

# Database and Informatics Track

Computer & Information Science Department, University of Oregon - <http://www.cs.uoregon.edu>

## Notes:

### Lower-Division Core

Courses taken *graded*:

- ☐ CIS 210, 211 and 212 -- Computer Science I, II and III.
- ☐ MATH 231, 232 -- Discrete Math I and II)

### Upper-Division Core

Courses taken *graded*:

- ☐ CIS 313 -- Intermediate Data Structures
- ☐ CIS 314 -- Computer Organization
- ☐ CIS 315 -- Introduction to Algorithms

**Students must earn no grade below B- for automatic advancement to the upper-division courses. Students with at most one C in the lower-division core courses may submit a prerequisite override request form to continue in the major.**

- ☐ CIS 330 -- C/C++ & Unix
- ☐ CIS 415 -- Operating Systems.
- ☐ CIS 422 -- Software Methodology I
- ☐ CIS 425 -- Principles of Programming Languages

### Calculus and Additional Math

**Complete 8 graded credits from among these three sequences** – courses taken *graded*:

- ☐ MATH 251, 252 – Calculus I, II **OR**
- ☐ MATH 261, 262 – Calculus with Theory I, II **OR**
- ☐ MATH 246, 247 – Calculus for the Biological Sciences

**Choose 8 credits from the following** – courses taken *graded*:

- ☐ MATH 233 – Elements of Discrete Mathematics III
- ☐ MATH 253 – Calculus III **OR** MATH 263 – Calculus with Theory III
- ☐ MATH 341 – Elementary Linear Algebra
- ☐ MATH 425 – Statistical Methods I **OR** MATH 343 – Statistical Models/Methods

### Science

**Take 12 credits from one of the following options;** these classes *may be taken Pass/No Pass or graded*:

- ☐ **Physics:** PH 201, 202, 203 - General Physics **OR** PH 251, 252, 253 - Foundations of Physics
- ☐ **Chemistry:** CH 221, 222, 223 - General Chemistry **OR** CH 224H, 225H, 226H - Honors General Chemistry
- ☐ **Biology:** CH 111 - Introduction to Chemical Principles **OR** CH 113 - The Chemistry of Sustainability **OR** CH 221 - General Chemistry **OR** CH 224 - Honors General Chemistry, BI 211 - General Biology, and BI 212 - General Biology **OR** BI 213 - General Biology

- ☐ **Psychology:** PSY 201 Mind and Brain *and* choose **two** from [301 Scientific Thinking, 304 Biopsychology, 305 Cognition, 348 Music and the Brain]
- ☐ **Geography:** GEOG 141 - The Natural Environment, *and two* from GEOG 321 - Climatology, GEOG 322 - Geomorphology, or GEOG 323- Biogeography
- ☐ **Geological Sciences:** GEOL 201 - Earth's Interior Heat & Dynamics, GEOL 202 - Earth Surface & Environmental Geology, GEOL 203 - Evolution of the Earth

Note: Students are encouraged to complete the accompanying lab courses.

### Writing

In addition to the university's writing requirement, **take one from the following** (*may be taken Pass/No Pass or graded*):

- ☐ WR 320 Technical Writing
- ☐ WR 321 Business Communications

**Additional track requirements  
continued on back**

## Database and Informatics Track Requirements (24 credits)

**Complete the following course.** This course *must be taken graded*:

- ☐ CIS 451 – Database Processing

**Complete one course selected from the following.**  
This course *must be taken graded*:

- ☐ CIS 452 – Database Issues
- ☐ CIS 453 – Data Mining

**Complete one course selected from the following.**  
These courses *must be taken graded*:

- ☐ CIS 410 – Probabilistic Methods
- ☐ CIS 427 – Introduction to Logic
- ☐ CIS 432 – Introduction to Networks
- ☐ CIS 443 – User Interfaces
- ☐ CIS 445 – Modeling and Simulation
- ☐ CIS 452 – Database Issues
- ☐ CIS 453 – Data Mining
- ☐ CIS 454 – Bioinformatics
- ☐ CIS 471 – Introduction to Artificial Intelligence

- ☐ CIS 472 – Machine Learning
- ☐ CIS 490 – Computer Ethics
- ☐ CIS 399 – Unix System Administration (summer only)

**Complete 8 additional upper-division CIS elective credits.**

Choose electives from CIS upper-division courses, including Individualized Study Courses. CIS 399 and 410 must have regular class meetings, homework assignments and a prerequisite of 313 or higher.

A maximum of 8 credits may be taken from courses numbered 399-409, and a maximum of 4 credits in any one course numbered 400-409.

**Complete 4 upper-division math elective credits.**

Choose any math course with a prerequisite of MATH 252 or higher, or CIS 413, 420, 427, 410 Cryptography, 410 Probabilistic Methods. CIS courses used to complete mathematics elective cannot be used toward upper-division CIS elective credits.

## Major Requirements – Major Progress Review Form

Each major must meet with his/her advisor and file the Major Progress Review form after completing Intermediate Data Structures (CIS 313) and Computer Organization (CIS 314).

Any student who receives two grades below C- in upper-division core courses, or three grades below C- in any upper-division courses, may be removed from the major.