Welcome to Loyola College

Computer Science Department
Outline

- Introduction
- Faculty
- Facilities
- Curriculum
- Research & Projects
- Career Prospects
Computer Science Faculty

Roberta E. Sabin

Professor & Chair
(1986)

BA  Coll. Notre Dame
MA  Villanova Univ.
MEd  Loyola College
MS  Johns Hopkins
PhD  UMBC

Coding Theory
Supercomputing
Databases
V.J. (Ben) Benokraitis
Associate Professor
(2002)
BS, Kent State Univ.
MS, U. of Illinois at Urbana Champaign
PhD, U. of Texas - Austin

Natural Language Processing
Intelligent Tutoring System
Computer Science Faculty

David W. Binkley
Associate Professor
(1992)
BS Case Western Reserve
MS, PhD U. Wisconsin
Programming Languages
Computer Science Faculty

Richard Brown
Core Faculty
(2001)
BS Loyola College
MS Johns Hopkins

Business Application
Software

CS Education
Computer Science Faculty

Arthur L. Delcher
Professor Emeritus
(1982)

BA, MES
Loyola College
MA, MSE, PhD
Johns Hopkins

Artificial Intelligence
Algorithms
Computational Biology
Roger D. Eastman
Associate Professor
(1989)
BA Univ. Missouri
MS, PhD
Univ. Maryland

Robotic Vision
Image Processing
Computer Graphics
Computer Science Faculty

Michael D. French, SJ
Lecturer (1991)
BA  Fordham Univ.
MA  U. Washington
MDiv  St. Mary’s U.
MES  Loyola College

Software Design
CS Education
Network Administration
Computer Science Faculty

Keith B. Gallagher
Associate Professor
(1985)

BA  Bucknell Univ.
MS  Univ. Michigan
PhD  UMBC

Software Engineering
Software Maintenance
Jim Glenn
Assistant Professor
(2002)
AB Amherst College
PhD College Park
Automata Theory
Virtual Machines
Games
Computer Science Faculty

Dawn Lawrie

A.B. Dartmouth College
M.S. University of Massachusetts, Amherst
Ph.D. University of Massachusetts, Amherst (expected Fall 2003)

Information Retrieval
Computer Science Faculty

Robert D. Shelton
Professor
(1985)

BSEE  Texas Tech U
SM     MIT
PhD   Univ. of Houston

Networks and Internet
Computer Engineering
Science Policy
Computer Science Faculty

Bernard J. Weigman

Professor (1958)
Joint appointment in
Physics & Engineering
Director Emeritus, MES Program

BS Loyola College
PhD Notre Dame

Computer Engineering
Automated Data Collection
Facilities
Facilities

Within the Department:

KH 006  Classroom
DS 130,132  Unix Labs
DELL Linux stations
DS 127  Microcomputer Lab
DS 029  Computer Eng. & Networks Lab
DS 123  Lounge/Seminar room
DS 121  Intro Lab
Facilities

College-Wide:

- KH 108 Lab: 37 Pentiums
- KH 106 Lab: 17 Pentiums
- Beatty Hall Lab: 25 PowerMac G4s
- Maryland Hall Lab: 20 Power Mac 8500s
- Blackboard: Internet Course-Delivery
- Groupwise: e-mail

*Network connection in each dorm room (“port per pillow”) and computer Labs*
Curriculum

- Accredited by the Computer Science Accreditation Board (CSAB)
- Strong liberal arts core (18 courses)
- Computer Science (13 courses)
  - Mathematics (5 courses)
  - Science (3 courses)
- Concentrations in Networks, Computer Engineering, and Software Engineering
- Option for combined BS/MES degree in 5 years
## Curriculum

### Freshman Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>Computer Science I</td>
<td>Computer Science II</td>
</tr>
<tr>
<td>Calculus I</td>
<td>Calculus II</td>
</tr>
<tr>
<td>Effective Writing</td>
<td>Understanding Literature</td>
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<tr>
<td>Foreign Language</td>
<td>Foreign Language</td>
</tr>
<tr>
<td>Elective</td>
<td>History</td>
</tr>
</tbody>
</table>
Curriculum

Sophomore Year

**Fall**
- Data Structures I
- Computer Engineering
- Discrete Math
- General Physics I
- Philosophy I

**Spring**
- Data Structures II
- Elective/History
- Linear Algebra
- General Physics II
- Philosophy II
Curriculum

Junior Year

**Fall**
- Software Engineering
- Prob. & Statistics
- Theology
- Social Science
- Elective

**Spring**
- Programming Lang.
- Operating Systems
- Theology
- Science Elective
- English
## Senior Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>CS Project</td>
<td>(CS Theory Elective)</td>
</tr>
<tr>
<td>CS Elective</td>
<td>CS Elective</td>
</tr>
<tr>
<td>Ethics</td>
<td>Fine Arts</td>
</tr>
<tr>
<td>History</td>
<td>Social Science</td>
</tr>
<tr>
<td>Elective</td>
<td>Elective</td>
</tr>
</tbody>
</table>
Curriculum

Regularly Offered Electives

- Artificial Intelligence
- Compiler Construction
- Computer Graphics
- Computer Networks (WANs and LANs)
- Database Management Systems
- Image Processing
- Microcomputer Systems
- Software Engineering Testing
- Web Programming
- Object-Oriented Analysis and Design
New: BA in Computer Science

- New Fall 2001
- First two years of CS curriculum same as BS program
- More opportunity for electives
- Easier to minor in other disciplines
- Less stringent Math/Science requirements
Current Sponsored Research

- Software Maintenance Tools (NIST)
- Feedback Compiler Design (NSF)
- Gene Identification Tools (NSF)
- Image Processing (NASA/Goddard)
- International Technology Research Institute
  - multiple projects sponsored by DARPA, ONR, NIST, NASA, DOD, NSF
- Hauber Program
  - Loyola College sponsored Faculty/Student research projects
Student Projects
Student Projects

- JAVA Class Viewer
- Java-based interface to parallel image registration
- Web-based database for Academic Senate committee assignments
- Web-based repository of children’s games
- Computer curriculum development for Beans and Bread
- NIST algorithm for smart text-based retrieval
- Graphical modeling of biologically accurate butterflies
- ISOLite
  - ISO 9000-3 S/W standards automated tool
- Automated DNA primer/probe finding
- Multi-genome comparison tools
Occupations of Math, Computer Science, Physical Science College Graduates

- Computer scientists: 42%
- Educators: 12%
- Administrative support: 12%
- Mathematicians: 6%
- Business and managers: 6%
- Service Personnel: 3%
- Engineers: 5%
- Biologists, Operators, Laborers: 3%
- Biological scientists: 3%
- Technicians: 4%
- Sales Personnel: 4%
- Managers and administrators: 5%

Source: Occupational Outlook Quarterly, Summer, 1994
2001 Average Starting Salaries (Bachelor’s degree)

National Association of Colleges and Employers
Computer Software Engineers, Computer Support Specialists, and Network and Computer System Administrators are the TOP THREE FASTEST GROWING jobs through 2010!
Career Prospects

Recent graduates have gone to work for:

- NASA
- NIST
- IBM
- HCIA
- UPS
- USF&G
- Northrup/Grumman
- Computer Sciences Corp
- Bank of America
- RCA
- Bendix
- Lockheed Martin
- Hewlett-Packard
- Northrup/Grumman