

# Course Catalog - Fall 2007

## Computational Science and Engineering

400 **Data Structures, Non-CS Majors** credit: 4 hours.  
Same as CS 400. See CS 400.

401 **Intro to Numerical Analysis** credit: 3 or 4 hours.  
Same as CS 450, ECE 491, and MATH 450. See CS 450.

402 **Intro to Parallel Programming** credit: 3 or 4 hours.  
Same as CS 420 and ECE 492. See CS 420.

411 **Numerical Methods for PDEs** credit: 3 or 4 hours.  
Same as CS 455 and MATH 455. See CS 455.

412 **Numerical Linear Algebra** credit: 3 or 4 hours.  
Same as CS 458 and MATH 458. See CS 458.

413 **Numerical Approx and ODEs** credit: 3 or 4 hours.  
Same as CS 459 and MATH 459. See CS 459.

414 **Algorithms** credit: 3 or 4 hours.  
Same as CS 473 and MATH 473. See CS 473.

422 **Computer System Organization** credit: 3 or 4 hours.  
Same as CS 433. See CS 433.

423 **Operating Systems Design** credit: 3 or 4 hours.  
Same as CS 423. See CS 423.

424 **Distributed Systems** credit: 3 hours.  
Same as CS 425 and ECE 428. See CS 425.

425 **Communication Networks** credit: 3 hours.  
Same as CS 438 and ECE 438. See CS 438.

426 **Software Engineering I** credit: 3 or 4 hours.  
Same as CS 427. See CS 427.  
**This course satisfies the General Education Criteria for a** Advanced Composition course.

427 **Computer Graphics** credit: 3 or 4 hours.  
Same as CS 418. See CS 418.

428 **Advanced Comp Graphics** credit: 3 or 4 hours.  
Same as CS 419. See CS 419.

429 **Software Engineering II** credit: 3 or 4 hours.  
Same as CS 428. See CS 428.  
**This course satisfies the General Education Criteria for a** Advanced Composition course.

433 **Intro VLSI System Design** credit: 3 hours.  
Same as CS 435 and ECE 425. See ECE 425.

- 441 **Introduction to Optimization** credit: 3 or 4 hours.  
Same as ECE 490. See ECE 490.
- 450 **Computational Mechanics** credit: 3 or 4 hours.  
Same as TAM 470. See TAM 470.
- 451 **Intro to Finite Element Anlys** credit: 3 or 4 hours.  
Same as AE 420 and ME 471. See ME 471.
- 461 **Computational Aerodynamics** credit: 3 or 4 hours.  
Same as AE 410. See AE 410.
- 462 **Safety Anlys Nucl Reactor Sys** credit: 3 or 4 hours.  
Same as NPRE 457. See NPRE 457.
- 485 **Atomic Scale Simulations** credit: 3 or 4 hours.  
Same as MSE 485 and PHYS 466. See MSE 485.
- 491 **Computer Methods** credit: 3 or 4 hours.  
Same as CEE 490. See CEE 490.
- 511 **Iterative & Multigrid Solvrs** credit: 4 hours.  
Same as CS 550. See CS 550.
- 512 **Parallel Numerical Algorithms** credit: 4 hours.  
Same as CS 554. See CS 554.
- 513 **Topics in Numerical Analysis** credit: 4 hours.  
Same as CS 558. See CS 558.
- 514 **Mesh Generation** credit: 4 hours.  
Same as CS 570. See CS 570.
- 515 **Topics in Algorithms** credit: 4 hours.  
Same as CS 573. See CS 573.
- 517 **Adv Finite Element Methods** credit: 4 hours.  
Same as TAM 574. See TAM 574.
- 521 **Computer Architecture** credit: 4 hours.  
Same as ECE 511. See ECE 511.
- 522 **Parallel Computer Architecture** credit: 4 hours.  
Same as CS 533 and ECE 533. See CS 533.
- 523 **Advanced Operating Systems** credit: 4 hours.  
Same as CS 523. See CS 523.
- 524 **Computer Systems Analysis** credit: 4 hours.  
Same as CS 541 and ECE 541. See ECE 541.
- 526 **Adv Topics in Compiler Constr** credit: 4 hours.

Same as CS 526. See CS 526.

527 **Scientific Visualization** credit: 4 hours.

Same as CS 519. See CS 519.

528 **Computer Microarchitecture** credit: 4 hours.

Same as ECE 512. See ECE 512.

529 **Adv Topics in Software Eng** credit: 4 hours.

Same as CS 527. See CS 527.

530 **Computational Electromagnetics** credit: 4 hours.

Same as ECE 540. See ECE 540.

532 **Numerical Circuit Analysis** credit: 4 hours.

Same as ECE 552. See ECE 552.

534 **Adv Theory Semicond & Devices** credit: 4 hours.

Same as ECE 539. See ECE 539.

542 **Digital Signal Processing II** credit: 4 hours.

Same as ECE 551. See ECE 551.

543 **Topics in Image Processing** credit: 4 hours.

Same as ECE 547. See ECE 547.

544 **Power System Dyn & Stability** credit: 4 hours.

Same as ECE 576. See ECE 576.

545 **Power System Control** credit: 4 hours.

Same as ECE 573. See ECE 573.

551 **Finite Element Methods** credit: 4 hours.

Same as CEE 570. See CEE 570.

560 **Computational Fluid Mechanics** credit: 4 hours.

Same as TAM 570. See TAM 570.

561 **Computational Process Modeling** credit: 4 hours.

Same as ME 554. See ME 554.

564 **Surface Water Quality Modeling** credit: 4 hours.

Same as CEE 534. See CEE 534.

565 **Groundwater Modeling** credit: 4 hours.

Same as CEE 557. See CEE 557.

566 **Numerical Fluid Dynamics** credit: 4 hours.

Same as ATMS 502 and CS 505. See ATMS 502.

567 **Dynamical Weather Prediction** credit: 4 hours.

Same as ATMS 503. See ATMS 503.

568 ***Global Atmospheric Modeling*** credit: 4 hours.  
Same as ATMS 530. See ATMS 530.