



UNION UNIVERSITY

DEPARTMENT *of* COMPUTER SCIENCE

Academic Update

Fall 2007

The department offers four plans of study: Computer Science major, Digital Media Studies major, Computer Science minor, and Computer Information Systems minor.

<http://www.uu.edu/academics/coas/compscience/>

Computer Science Major

Upon completion of the Computer Science major, the student will have an understanding of and an appreciation for the interrelation of the five main areas of study in Computer Science: elements and architecture, programming concepts and languages, algorithms, data structures, and computer theory. The major emphasizes the practical application of basic concepts from each; therefore, the graduate will be able to continue study in Computer Science at the graduate level, or enter the job market.

Digital Media Studies Major

The Digital Media Studies major is an interdisciplinary program joining Art, Communication Arts, and Computer Science. Its purpose is to produce a student aesthetically, theoretically, and technologically trained and capable of excellence in the relatively new area of the design, production, and implementation of digital

communications media. Included are such areas as web page design, digital visual and aural communications strategies and theory, interactive media design, media programming, digital presentation techniques, and technological advances in digital communications.

Computer Science Minor

The Computer Science minor is intended for students interested primarily in pursuing a career in computer science or related field immediately upon graduation.

Computer Information Systems Minor

The Computer Information Systems minor will provide the student with a general understanding of analysis, design, and implementation of applications via third-and-fourth-generation programming languages and pre-written packages. This minor is intended for the student expecting to use computers in a job-supportive mode.

Faculty

Stephanie Edge, Associate Professor of Computer Science, teaches Survey of Microcomputing Applications, Computer Science: Introduction and Overview, Programming in Java, and Algorithms and Data

Structures. Her areas of interests include: computer hardware, web development, and programming languages.

Dr. Jim Kirk, Associate Professor of Computer Science, teaches Digital Systems, Computer Architecture, Computer Repair and Maintenance, Computer Graphics, and Senior Seminar. His research interests center upon machine learning, particularly distributed artificial intelligence (neural networks) and genetic algorithms.

Dr. Haifei Li, Assistant Professor of Computer Science, teaches Survey of Microcomputing Applications, Database Management Systems, Computer Ethics, and Programming Languages. His research interests include electronic commerce, automated business negotiation, business process management, web services and enterprise computing.

Cam Tracy, Web Development Agent, teaches Web Building and Site Management, Computer Mediated Communication, and Web Applications. Research interests include database design and web application development.

Dr. G. Jan Wilms, Professor of Computer Science and Chair of the Computer Science

Department, teaches mostly upper-level classes including Operating Systems, and Networking. He is currently spearheading the use of Lego Mindstorms in introductory classes. His research interests are networking, operating systems, and digital media for the web.

Senior Seminar Presentations

<http://computerscience.uu.edu/seminar>

The Computer Science Seminar course provides two important opportunities for students. First, students are involved in directing the topics discussed in the seminar, thus enabling them to tie up loose ends and address perceived deficiencies in their computer science backgrounds.

The seminar also involves a major project which immerses students in a real-world problem to which they must apply their skills and creativity. A project is adopted only if it both addresses a real need and involves skills that students have not already acquired in their coursework at Union. Therefore, seminar students find themselves in the situation of the Computer Science graduate, who must often discover the means to produce results without the sort of supervision and structure given in much undergraduate coursework. There is an emphasis on servanthood in the seminar projects with preference given to those that support Christian ministry and missions.

Recent Student Seminar Presentations

Jeremy Cathey: Teaching an Old Dog New tricks: An Introduction

to Parallel Computing with High Performance Computing Clusters (HPCs)

Ben Goodwin (DMS): PHP-based Image Recognition and Retrieval of Late 18th Century Artwork

Matthew Hammond: Building a Prospective Student Database for the Continuing Studies Department

Kendal Hershberger & David Moses: A Dynamic Navigation System for Visitors to Campus

Dustin Martin (DMS): InfoBox - A Personal Information Manager Built with Ruby on Rails

Ben Townsend: Developing an Interactive Training Tool for the METI Human Patient Simulator

Selected Graduate Biographies

Jeremy Cathey (2007): Co-owner of ANWT Consulting, Jackson, TN

Crystal Gibson (2006): Information Systems Specialist, Housing Authority, Paducah, KY

Ryan Gillespie (2005): Network Engineer, ISG Technology, St. Louis, MO

Ben Goodwin (2007): Perl Programmer, Transformations, Inc.

Daniel Green (2004): Web and Information Systems Developer, Younger Associates
"My favorite CS class was Operating Systems. In this class, we were able to pull together all of our programming knowledge and apply it to several different types of systems. Since our servers run a version of Linux, this has really paid off."

Kendal Hershberger (2007): Software Engineer, Garmin

International, Inc., Kansas City, MO
"The Computer Science Department at Union prepared me for the world of cutting-edge technology. Because of them, I have confidence that I can accomplish any task set before me."

Dusty Hughes (2003): IT Manager, Carey Counseling Center, Inc.

"I think the thing that best prepared me was the high expectations and support from Union professors ... Their pushing students to go beyond their capabilities proved to me that I truly could do anything ..."

Dustin Martin (2007): Web Applications Developer, Kroger, Louisville, KY

David Moses (2007): Datatel, Washington, D.C.

Andrew Skaggs (2006): Programmer, Davidson Titles

Milan Zivkovic (2005): Financial Analyst, Spheris, Franklin, TN
"I came to the U.S. not knowing a single thing about programming. I didn't even know how to use Microsoft Excel. After these four years of hard work in Union's computer science department, nothing can scare me. If you love what you do, with hard work and motivation, you can rise to any challenge."