS 122A Intermediate Embedded & Real-Time Systems (5)
- CS 122B Advanced Embedded & Real-Time Systems (5)
- CS 130 Computer Graphics (4)
- CS 133 Computational Geometry (4)
- CS 134 Video Game Creation & Design (4)
- CS 145 Combinatorial Optimization Algorithms (4)
- CS 150 Theory of Automata & Formal Language (4)
- CS 151 Introduction to Theory of Computation (4)
- CS 152 Compiler Design (4)
- CS 160 Concurrent Programming & Parallel Systems (4)
- CS 161 Design & Architecture of Computer Systems (4)
- CS 161L Lab in Design & Architecture of Computer Sys. (2)
- CS 162 Computer Architecture (4)
- CS 168 Introduction to VLSI Design (4)
- CS 169 Mobile Wireless Networks (4)
- CS 170 Introduction to Artificial Intelligence (4)
- CS 171 Intro to Machine Learning & Data Mining (4)
- CS 172 Introduction to Information Retrieval (4)
- CS 177 Modeling & Simulation (4)
- CS 179 E-Z Project in Computer Science (4 units maximum)
- CS 181 Principles of Programming Languages (4)
- CS 182 Software Testing and Verification (4)
- CS 183 UNIX System Administration (4)
- CS 193 Design Project (4 units maximum)
- EE 140 Computer Visualization (4)
- MATH 120 Optimization (4)
- MATH 135A Numerical Analysis (4)
- MATH 135B Numerical Analysis (4)

**Business Administration Technical Electives:**
You must complete at least 24 units of upper division Business Administration Technical Electives, including at least 8 units of courses listed in the Information Systems concentration within the Business Administration major. These units must be distinct from major requirements and may be chosen from any of the available Business Administration courses.

* Choose at least TWO from Information Systems courses:
  - BUS 125 Simulation for Business (4)
  - BUS 128 Project Planning and Control (4)
  - BUS 171 System Analysis & Design (4)
  - BUS 172 Information Economics (4)
  - BUS 173 Introduction to Databases for Management (4)
  - BUS 174 Electronic Commerce (4)
  - BUS 175 Business Data Communications (4)
  - BUS 177 Strategies in Information Systems (4)

* Choose remaining THREE from:
  - ANY AVAILABLE UPPER DIVISION BUSINESS ADMINISTRATION (BUS) COURSES, EXCEPT BUS 101

Please note the following credit exceptions:
- No credit is given for BUS 101
- Only one of BUS 171 or CS 180 can be taken for credit
- Only one of BUS 173 or CS 166 can be taken for credit
- Only one of BUS 175 or CS 164 can be taken for credit
- Only one of BUS 125 or CS 177 can be taken for credit

\(^1\) Technical Electives may require that you complete additional courses as prerequisites that are not accounted for in the undergraduate program. Please go to www.catalog.ucr.edu for course descriptions and prerequisite information.