*College of Sciences* *Bachelor of Science*
*Computer Science*

# Computer Science Curriculum
## For students entering in or after September 2011 (Revised 11/11)

| Freshman Year/Fall Semester | | Cr. |
|---|---|---|
| ___42.101 | College Writing I | 3 |
| ___42.101 | Computing I | 4 |
| ___91.131 | Calculus I | 4 |
| ___ __.___ | Gen Ed (AH) | 3 |
| | | 14 |

| Freshman Year/Spring Semester | | Cr. |
|---|---|---|
| ___42.102 | College Writing II | 3 |
| ___91.102 | Computing II | 4 |
| ___92.132 | Calculus II | 4 |
| ___ __.___ | Gen Ed (SS) | 3 |
| | | 14 |

| Sophomore Year/Fall Semester | | Cr. |
|---|---|---|
| ___91.201 | Computing III | 4 |
| ___91.203 | Comp. Org. & Assembly Lang. | 4 |
| ___92.321 | Discrete Structures I | 3 |
| ___16.265 | Logic Design | 3 |
| | | 14 |

| Sophomore Year/Spring Semester | | Cr. |
|---|---|---|
| ___42.220 | Oral & Written Comm. for CS (AH) | 3 |
| ___91.204 | Computing IV | 3 |
| ___92.322 | Discrete Structures II | 3 |
| ___92.386 | Probability & Statistics I | 3 |
| ___ __.___ | Natural Science with lab** | 4 |
| | | 16 |

| Junior Year/Fall Semester | | Cr. |
|---|---|---|
| ___91.304 | Foundations of CS | 3 |
| ___91.305 | Computer Architecture | 3 |
| ___ __.___ | Natural Science with lab | 4 |
| ___ __.___ | Gen Ed (AH) | 3 |
| ___ __.___ | Free Elective | 3 |
| | | 16 |

| Junior Year/Spring Semester | | Cr. |
|---|---|---|
| ___91.301 | Organization of Prog. Lang. | 3 |
| ___91.308 | Intro. to Operating Systems | 3 |
| ___ __.___ | Natural Science with lab | 4 |
| ___ __.___ | Gen Ed (SS) | 3 |
| ___ __.___ | Free Elective | 3 |
| | | 16 |

| Senior Year/Fall Semester | | Cr. |
|---|---|---|
| ___91.404 | Analysis of Algorithms | 3 |
| ___91.xxx | Project Course (part 1) | 3 |
| ___ __.___ | AH or SS Gen Ed Course | 3 |
| ___ __.___ | Technical Elective *** | 3 |
| ___ 91.xxx | Computer Science elective | 3 |
| | | 15 |

| Senior Year/Spring Semester | | Cr. |
|---|---|---|
| ___91.xxx | Project Course (part 2) | 3 |
| ___91.xxx | Computer Science Elective | 3 |
| ___ __.___ | Technical Elective | 3 |
| ___ __.___ | Free Elective | 3 |
| ___ __.___ | Free Elective | 3 |
| | | 15 |

## Definitions and Notes

***Computer Science Electives***

- CS students must complete two courses (6 credits) of computer science electives.
- These may be any non- required courses offered by the CS Department that are not taken to fill other slots. (That is, courses cannot be "double counted.")

**** - Gen Ed Courses***

- One of these must satisfy the CS Ethics Requirement.
- One must satisfy the University Diversity Requirement.
- Specific courses may be recommended for different CS Tracks.
- See the University General Education Program website for more detailed information.
- Three of these must be approved Arts and Humanities (AH) courses and three must be approved Social Sciences (SS) courses.
- 42.220 Oral & Written Communication for Computer Science is required and counts as one of the three required AH Gen Eds.

***Natural Science Electives***

- CS students must complete 12 credits of natural science courses.
- These are courses offered by one of the four natural science departments in the College of Arts & Sciences:
    - Biological Sciences
    - Chemistry
    - Environmental, Earth, and Atmospheric Sciences
    - Physics and Applied Physics
- Courses that fulfill this requirement must be classified as required or elective courses for the majors in those departments (with some exceptions).
    - This requirement may also be satisfied by completing three 3-credit courses that do *not* include labs plus one 4-credit course that *does* include a lab (totaling 13 credits rather than 12), but the Computer Science faculty recommends that students take three 4-credit courses that *do* include labs laid out in the course grid.
- An additional constraint is that the total number of credits applied to this requirement plus the number of credits earned in Math (92.xxx) courses must total at least 30.
- Specific courses may be recommended for different CS Tracks. See the CS Dept. Policy on Natural Science Electives for more detailed information.

***Technical Electives***.

- CS students must complete 6 credits of technical electives.
- These are courses offered by the College of Arts & Sciences, Sciences Division (this is our college) or the College of Engineering.
- Courses that fulfill this requirement must be classified as required or elective courses for the majors in those departments.
- In general, 90.xxx courses may *not* be used to fulfill this requirement.
- Specific courses may be recommended for different CS Tracks.

***Free Elective***

- CS students must complete 9 credits of almost any course offered by the University.
- Courses taken to fulfill this requirement must not be below the level of any required course.
- Specific courses may be recommended for different CS Tracks.
- See the CS Dept. Policy on General Electives for more detailed information.