Software Engineering Education Directory

Edited by
Bill McSteen and Mark Schmick
February 1989
Foreword

Each spring, the SEI Education Program publishes the *SEI Software Engineering Education Directory*, which summarizes undergraduate and graduate courses in software engineering taught at United States and Canadian colleges and universities. This annual survey, the only one of its kind, serves as a directory for potential students seeking information about where they might study software engineering. The survey is useful to industry and government recruiters in evaluating the background of job candidates.

The teamwork and energy of Allison Brunvand, Albert Johnson, Bill McSteen, Jack Poller, Mark Schmick, and Barbara Zayas were, in large part, responsible for the successful completion of this edition. Gary Ford, Senior Computer Scientist, spent much time editing entries into final form. The Information Management staff of the SEI were helpful in developing its attractive layout. We extend our thanks to them and all others who aided this effort.

Norman E. Gibbs
Director of Education
Software Engineering Institute
Software Engineering Education Directory

Abstract: This directory provides information about software engineering courses and software engineering degree programs that are available in the United States and Canada.

Introduction

The Software Engineering Institute (SEI) is a federally funded research and development center, sponsored by the Department of Defense and operated by Carnegie Mellon University. The mission of the SEI is to serve the public interest by establishing the standard of excellence for the art and practice of software engineering and by accelerating the transition of software technology.

This directory has been compiled to provide information that will help students and their advisors make appropriate educational choices. It contains a detailed listing of available software engineering courses and software engineering degree programs.

In future editions of this directory, we plan to provide indices and cross tabulations showing a profile of ongoing software engineering education efforts. To discuss any issues related to this report, please contact:

Mark Schmick
Software Engineering Institute
Carnegie Mellon University
Pittsburgh, PA 15213
ARPANET: mes@sei.cmu.edu
Directory Guide

Compilation of Entries
Compilation of entries for this directory began in the summer of 1986 with a questionnaire mailed to schools selected from Peterson’s Graduate Programs in Engineering and Applied Sciences 1986. We contacted schools offering graduate degrees in computer engineering, computer science, information science, software engineering, and systems engineering because they seemed most likely to offer courses involving software engineering concepts.

Of the 456 original questionnaires mailed, more than 33% were returned. A random telephone survey of people who did not return questionnaires for their universities revealed that none offered courses related to software engineering. We also included information from other reliable sources. Thus we feel that the directory is reasonably complete, although not exhaustive.

This year, we updated course entries by contacting all who gave us information last year. We sent each a revised questionnaire, including guidelines for responses. Most people responded to our update request.

We have edited the directory entries for accuracy, completeness, and relevance to software engineering. We are limited in our ability to edit responses, however, and might have included courses in the listings that do not seem to be closely related to software engineering study. However, all such courses were cited as part of a software engineering sequence in the responses that we received. In addition, please be aware that some “Textbook” entries actually contain articles, reports, or other published papers. In such cases, the papers shown are consistently used and considered to be required course reading.

Some of the entries in this edition of the directory have not been updated since the first edition. We plan to drop them from the next edition.

Changes in the Directory
Changes we adopted this year include:

- More stringent standards for courses to be included in the directory. Courses in data structures, computer science fundamentals, programming, database management, hardware, simulation, and similar topics are included only if they are directly related (say, as co-requisites) to a sequence of software engineering courses.
- More information in each entry. We added an "Additional Information" field for remarks explaining information in directory entries.
- Better overall organization. We added a table of contents, and organized the directory by state and country.

How to Use this Directory
The directory is organized by state and province. Within each section, the directory entries are alphabetized by institution name. Each entry lists the following:

- Degrees. These are the degree programs that have software engineering courses as electives or requirements.
- Contact. This is the person you may contact for more information about the software engineering courses offered at the institution.
- Update. The month and year that a directory entry was last updated appear here.
- **Courses.** Software engineering and related (co-requisite, laboratory, or advanced elective) courses are listed under this title. Each Course has four self-explanatory subtitles, Textbooks, Compilers, Computers, and Languages.

**Notation in abbreviations**

Each degree entry has one or two parts. The first part is the degree and the second part, if present, is the subject. For example, BSC, BS EE, MSE, MA CE means Bachelor of Computer Science, Bachelor of Science in Electrical Engineering, Master of Software Engineering, and Master of Arts in Computer Engineering. The abbreviations used appear on the following page.
<table>
<thead>
<tr>
<th>Degrees</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAS</td>
<td>Associate of Applied Science</td>
</tr>
<tr>
<td>AS</td>
<td>Associate of Science</td>
</tr>
<tr>
<td>BA</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>BBA</td>
<td>Bachelor of Business Administration</td>
</tr>
<tr>
<td>BC</td>
<td>Bachelor of Commerce</td>
</tr>
<tr>
<td>BCS</td>
<td>Bachelor of Computer Science</td>
</tr>
<tr>
<td>BE</td>
<td>Bachelor of Engineering</td>
</tr>
<tr>
<td>BED</td>
<td>Bachelor of Education</td>
</tr>
<tr>
<td>BEECS</td>
<td>Bachelor of Elec. Eng. and Comp. Sci.</td>
</tr>
<tr>
<td>BM</td>
<td>Bachelor of Mathematics</td>
</tr>
<tr>
<td>BS</td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>BSE</td>
<td>Bachelor in Science and Engineering</td>
</tr>
<tr>
<td>BSSE</td>
<td>Bachelor of Systems Science and Eng.</td>
</tr>
<tr>
<td>BO</td>
<td>Bachelor Degree (Other)</td>
</tr>
<tr>
<td></td>
<td>Master Degree</td>
</tr>
<tr>
<td>M</td>
<td>Master of Arts</td>
</tr>
<tr>
<td>MA</td>
<td>Master of Computer Science</td>
</tr>
<tr>
<td>MCS</td>
<td>Master of Engineering</td>
</tr>
<tr>
<td>ME</td>
<td>Master of Education</td>
</tr>
<tr>
<td>MED</td>
<td>Master of Engineering Management</td>
</tr>
<tr>
<td>MEM</td>
<td>Master of Mathematics</td>
</tr>
<tr>
<td>MM</td>
<td>Master of Science</td>
</tr>
<tr>
<td>MS</td>
<td>Master of Science</td>
</tr>
<tr>
<td>MSE</td>
<td>Master of Applied Science and Tech.</td>
</tr>
<tr>
<td>MSSM</td>
<td>Master of Software Design and Dev.</td>
</tr>
<tr>
<td>MO</td>
<td>Master of Software Engineering</td>
</tr>
<tr>
<td>DENG</td>
<td>Master of Systems Science and Math.</td>
</tr>
<tr>
<td>PHD</td>
<td>Master of Engineering Management</td>
</tr>
<tr>
<td>PHDAT</td>
<td>Master of Science</td>
</tr>
<tr>
<td>SCD</td>
<td>Master Degree (Other)</td>
</tr>
<tr>
<td>O</td>
<td>Other</td>
</tr>
</tbody>
</table>
A complete **Courses** entry has six fields on the first line, arranged in order of course name, course number, level, prerequisite, status, and frequency. The codes as used in the corresponding fields are:

**Level:**
- U Undergraduate
- G Graduate
- B Both
- O Other
- X No information supplied

**Prerequisite:**
- P The course has at least one prerequisite
- N None
- X No information supplied

**Status:**
- R Required
- E Elective
- B Both
- O Other
- X No information supplied

**Frequency:**
- B Biennial
- Y Once a year
- T Once a term
- A Alternate terms
- D On demand
- O Other
- X No information supplied

Most **Courses** entries also have fields describing the textbooks, compilers, computers, and languages used. Here are examples:

**Introduction to Software Engineering with Ada** MATH 555 G N R T 5
- **Textbooks:** *Ada Primer*
  by SofTech, Inc.
*Reference Manual for the Ada Programming Language*
ANSI/MIL-STD-1815A
*Software Components with Ada: Structures, Tools, and Subsystems*
by Booch, Grady
*Software Engineering with Ada*
by Booch, Grady
- **Compilers:** Verdix Ada
- **Computers:** VAX 11/785 UNIX
- **Languages:** Ada

**Software Project Management and Development I** CSC 460 U P E T 8
- **Textbooks:** *Software Engineering: A Practitioner’s Approach*
  by Pressman, Roger S.
- **Compilers:** Pascal
- **Computers:** VAX (VMS or UNIX)
- **Languages:** Pascal
1. United States

1.1. Alabama

Auburn University College of Engineering
Department of Computer Science and Engineering
Auburn University, AL, 36849, United States

Degrees: BS, MS, PHD

Contact: Dr. Cross, James H.
Assistant Professor
(205) 826-4330

Update: September 1988

Courses: Introduction to Software Engineering CSE 422
Textbooks: Software Engineering: A Practitioner's Approach
by Pressman, Roger S.
Computers: IBM PC
TI Pro
Languages: Excelerator (InTech)

Software Engineering I CSE 522
Textbooks: Software Engineering: A Practitioner's Approach
by Pressman, Roger S.
Computers: VAX
Languages: Pascal

Software Engineering II CSE 622
by Teledyne Brown Engineering
Compilers: IORL
Computers: Apollo
Languages: IORL

University of Alabama at Birmingham School of Natural Sciences and Mathematics
Department of Computer and Information Sciences
Birmingham, AL, 35294, United States

Degrees: BS, MS, PHD

Contact: Dr. Jones, Warren T.
Chairman
(205) 934-2213

Update: February 1988

Courses: Formal Specifications and Software Development CS 520
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
Computers:  Sequent Balance 21000  
            VAX 11/750  
Languages:  Ada  
            Modula-2  

Additional Information:  
Some software engineering content or purpose in other courses, especially:  
CS 522 Formal Semantics of Programming Languages (Pagan, F., Formal  
Specifications of Programming Languages, Prentice-Hall, 1981)  
CS 526 Program Verification (Manna, Z., Mathematical Theory of Computation)  
CS 531 Computer Design (Hwang, K. and Briggs, F.A., Computer Architecture and  
Parallel Processing)  
CS 535 Computer Communications Network (Schwartz, M., Computer Communication  
Network Design and Analysis)  
CS 538 Performance Evaluation (Kobayashi, H., Modeling and Analysis)  
All of these courses are electives.

University of Alabama at Huntsville  School of Mathematics and Natural  
Sciences  
Computer Science Department  
Huntsville, AL, 35899, United States  

Degrees:  MS, PHD  

Contact:  Dr. Shiva, S. G.  
Chairman  
(215) 895-6088  

Update:  None  

Courses:  Software Engineering  
Textbooks:  Software Engineering  
by Jensen, Randall W. and Tonies, Charles C.  

Advanced Software Engineering  
Textbooks:  Software Engineering: Design, Reliability, and Management  
by Shooman, Martin L.
1.2. Alaska

University of Alaska-Fairbanks College of Liberal Arts
Department of Mathematical Sciences
Program in Computer Science
Fairbanks, AK, 99775-1110, United States

Degrees: BS CS

Contact: Prof. Gatterdam, R. W.
Professor of Computer Science
(907) 474-6174

Update: September 1988

Courses: Software Engineering CS 401 U N E Y 6
Textbooks: Software Engineering: the Production of Quality Software
by Pfleeger, Shari Lawrence
Compilers: varies
Computers: varies
Languages: varies
1.3. Arizona

Arizona State University College of Engineering and Applied Science
Department of Computer Science
Tempe, AZ, 85287, United States

Degrees: BS, MS, PHD

Contact: Dr. Collofello, James S.
Associate Professor
(602) 965-3733

Update: November 1987

Courses: Software Project Management and Development I CSC 460 U P E T 9
Textbooks: Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.
Compilers: Pascal
Computers: VAX (VMS or UNIX)
Languages: Pascal

Software Project Management and Development II CSC 560 G P E T 6
Textbooks: Selected readings
by various authors
Compilers: Pascal
Computers: VAX (VMS or UNIX)
Languages: Pascal

Software Requirements CSC 563 G P E Y 6
Textbooks: Selected readings
by various authors
Compilers: Pascal
Computers: VAX (VMS or UNIX)
Languages: Pascal

Software Design CSC 564 G P E Y 6
Textbooks: Selected readings
by various authors
Compilers: Pascal
Computers: VAX (VMS or UNIX)
Languages: Pascal

Software Testing CSC 565 G P E Y 6
Textbooks: Selected readings
by various authors
Compilers: Pascal
Computers: VAX (VMS or UNIX)
Languages: Pascal

Software Maintenance CSC 566 G P E Y 6
Textbooks: Selected readings
by various authors
Compilers: Pascal
Computers: VAX (VMS or UNIX)
Languages: Pascal

Special Topics in Software Engineering CSC 590 G P E D 6
Textbooks: Selected readings
by various authors
Compilers: Pascal
Computers: VAX (VMS or UNIX)
Languages: Pascal

Additional Information:
Textbooks for Special Topics in Software Engineering depend on topic. Topics used before are "Software Metrics" and "Software Environments."

University of Arizona College of Arts and Sciences
Department of Computer Science
Tucson, AZ, 85721, United States

Degrees: MS CS, PHD CS
Contact: Prof. Andrews, Gregory R.
Acting Department Head
(602) 621-6613

Update: September 1988

Courses: Software Tools Computer Science 430 G P R T 13
Textbooks: The C Programming Language, 2nd ed.
by Kernighan, Brian and Ritchie, Dennis
The Elements of Programming Style
by Kernighan, Brian and Plauger, P.J.
The UNIX Programming Environment
by Kernighan, Brian and Pike, Rob
Compilers: C
Computers: VAX running Berkeley UNIX
Languages: C

Advanced Topics in Software Systems Computer Science 630 G P E D 13
Compilers: C
Computers: VAX running Berkeley UNIX
Languages: C
1.4. Arkansas

University of Arkansas Fulbright College of Arts and Sciences
Department of Computer Science
Program in Computer Science
Fayetteville, AR, 72701, United States

Degrees: BS, MS

Contact: Prof. Starling, Greg
Chairman
(501) 575-6427

Update: August 1987

Courses: Software Design and Development CSAS 4833 U N E Y 3
Textbooks: Software Design Strategies
by Bergland, Glenn D. and Gordon, Ronald D.
Compilers: FORTRAN
PL/I
Pascal
Computers: IBM VM/CMS
PC MS DOS
Languages: FORTRAN
PL/I
Pascal

Software Development CSAS 4003 U P E D 3
Compilers: PL/I
Pascal
Computers: IBM 4381
Languages: PL/I
Pascal

Structured Programming II CSAS 1003 U P R Y 3
Compilers: Pascal
Computers: IBM 4381
Languages: Pascal
1.5. California

California Institute of Technology
Division of Engineering and Applied Science
Department of Computer Science
Pasadena, CA, 91125, United States

Degrees: MS CS, PHD CS

Contact: Prof. Seitz, Charles L.
Professor of Computer Science
(818) 356-6569

Update: November 1987

Courses: Systematic Programming CS 137 B P E Y 11
Textbooks: The Science of Programming
by Gries, David

Concurrency in Computation CS 139 ab B P E O 11
Computers: Message-passing concurrent computers
Unix systems
Languages: C

Additional Information:
Concurrency in Computation is offered in the Winter and Spring quarters annually.
Numerous related courses on: Functional Programming, Computer Algorithms,
Computer Modeling and Data Analysis, Computer Graphics, Design and Implementation of Programming Languages, Simulation, Computer-Aided Design

California Polytechnic State University
School of Engineering
Department of Computer Science
San Luis Obispo, CA, 93407, United States

Degrees: BS CS, MS CS

Contact: Prof. Beug, Jim
Professor
(805) 546-2824

Update: May 1987

Courses: Software Engineering I CSC 440 U P R O 9
Textbooks: Software Engineering: A Practitioner's Approach
by Pressman, Roger S.

Software Engineering II CSC 441 U P R O 1
Textbooks: Software Engineering: A Practitioner's Approach
by Pressman, Roger S.
Computers: Mac II
Xerox 8010
Languages: Mesa
Modula-2

Software Tools CSC 340 U P E O 5
Computers: Pyramid UNIX
Languages: C
Mesa

Additional Information:
Software Engineering I, Software Engineering II, and Software Tools are offered quarterly.

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**California State Polytechnic University, Pomona**
School of Science
Department of Computer Science
Pomona, CA, 91768-4034, United States

Degrees: B CS, M CS

Contact: Dr. Hillam, Bruce P.
Chairman
(714) 869-3440

Update: October 1988

Courses:
- **Advanced Programming** CS 340 U P R T 2
  - Textbooks: *Software Development in Pascal*
    - by Sahni, Sartaj
  - Compilers: Pascal
  - Computers: IBM PC/XT
  - Languages: Pascal

- **Software Engineering** CS 360 U P E O 2
  - Textbooks: *Software Engineering with Ada*
    - by Booch, Grady
  - Compilers: Irvine Compiler Corporation, Ada
  - Computers: Integrated Solution workstation
  - Languages: Ada

Additional Information:
Software Engineering is offered twice a year. Local industry has expressed interest in course being offered in closed circuit television.

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**California State University, Chico**
College of Engineering, Computer Science and Technology
Department of Computer Science
Chico, CA, 95929, United States

Degrees: BS, MS

Contact: Dr. Madrigal, Orlando S.
Professor and Chairman
(916) 895-6442

Update: November 1987

Courses:
- **Software Engineering** CSCI 210 U P E T 3
  - Textbooks: *Software Engineering Concepts*
    - by Fairley, Richard E.
    - *The Mythical Man-Month: Essays on Software Engineering*
      - by Brooks, Frederick Phillips

- **Systems Design** CSCI 270 U P R T 11
  - Textbooks: *Systems Analysis and Design: Traditional and Advanced Concepts and Techniques*
by Wetherbe, James C.

**System Design Theory** CSCI 370 G P E Y 11
Textbooks: *Controlling Software Projects: Management Measurement and Estimation*
by DeMarco, Tom
*IEEE Tutorial: Software Management*
by Reifer, Donald

**Advanced Software Practices** CSCI 251 U N E T 11
Textbooks: *Programming in Ada*
by Barnes, John Gilbert Presslie
Compilers: Ada
Computers: IBM AT
Primes 9600
Languages: Ada

**Software Metrics and Control** CSCI 310 G P E O 3

**Software Design** CSCI 311 G P E O 3
Textbooks: *A Technique for Software Module Specification with Examples*
by Parnas, D.L.
*Chief Programmer Team Management of Production Programming*
by Baker, F.T.
*Concise Notes on Software Engineering*
by DeMarco, Tom
*Data Design in Structured Systems Analysis*
by Gane, C.P.
*Fundamentals of Design*
by Freeman, Peter
*Go To Statement Considered Harmful*
by Dijkstra, E.
*Programming Considered as a Human Activity*
by Dijkstra, E.
*The Humble Programmer*
by Dijkstra, E.
*The Mythical Man-Month: Essays on Software Engineering*
by Brooks, Frederick Phillips

**Software Analysis and Testing** CSCI 312 G P E O 11

**Additional Information:**
Software Metrics and Control, Software Design, and Software Analysis and Testing are offered Fall and Spring semesters.

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**California State University, Northridge** School of Engineering and Computer Science
Department of Computer Science
Northridge, CA, 91330, United States

**Degrees:** BS, MS

**Contact:** Gamon, Sally
Secretary
(818) 885-3398

**Update:** May 1987

**Courses:** **Program Design Techniques** CS 380 U P R T 9
Textbooks: *Software Design and Development*
by Gilbert, Philip
Structured Analysis and System Specification
by DeMarco, Tom

Compilers: Pascal (Turbo, PR1ME)
Computers: AT&T 3B5
            CDC Cyber 170/750
            DEC PDP 11/44
            IBM XT
            Prime
Languages: Pascal

Software System Development and Laboratory CS 480 UP ET 11
Textbooks: Software Design and Development
by Gilbert, Philip
Compilers: Pascal (Turbo)
Computers: AT&T 3B5
            CDC Cyber 170/750
            DEC PDP 11/44
            IBM XT
            Prime
Languages: Pascal

Software Engineering CS 580 GNRY 1
Textbooks: Software Engineering: Design, Reliability, and Management
by Shooman, Martin L.
Compilers: Pascal
Computers: AT&T 3B5
            CDC Cyber 170/750
            DEC PDP 11/44
            IBM XT
            Prime
Languages: Analyst Toolkit (Yourdon)
            Design Aid (Nastec)
            Excelerator (Intech)
            Pro Mod

Software Engineering Economics CS 494 SEE BP EY 4
Textbooks: Software Engineering Economics
by Boehm, Barry W.

Software Engineering with Ada CS 496 ADA BP EY 3
Textbooks: Software Engineering with Ada
by Booch, Grady
Compilers: Meridian
            NYU-Ada/Ed-C
            VAX Ada
            Verdix Ada
Languages: Ada

Additional Information:
Four Computer-Aided Software Engineering (CASE) tools are used in the School
Computer Lab.

California State University, Sacramento School of Engineering and Computer
Science
Department of Computer Science
Concentration in Software Engineering
Sacramento, CA, 95819, United States

Degrees: BS CS, MS CS
Contact: Dr. Thayer, Richard H.
Professor in Computer Science
(916) 278-6834

Update: September 1988

Courses:

Computer Software Engineering CSC 131 U P R T 5
Textbooks: Software Engineering with Systems Analysis and Design
by Steward, Donald V.
Computers: IBM PCs
Languages: CASE tools

Computer System Analysis CSC 170 U P E T 13
Textbooks: Introduction to System Analysis and Design: A Structured Design
by Kendall, Penny A.
Computers: IBM PCs
Languages: CASE tools

Software Engineering Project Management CSC 171 U P E Y 11
Textbooks: Project Management: A Managerial Approach
by Meredith, Jack R. and Mantel, Samuel J., Jr.
The Mythical Man-Month: Essays on Software Engineering
by Brooks, Frederick Phillips

Documentation Design CSC 178 U N E Y 4
Textbooks: Writing Handbook for Computer Professionals
by Skees, William D.
Computers: IBM PCs
Languages: Word processors

Senior Project: Part I CSC 190 U P R T 17
Textbooks: Guide for Senior Project Documents
by Thayer, Richard H.

Senior Project: Part II CSC 191 U P R T 7
Textbooks: Guide for Senior Project Documents
by Thayer, Richard H.

Software Testing and Quality Assurance CSC 196D U P E Y 2
Textbooks: Software Testing and Quality Assurance
by Beizer, Boris

Foundation of Software Engineering CSC 203 G N R Y 5
Textbooks: Software Engineering: A Practitioner’s Approach, 2nd ed.
by Pressman, Roger S.

Software Requirement Analysis and Design CSC 210 G P E Y 11
Textbooks: An Integrated Approach to Software Development
by Abbott, J.R.
Computers: IBM PCs
Languages: CASE tools

Software Engineering Economics CSC 231 G P E Y 15
Textbooks: Software Engineering Economics
by Boehm, Barry W.
Computers: IBM PCs
Languages: WICOMO or other PC based, cost analysis tool

Advanced Computer System Analysis CSC 240 G P E Y 11
Textbooks: Structured Development for Real-Time Systems
by Ward, P.T. and Mellor, S.J.

Introduction to System Engineering Engr 130 U P E Y 3
Textbooks:  *Systems Engineering: Methodology and Applications*
by Sage, Andrew P. (ed.)

**Additional Information:**
Software Engineering Project Management is offered once every one or one and one-half years. Software Requirement Analysis and Design, Software Engineering Economics, and Advanced Computer System Analysis are offered once every three semesters. Foundation of Software Engineering is required for a MS in Computer Science if student does not have undergraduate foundation in software engineering.

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**National University**  School of Engineering and Computer Sciences

Master of Science in Software Engineering
San Diego, CA, 92108, United States

**Degrees:**  MS SE

**Contact:**  Prof. Sibley, Peter H. R.
Dean, School of Eng. and Comp. Sciences
(619) 563-7123

**Update:**  June 1987

**Courses:**

**Principles of Software Engineering** CS 620 G N R T 3
Textbooks:  *CMS Primer Release 3*
by IBM
*Information System Specification and Design Road Map*
by Connor, D.

Compilers:  TeleSoft Ada
Computers:  IBM 4381 with VM/CMS
Languages:  Ada
CMS

**Advanced Software Engineering** CS 622 G P R T 3
Textbooks:  *Software Engineering with Ada*
by Booch, Grady

Compilers:  TeleSoft Ada
Computers:  IBM 4381 with VM/CMS
Languages:  Ada
CMS

**Verification and Validation Techniques** CS 626 G P R T 3
Textbooks:  *Software Verification and Validation: Realistic Project Approaches*
by Deutsch, M.S.

Compilers:  TeleSoft Ada
Computers:  IBM 4381 with VM/CMS
Languages:  Ada
CMS

**Software Engineering Project I** CS 627a G P R T 3
Textbooks:  *Information System Specification and Design Road Map*
by Connor, D.

Compilers:  TeleSoft Ada
Computers:  IBM 4381 with VM/CMS
Languages:  Ada
CMS

**Software Engineering Project II** CS 627b G P R T 3
Textbooks:  *Information System Specification and Design Road Map*
by Connor, D.  
Compilers: TeleSoft Ada  
Computers: IBM 4381 with VM/CMS  
Languages: Ada, CMS

Software Engineering Project III  
CS 627c G P R T 3  
Textbooks: Information System Specification and Design Road Map  
by Connor, D.  
Compilers: TeleSoft Ada  
Computers: IBM 4381 with VM/CMS  
Languages: Ada, CMS

Additional Information:  
This program is offered at all of the National University campuses. Dial-up facilities are offered on all campuses so that a student with a computer and a modem can work on the IBM mainframe at home. All classes are offered in a one class per month format, meeting for a total of forty-eight contact hours in a four week period. The last three classes (CS 627a, CS 627b, and CS 627c) are a capstone senior project class where a major software package is designed and implemented using all of the software engineering techniques taught in the curriculum. Software engineering techniques are stressed throughout the Bachelor of Science in Computer Science degree program.

Northrop University  
Department of Computer and Information Science  
Program - BS with specialization in SE  
Los Angeles, CA, 90069, United States  

Degrees:  
BS CS, MS CS, MS IS  

Contact:  
Dr. Assad,  
Head of Department, Chairman  
(213) 641-3470  

Update:  
September 1988  

Courses:  
Software Engineering I  
CS-471 U P E O 3  
Textbooks: Software Engineering: the Production of Quality Software  
by Pfleeger, Shari Lawrence  

Software Engineering II  
CS-476 U P E Y 1  

Advanced Software Design  
CS-475 U P E Y 3  
Textbooks: Structured Systems Analysis: Tools and Techniques  
by Gane, Chris and Sarson, Trish  
Compilers: Turbo C  
Turbo Pascal  
XDB Excelerator CASE tools  
Computers: IBM PC  
Languages: C  
FORTRAN  
Gane/Sarson PDLs  
Pascal  
SQL
San Jose State University  School of Science
Department of Mathematics and Computer Science
Programs in Computer Science and Mathematics
San Jose, CA, 95192, United States

Degrees:  BA, BS, MA, MS
Contact:  Prof. Phillips, Veril L.
Chairman
(408) 924-5100

Update:  October 1988

Courses:  Graduate Seminar in Computer Science Math 295 G P R T 8
Computers:  Various
Languages:  Assembly (various)
C
Pascal
possibly others (individual projects)

Additional Information:
Graduate Seminar in Computer Science is essentially a software project
requirement, usually emphasizing software engineering principles.

Stanford University  School of Engineering
Department of Computer Science
Stanford, CA, 94305, United States

Degrees:  BS CS, BS CSE, MS, MS AI, PHD
Contact:  Jones, Roy
(415) 723-6092

Update:  January 1989

Courses:  Object-Oriented Design with Ada CS149 B P E Y 1
Textbooks:  Software Engineering with Ada
by Booch, Grady
Computers:  VAX 8650

Software Engineering Laboratory CS247 B P E Y 1
Computers:  Microcomputer (varies)

The Claremont Graduate School  Department of Information Science
Claremont, CA, 91711, United States

Degrees:  MS CIS, MS MIS, PHD
Contact:  Prof. Gray, Paul
Chair
(714) 621-8209

Update:  September 1988

Courses:  Information Systems-Analysis and Design IS 305 G N R Y 5
Textbooks:  Structured Analysis Methods for Computer Information Systems
by Teague, Lavette C. and Pidgeon, Christopher
Using Excelerator for Systems Analysis
by Whitten, Jeffrey L. and Bentley, Lonnie D.

Computers: IBM PC/AT
Languages: Design/1, Excelerator

Systems Planning IS 328 G P R Y 5
Textbooks: Readings in Systems Planning (IS 328)
            by Olfman, Lorne
            The Practical Guide to Structured Systems Design
            by Page-Jones, Mellir

Computers: IBM PC/AT
Languages: Action Diagrammer, Design/1, Excelerator, Rbase for DOS

Large Scale Software Development IS 362 G N R Y 4
Textbooks: Concise Notes on Software Engineering
            by DeMarco, Tom

Computers: IBM PC/AT, IBM System 38, MacIntosh
Languages: Rbase for DOS

Additional Information:
We follow the Communications of the ACM, November 1982 program for MS degrees in information systems.

University of California, Berkeley
College of Engineering
Department of Electrical Engineering and Computer Science
Program in Computer Science
Berkeley, CA, 94720, United States

Degrees: BEECS, MS, ME, PHD, DENG

Contact: Mrs. Webster, Betty
        CS Scheduling Assistant
        (415) 643-6130

Update: None

Additional Information:
Introduction to Computer Science is offered in the Fall and Spring. Data Structures and Advanced Programming is offered in the Fall, Spring, and Summer.

University of California, Irvine
Department of Information and Computer Science
Program in Computer Science
Irvine, CA, 92717, United States

Degrees: BS, MS, PHD

Contact: Prof. Leveson, Nancy
        Associate Professor
        (714) 856-7403

Update: July 1987
Courses: Project in System Design ICS 195 U N O T 1
Textbooks: Software Engineering Concepts by Fairley, Richard E.
Computers: Sun Unix
VAX Unix

Software Engineering A 245A G N X Y 1
Textbooks: Software Engineering Concepts by Fairley, Richard E.
Computers: Sun Unix
VAX Unix

Software Engineering B 245B G N X Y 1
Textbooks: IEEE Tutorial: Software Testing and Validation Techniques by Miller, Edward and Howden, William E.

Additional Information:
Project in System Design is an option to fulfill project requirement for B.S.

University of Southern California (Entry 1) School of Engineering
Department of Industrial and Systems Engineering
Program in Human Factors
Los Angeles, CA, 90089, United States

Degrees: MS ISE, PHD ISE
Contact: Dr. Chignell, Mark H.
Assistant Professor
(213) 743-2705

Update: October 1988

Courses: Intelligent Interfaces ISE 578 G P E Y 4
Textbooks: Expert Systems for Experts by Parsaye, K. and M. Chignell
Computers: IBM AT
Macintosh II
Languages: HyperCard / Hypertalk
Intelligence / Compiler

Additional Information:
Intelligent Interfaces focuses on the use of machine reasoning and graphics to improve the human interface. It also covers issues relating to the modularity and maintainability of complex software. It stresses a logic programming approach.

University of Southern California (Entry 2) School of Engineering
Computer Science Department
Los Angeles, CA, 90089, United States

Degrees: MS CS, PHD CS
Contact: Dr. Chignell, Mark H.
Assistant Professor
(213) 743-2705

Update: November 1988
Courses: **Introduction to Software Engineering** CS 201L U P R T 1
Textbooks: *C Programming in the Berkeley UNIX Environment* by Horspool, R.
   *The Practical Guide to Structured Systems Design* by Page-Jones, Meilir
Computers: SUN 3 Workstations

**Design and Construction of Large Software Systems** CS 477L U P E Y 1
Textbooks: *Software Engineering Concepts* by Fairley, Richard E.
   *The C Programming Language* by Kernighan, Brian and Richie, Dennis
   *Writing Efficient Programs* by Bentley, Jon Louis
Computers: SUN 3 Workstations

**Management of Computing: Theory and Practice** CS 510 G N E Y 1
Computers: SUN 3 and IBM RT Workstations

**Design and Construction of Large Software Systems** CS 577a G N E Y 1
Textbooks: *Software Engineering: A Practitioner’s Approach, 2nd ed.* by Pressman, Roger S.
   *Software Specification Techniques* by Gehani, N. and McGettrich, A.
   *The UNIX Programming Environment* by Kernighan, Brian and Pike, Rob
Computers: SUN 3 Workstations

**Design and Construction of Large Software Systems** CS 577b G P E Y 1
Textbooks: *Advanced UNIX Programming* by Rochkind, Mark J.
   *C, a Reference Manual* by Harbison, Samuel P. and Steele, Guy L.
   *C Programming in the Berkeley UNIX Environment* by Horspool, R.
   *The X Windows System* by Gettys, J. et al.
Computers: SUN 3 Workstations
1.6. Colorado

United States Air Force Academy
Department of Computer Science
Program in Computer Science
Colorado Springs, CO, 80840, United States

Degrees:  BS CS

Contact:  LtCol Richardson, William E.
Professor and Head
(719) 472-3592

Update:  September 1988

Courses:  Systems Analysis and Design I Comp Sci 453 U P R Y 7
Textbooks:  *Software Engineering: A Practitioner’s Approach*
by Pressman, Roger S.
*Structured Systems Analysis: Tools and Techniques*
by Gane, Chris and Sarson, Trish

Systems Analysis and Design II Comp Sci 454 U P R Y 7
Textbooks:  *The Practical Guide to Structured Systems Design*
by Page-Jones, Meilir

Fundamentals of Computer Science Comp Sci 225 U P R T 3
Textbooks:  *Advanced Programming and Problem Solving with Pascal*
by Schneider, G. Michael and Bruell, Steven C.
Compilers:  DG Pascal
Computers:  DG MV10000
Languages:  Pascal

Additional Information:
Approximately 1/4 of Fundamentals of Computer Science deals with software engineering.

University of Colorado at Colorado Springs  School of Engineering and Applied Science
Department of Computer Science
Colorado Springs, CO, 80933, United States

Degrees:  BS, MS

Contact:  Dr. Sebesta, Robert W.
Chair
(303) 593-3325

Update:  None

Courses:  Introduction to Software Engineering CS 330 U N R T 1
Textbooks:  *Software Engineering with Ada and Modula-2*
by Wiener, Richard, and Sincock, Richard
Computers:  MicroVAX

Systems Engineering Management CS 435/535 B N E A 1
Software Engineering Laboratory CS 436/536 B P E A 1
Software Specification and Requirements Analysis CS 531
Software Design CS 532
Software Testing CS 533
Software Maintenance CS 534
Topics and Readings in Software Engineering CS 630

Additional Information:
Software Engineering Laboratory with 7 MicroVAX computers, 2 VAX stations, 1 Sun and a Gould System.

University of Denver Faculty of Mathematical and Computer Sciences
Department of Mathematics and Computer Science
Program in Computer Science
Denver, CO, 80208, United States

Degrees: MS, PHD
Contact: Prof. Martin, Michael S.
Assistant Chairperson
(303) 871-3291

Update: September 1988

Courses: Software Engineering I, II, III COMP 4380, COMP 4381, COMP 4382
Compilers: C, Pascal
Computers: VAX 11/750
Languages: C, Pascal

Additional Information:
Software Engineering I is offered twice a year.
1.7. Connecticut

Central Connecticut State University School of Arts and Science
Department of Mathematics and Computer Science
Program in Computer Science
New Britain, CT, 06050, United States

Degrees: BS

Contact: Prof. Miller, George B.
Chairman, Math and Computer Science
(203) 827-7334

Update: November 1987

Courses:

**Introduction to Software Engineering** CS 410 U P E Y 5
Textbooks: *Software Engineering with MODULA-2 and Ada*
by Wiener, Richard S. and Sincovec, Richard F.
Computers: VAX 8600
Languages: Pascal

**Software Engineering II** CS 514 G P R Y 2
Languages: Pascal

**Computer System Software and Architecture I** CS 516 G P R Y 2
Languages: Pascal

**Computer System Software and Architecture II** CS 517 G P R Y 2
Languages: Pascal

**On Line, Real Time, and Time Sharing Systems** CS 257 G P E Y 2
Languages: Pascal

The Hartford Graduate Center School of Engineering and Science
Department of Computer and Information Science
Program in Computer and Information Science
Hartford, CT, 06120, United States

Degrees: MCS

Contact: Dr. Danchak, Michael
Dean, School of Engineering and Science
(203) 548-2450

Update: None

Courses:

**Software Engineering I** 35677 G P B T 1
Textbooks: *Software Engineering Concepts*
by Fairley, Richard E.
Computers: AT&T PC6300s
Apollo DOMAIN IX workstations (12)
Sun3 workstations (33)
UNIX VAX 11/750 BSD 4.3 with NFS

**Software Engineering II** 35678 G P E Y 1
Textbooks: *A Practical Handbook For Software Development*
by Birrell, N.D. and Ould, Martyn A.

Computers:
- AT&T PC6300s
- Apollo DOMAIN IX workstations (12)
- Sun3 workstations (33)
- Unix VAX 11/750 BSD 4.3 with NFS

**Software Project Management** 66696 G P E B 1

Textbooks:
- *IEEE Tutorial: Software Management* by Reifer, Donald
- *Software Engineering Economics* by Boehm, Barry W.
- *The Software Development Project: Planning and Management* by Bruce, Phillip and Pederson, Sam M.
1.8. District of Columbia

The George Washington University School of Engineering and Applied Science
Department of Electrical Engineering and Computer Science
Washington, DC, 20052, United States

Degrees: BS CS, MS CS, SCD

Contact: Foley, James
Chairman
(202) 994-6083

Update: None

Courses: System Software and Software Engineering C.Sci. 151 U P R O 1
Computers: ATT B03 IBM 4341

Additional Information:
System Software and Software Engineering is offered day and evening in the Fall.
1.9. Florida

Florida Atlantic University Division of Computer Science
Department of Computer Science
Boca Raton, FL, 33431-0991, United States

Degrees: BS, MS, MCS

Contact: Dr. Coulter, Neal S.
Chairman
(407) 393-3855

Update: September 1988

Courses: Software Engineering CIS 6610 G N R T 9
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
Compilers: Ada
C
Pascal
Computers: Harris 800
PCs
VAX 8800
Languages: Ada

Principles of Software Design CIS 4610 U P R O 2
Textbooks: Programming in Ada
by Barnes, J. G. P.
Software Engineering: A Programming Approach
by Bell, D., Morrey, I. and Pugh, J.
Compilers: DEC Ada
Computers: VAX 8800
Languages: Ada

Additional Information:
Software Engineering is offered 1-2 times per calendar year. Principles of
Software Design is offered 4-5 times per academic year.

Nova University Center for Computer Science
Graduate Department of Computer Science
Program in Computer Science
Ft. Lauderdale, FL, 33314, United States

Degrees: BS CS, MS CS, SCD CS

Contact: Dr. Simco, Edward R.
Director
(305) 475-7563

Update: September 1988

Courses: Software Engineering CIS 680 G N R Y 4
Textbooks: Software Engineering: A Practitioner's Approach
by Pressman, Roger S.
Compilers: Ada
C
Concurrent C
### Software Engineering Implementation CIS 682 G P E Y 4
**Textbooks:** *Software Engineering Metrics and Models*
by Conte, Samuel Daniel, Dunsmore, H.E., and Shen, V.Y.

**Compilers:** Ada
C
Concurrent C
Pascal

**Computers:** 3B2/500 (UNIX)
VAX 785 (VMS)
VAX 8550 (ULTRIX)

**Languages:** Ada
C
Concurrent C
Pascal

### Software Engineering CIS 770 G P R Y 2
**Textbooks:** *Software Reliability, Prediction, Application*
by Musa, J.

**Compilers:** Ada
C
Concurrent C
Pascal

**Computers:** 3B2/500 (UNIX)
VAX 785 (VMS)
VAX 8550 (ULTRIX)

**Languages:** Ada
C
Concurrent C
Pascal

### Software Engineering Project CIS 870 G P R Y 2
**Textbooks:** *Designing the User Interface*
by Shneiderman, Ben

**Compilers:** Ada
C
Concurrent C
Pascal

**Computers:** 3B2/500 (UNIX)
VAX 785 (VMS)
VAX 8550 (ULTRIX)

**Languages:** Ada
C
Concurrent C
Pascal

**Additional Information:**
Software Engineering is offered twice a year.
Degrees: BS E, MS, MS E, PHD
Contact: Dr. Linton, Darrell G.
Associate Professor of Engineering
(407) 275-2236
Update: September 1988

Courses: Software Engineering I ECM 5806 B P B Y 1
Textbooks: Ada: An Introduction
by Saib, S.
by ANSI/MIL-STD-1815A
Software Engineering Concepts
by Fairley, Richard E.
Computers: Gould 32/6780 (ISCS Ada translator)
IBM 4381 (Telesoft Ada compiler)
VAX 11/750 (Ada compiler)

Software Engineering II ECM 6807 G P E Y 1
Textbooks: Ada: An Introduction
by Saib, S.
by ANSI/MIL-STD-1815A
Software Engineering Concepts
by Fairley, Richard E.
Computers: Gould 32/6780 (ISCS Ada translator)
IBM 4381 (Telesoft Ada compiler)
VAX 11/750 (Ada compiler)

University of Central Florida (Entry 2) College of Arts and Sciences
Department of Computer Science
Orlando, FL, 32816, United States

Degrees: MS CS, PHD CS
Contact: Dr. Linton, Darrell G.
Associate Professor of Engineering
(407) 275-2236
Update: None

Courses: Software Engineering COP 5632 G N E X 1
Software Tools COP 5682 G P E X 1

Additional Information:
A student’s plan of study can be designated to emphasize any number of areas
within Computer Science. Some sample plans of study are Architecture Emphasis,
Operating Systems Emphasis, Artificial Intelligence Emphasis, Data Base
Management Emphasis, and Software Tools Emphasis. These do not include all
areas of emphasis, but show the flexibility of the Master of Science Program.

University of South Florida College of Engineering
Department of Computer Science and Engineering
Tampa, FL, 33620, United States
Degrees:  MS, PHD
Contact:  Dr. Varanasi, M. R.
         Graduate Program Coordinator
         (813) 974-3033
Update:  None
Courses:  Software Engineering I - Basic Principles and Formal Methods COP 6630 G N E B 1
         Software Engineering II - Tools and Applied Techniques COP 6634 G P E B 1
1.10. Idaho

University of Idaho College of Engineering  
Department of Computer Science  
Programs in Scientific Computing and Data Processing  
Moscow, ID, 83843, United States

Degrees: BS CS, MS CS

Contact: Dr. Dickinson, John  
Chairman  
(208) 885-6589

Update: October 1987

Courses:

**CS Design I** CS 480 U N R T 7
- Textbooks: *Software Engineering: A Practitioner’s Approach* by Pressman, Roger S.
- Computers: HP 9000  
  HP 9836  
  IBM 4381  
  IBM PC  
  VAX 11/780  
- Languages: COBOL  
  FORTRAN  
  Lisp  
  Pascal  
  dBase  
  rBase

**CS Design II** CS 481 U N R T 7
- Textbooks: *Software Engineering: A Practitioner’s Approach* by Pressman, Roger S.
- Computers: HP 9000  
  HP 9836  
  IBM 4381  
  IBM PC  
  VAX 11/780  
- Languages: COBOL  
  FORTRAN  
  Lisp  
  Pascal  
  dBase  
  rBase

**Software Engineering** CS 410/510 B N E Y 7
- Textbooks: *Software Engineering: A Practitioner’s Approach* by Pressman, Roger S.

**Model for Software Project Management (Software Metrics)** CS 511 G P E Y 4

**Software Quality Assurance and Testing** CS 404/504 B P E Y 2
- Textbooks: *Software System Testing and Quality Assurance* by Beizer, Boris
- Compilers: Turbo Pascal
- Computers: IBM PC
- Languages: Pascal
Additional Information:
CS Design I is an individual project with full documentation. CS Design II is a team project with full documentation. Software Engineering and Model for Software Project Management are available on videotape.
1.11. Illinois

Bradley University College of Liberal Arts and Sciences
Department of Computer Science
Program in Comp. Sci., Comp. Info. Sys. (undergraduate), Comp. Sci. (graduate)
Peoria, IL, 61625, United States

Degrees: BS, MS

Contact: Prof. Fendrich, John
Chairman
(309) 677-2460

Update: July 1987

Courses: Systems Analysis and Design (System Specification and Development) CS 403 U P E O 8
Textbooks: Structured Analysis and System Specification
by DeMarco, Tom
Computers: Personal computers
Languages: Text processing system
          Word processing system

Systems Analysis and Design (System Specification and Development) CS 608 G P E O 8
Textbooks: Structured Analysis and System Specification
by DeMarco, Tom
Computers: Personal computers
Languages: Text processing system
          Word processing system

Programming Methodology CS 503 B P E O 6
Textbooks: Discipline of Programming
by Dijkstra, Edsger Wybe
The Science of Programming
by Gries, David

Introduction to Software Engineering CS 406 U P E Y 2

Structured Programming Using C CS 221 U P E O 5
Textbooks: Efficient C
by Plum, Thomas and Brodie, Jim
Learning to Program in C
by Plum, Thomas
Reliable Data Structures in C
by Plum, Thomas
Compilers: C
Computers: AT&T 3B series
          VAX
Languages: C

Software Engineering I CS 615 G P E Y 5
Textbooks: Software Engineering Metrics and Models
by Conte, S.D., Dunsmore, H.E., and Shen, V.Y.
Compilers: SPSS
Computers: Cyber
Languages: SPSS

Software Engineering II CS 616 G P E Y 5
Textbooks: Handbook of Walkthroughs, Inspections, and Technical Reviews
DePaul University  School of Liberal Arts and Sciences  
Department of Computer Science and Information Systems  
Chicago, IL, 60604, United States 

Degrees:  BS, MS 

Contact:  Dr. Epp, Helmut P.  
Department Chairman  
(312) 341-8366 

Update:  May 1987 

Courses:  Software Projects 394 U P R O 6  
Compilers:  DEC  
Computers:  VAX 11/780  
Languages:  C 

Software Engineering 365 U P R O 3  
Textbooks:  Software Engineering  
by Sommerville, Ian  
Compilers:  TeleSoft  
Computers:  VAX 11/780  
Languages:  Ada  

Software Measurement and Quality 366 U P E Y 2  
Textbooks:  Software Engineering Metrics and Models  
by Conte, S.D., Dunsmore, H.E., and Shen, V.Y. 

Software Measurement and Quality 466 G P E Y 2  
Textbooks:  Software Engineering Metrics and Models  
by Conte, S.D., Dunsmore, H.E., and Shen, V.Y. 

Programming in Ada 230 U N E Y 3  
Textbooks:  Software Engineering with Ada  
by Booch, Grady  
Compilers:  TeleSoft  
Computers:  VAX 11/780  
Languages:  Ada 

Additional Information:  
Software Engineering is offered twice a year, and Software Projects is offered three times a year. 

Sangamon State University  School of Liberal Arts and Sciences  
Department of Mathematical Systems  
Springfield, IL, 62708, United States  

by Freedman, Daniel P. and Weinberg, Gerald M.  
Software Testing Techniques  
by Beizer, Boris
Degrees: BA CS, MS M

Contact: Prof. Lasby, Gary
Convener
(217) 786-6770

Update: None

Courses: Introduction to Software Engineering MSY 478 U P E Y 1
Software Engineering MSY 578 G P E Y 1

Additional Information: Concepts of software engineering as embodied in good programming styles are stressed in all our courses.

Southern Illinois University at Edwardsville School of Sciences
Department of Computer Science
Edwardsville, IL, 62026, United States

Degrees: BA, BS CS

Contact: Dr. Hattemer, J. R.
Chair
(618) 692-2386

Update: September 1988

Courses: Software Design and Development CS 424 B P E Y 5
Textbooks: Software Engineering: Planning for Change by Lamb, David

Topics in Software Engineering CS 524 G N E O 2
Compilers: Ada
Computers: MicroVAX 2
Languages: Ada

Additional Information: Topics in Software Engineering is offered occasionally.

University of Illinois at Chicago College of Engineering
Department of Electrical Engineering and Computer Science
Program in Software Engineering
Chicago, IL, 60680, United States

Degrees: BS EE, BS CSE, MS EE, MS CS, PHD EE, PHD CS

Contact: Dr. Chang, Carl K.
Assistant Professor
(312) 996-4860

Update: February 1989

Courses: Introduction to Software Engineering EECS 274 U P R O 8
Textbooks: Software Engineering by Sommerville, Ian
Compilers: Unix BSD 4.2 C
Computers: VAX 11/750
Advanced Topics in Software Engineering EECS 481 G P E Y 4
Textbooks:  *Software Engineering: Analysis and Verification*
by Lewis, T. G.
Compilers:  Unix BSD 4.2 C
Computers:  VAX 11/750

Software Engineering Environments EECS 482 G P E Y 5
Textbooks:  *IEEE Tutorial on Software Engineering Environments*
by unknown
*Software Engineering Environments*
by Hunke, H.
Compilers:  Unix BSD 4.2 C
Computers:  VAX 11/750

Additional Information:
Introduction to Software Engineering is offered twice a year.
Dr. Carl Chang is currently in charge of the Software Engineering Laboratory for this department.

University of Illinois at Urbana-Champaign
Department of Computer Science
Urbana, IL, 61801, United States

Degrees:  MS, MS TCS, MCS, PHD

Contact:  Dr. Kamin, Samuel N.
Associate Professor
(217) 333-6769

Update:  January 1989

Courses:  Operating Systems CS 323 B P E O 16
Textbooks:  *An Introduction to Operating Systems*
by Deitel, H.M.
Compilers:  Path Pascal
Computers:  IBM 9000
Languages:  Path Pascal

Software Engineering CS 327 B P E Y 6
Textbooks:  *Software Engineering: A Practitioner’s Approach*
by Pressman, Roger S.
*Software Engineering Concepts*
by Fairley, Richard E.
Compilers:  C
Lisp
Pascal
Computers:  IBM PC/RT

Additional Information:
Operating Systems is offered twice a year.
1.12. Indiana

**Ball State University** College of Sciences and Humanities  
Department of Computer Science  
Program in Computer Science  
Muncie, IN, 47306, United States

**Degrees:** BS, MA, MS

**Contact:** Prof. Brown, W. F.  
Professor  
(317) 285-8644

**Update:** May 1987

**Courses:**

- **Software Engineering I (Systems Analysis)** 497 U P R O 11  
  Textbooks:  
  - *Standards Manual for Software Engineering I*  
    by Brown, W.F. (ed.)  
  - *Structured Analysis and System Specification*  
    by DeMarco, Tom  
  - *Systems Analysis - Definition, Process, and Design*  
    by Sempervivo, Philip

  Compilers:  
  - C  
  - COBOL  
  - FORTRAN  
  - Pascal

  Computers:  
  - Dept VAX 785 (UNIX)  
  - VAX cluster (three 785, one 86500)

  Languages:  
  - C  
  - COBOL  
  - FORTRAN  
  - Pascal

- **Software Engineering II (Design and Development)** 498 U P R O 5  
  Textbooks:  
  - *Standards Manual for Software Engineering II*  
    by Brown, W.F. (ed.)  
  - *Structured Analysis and System Specification*  
    by DeMarco, Tom  
  - *Structured Design*  
    by Yourdon, Edward and Constantine, Larry L.

  Compilers:  
  - C  
  - COBOL  
  - FORTRAN  
  - Pascal

  Computers:  
  - Dept VAX 785 (UNIX)  
  - VAX cluster (three 785, one 86500)

  Languages:  
  - C  
  - COBOL  
  - FORTRAN  
  - Pascal

- **Principles of Software Engineering** 580 G N R Y 4  
  Textbooks:  
  - *Software Engineering Concepts*  
    by Fairley, Richard E.

  Compilers:  
  - Ada  
  - C

  Computers:  
  - Dept VAX 785 (UNIX)  
  - VAX cluster

  Languages:  
  - Ada  
  - C
Additional Information:
Software Engineering I (Systems Analysis) and Software Engineering II (Design and Development) are offered twice a year. We also offer a seminar about once a year or so on Ada. The book used is Software Engineering with Ada by Grady Booch. The software projects done in CS 497-498 are actual projects selected by the students and approved by the professor. We are presently developing two courses that will be offered in parallel with CS 497-498. One will be in technical writing to be taught by the Department of English. The other will be in team building to be given by the Department of Psychological Science.

Indiana University College of Arts and Sciences
Computer Science Department
Bloomington, IN, 47405, United States

Degrees: BA, BS, MS, PHD

Contact: Prof. Robertson, Edward L.
Professor
(812) 335-4954

Update: September 1988

Courses:

Information Systems I C445 B P O Y 7
Textbooks: An Introduction to Database Systems
by Date, Chris J.
Database System Concepts
by Korth, Henry F. and Silberschatz, Abraham
Software Engineering
by Sommerville, Ian
Tools and Techniques for Structured Systems Analysis and Design
by Davis, William S.

Computers: VAX (Ultrix)
Xerox Workstations

Languages: C
FORTRAN
Ingres
Modula-2
dBase III plus
rBase 5000

Information Systems II C446 B P O Y 7
Textbooks: An Introduction to Database Systems
by Date, Chris J.
Database System Concepts
by Korth, Henry F. and Silberschatz, Abraham
Software Engineering
by Sommerville, Ian
Tools and Techniques for Structured Systems Analysis and Design
by Davis, William S.

Computers: VAX (Ultrix)
Xerox Workstations

Languages: C
FORTRAN
Ingres
Modula-2
dBase III plus
rBase 5000

Software Engineering Management C607 G P E Y 5
Textbooks:

- Advanced Course on Software Engineering
  by Bauer, Friedrich Ludwig

- Concise Notes on Software Engineering
  by DeMarco, Tom

  by King, David

- In Search of Excellence: Lessons From America’s Best-Run Companies
  by Peters, Thomas and Waterman, Robert

- Managing a Programming Project
  by Metzger, Philip W.

- Software Configuration Management
  by Babich, Wayne A.

- Software Engineering
  by Sommerville, Ian

- Software Engineering: Design, Reliability, and Management
  by Shooman, Martin L.

- Software Engineering Concepts
  by Fairley, Richard E.

- Software Engineering Economics
  by Boehm, Barry W.

- Software Psychology: Human Factors in Computer and Information Systems
  by Shneiderman, Ben

- Software Reliability
  by Kopetz, H.

- The Mythical Man-Month: Essays on Software Engineering
  by Brooks, Frederick Phillips

- The Psychology of Computer Programming
  by Weinberg, G.M.

- Tools and Techniques for Structured Systems Analysis and Design
  by Davis, William S.

Software Engineering Management C608 G P E Y 5

Textbooks:

- Advanced Course on Software Engineering
  by Bauer, Friedrich Ludwig

- Concise Notes on Software Engineering
  by DeMarco, Tom

  by King, David

- In Search of Excellence: Lessons From America’s Best-Run Companies
  by Peters, Thomas and Waterman, Robert

- Managing a Programming Project
  by Metzger, Philip W.

- Software Configuration Management
  by Babich, Wayne A.

- Software Engineering
  by Sommerville, Ian

- Software Engineering: Design, Reliability, and Management
  by Shooman, Martin L.

- Software Engineering Concepts
  by Fairley, Richard E.

- Software Engineering Economics
  by Boehm, Barry W.

- Software Psychology: Human Factors in Computer and Information Systems
  by Shneiderman, Ben

- Software Reliability
  by Kopetz, H.

- The Mythical Man-Month: Essays on Software Engineering
  by Brooks, Frederick Phillips

- The Psychology of Computer Programming
  by Weinberg, G.M.

- Tools and Techniques for Structured Systems Analysis and Design
  by Davis, William S.
Additional Information:

Information Systems I and II are one of several choices for BA/BS. A "Professional Practice" course may satisfy BA/BS requirement with suitable individual project and paper.

Purdue University (Entry 1)

School of Science
Department of Computer Science
West Lafayette, IN, 47907, United States

Degrees: BS, MS, PhD

Contact: Dr. Dunsmore, H. E.
Associate Professor
(317) 494-1996

Update: None

Courses:

**Software Engineering** CS 404 U P E T 1
Textbooks: *Software Engineering*
by Sommerville, Ian
Computers: DEC VAX 11/780 (Unix OS)

**Software Metrics** CS 510 G P E Y 1
Textbooks: *Software Engineering Metrics and Models*
by Conte, S.D., Dunsmore, H.E., and Shen, V.Y.
Computers: DEC VAX 11/780 (Unix OS)

**Information Systems** CS 442 U P E T 1
by Davis, Gordon Bitter and Olson, Margrethe H.
Computers: DEC VAX 11/780 (Unix OS)

Purdue University (Entry 2)

School of Industrial Engineering
West Lafayette, IN, 47907, United States

Degrees: BS, MS, PHD

Contact: Prof. Leimkuhler, F. F.
Head
(317) 494-5444

Update: June 1987

Courses:

**Cognitive Engineering of Interactive Software** IE 559 G P E Y 4
Textbooks: *Human-Computer Dialogue Design*
by Ehrich, Roger W. and Williges, Robert C.
Computers: IBM PC/AT
Languages: FORTRAN

University of Evansville
School of Engineering and Computer Science
Department of Computing Science
Evansville, IN, 47714, United States
Degrees: BA, BS, MS CSED, MS MIS

Contact: Dr. Mitchell, William
Chairman
(812) 479-2650

Update: None

Courses: Software Engineering CS 325 U P R O 1

Software Engineering Project CS 494/495/497 U P R T 1

Software Engineering CS 521 G N B O 1
Textbooks: Software Engineering: Design, Reliability, and Management
by Shooman, Martin L.

Additional Information:
Software Engineering (Undergraduate) and Software Engineering (Graduate) are offered twice a year.
1.13. Iowa

Iowa State University  School of Sciences and Humanities
Department of Computer Science
Program in Computer Science
Ames, IA, 50011, United States

Degrees:  BS, MS, PHD

Contact:  Prof. Oldehoeft, Arthur E.
Chair
(515) 254-4377

Update:  October 1988

Courses:  Software Engineering CS 411 U N E O 6
Textbooks:  Software Engineering: Design, Reliability, and Management
by Shooman, Martin L.
Computers:  HP 9000 Model 350
Languages:  Ada

Software Engineering CS 512 G N E Y 3

Additional Information:
Software Engineering is offered twice a year.

University of Iowa  College of Liberal Arts
Department of Computer Science
Iowa City, IA, 52242, United States

Degrees:  BA, BS, MS, PHD

Contact:  Prof. Reddy, S.M.
Professor and Chairman
(319) 353-7379

Update:  November 1988

Courses:  Software Engineering 22c:115 G P E T 6
Textbooks:  Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.
Compilers:  Students’ choice
Computers:  Encore Multimax
IBM PC
Macintosh
Languages:  Students’ choice
1.14. Kansas

The Wichita State University  College of Liberal Arts and
Sciences
Department of Computer Science
Wichita, KS, 67208, United States

Degrees:  BA, BS, MS, MCS

Contact:  Dr. Tomayko, James E.
Director, Software Engineering
(316) 689-3156

Update:  October 1988

Courses:  Introduction to Software Engineering  CS 580 B P E T 8
Textbooks:  Software Engineering Concepts
by Fairley, Richard E.
The Mythical Man-Month: Essays on Software Engineering
by Brooks, Frederick Phillips
Compilers:  Ada
Pascal
Computers:  IBM 3031D
VAX 750
Languages:  Ada
Pascal

Ada and Software Engineering  CS 611 G P E Y 4
Textbooks:  Software Engineering with Ada
by Booch, Grady
Compilers:  ALSYS
Computers:  IBM at CLONE
Languages:  Ada

Applications Systems Analysis  CS 684 G P E B 7

Software Testing and Reliability  CS 882 G P R Y 7
Compilers:  Ada
Pascal
Computers:  VAX
Languages:  Ada
Pascal

Requirements Specification and Design  CS 881 G P R B 1
Textbooks:  Collection of papers
Computers:  VAX 8300

Topics in Software Engineering  CS 885 G P E Y 2
Textbooks:  Varies by topic
Compilers:  Varies by topic
Computers:  Varies by topic
Languages:  Varies by topic

Additional Information:
Software Engineering Program established in 1987. Requirements: CS 580,
8xx, 882, internship and practicum. Electives: 6 hours such as CS 611, 684,
and special topics. Special topics offered in 1987-88: Software Configuration
Management and Software Project Management.
1.15. Louisiana

Louisiana Tech University
Department of Computer Science
Ruston, LA, 71272, United States

Degrees: BS, MS

Contact: Prof. Schaar, Margaret
Assistant Professor
(318) 257-2298

Update: September 1988

Courses:

Structured Design CS 203 U P R O 2
Textbooks: Software Engineering: The Production of Quality Software
by Pfleeger, Shari Lawrence
Computers: IBM 4341
IBM PC network
Languages: PL/I

Software Methodology CS 460 U P E Y 5
Textbooks: Software Engineering
by Sommerville, Ian
Computers: IBM 4341
IBM PC network
Languages: Ada

System Design CS 540 G P E Y 4
Compilers: Ada
Computers: IBM PC network
Languages: Ada

Additional Information:
Structured Design is offered twice a year.
1.16. Maryland

University of Maryland Division of Computer, Mathematical, and Physical Sciences
Department of Computer Science
College Park, MD, 20742, United States

Degrees: BS, MS, PHD

Contact: Dr. Rombach, H. Dieter
Assistant Professor
(301) 454-2002

Update: September 1988

Courses: Software Design and Development CMSC 435 UNET 6
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
Compilers: Ada Verdix
Computers: IBM mainframe
VAX
Languages: Ada
C
Pascal

Software Design and Development in Ada CMSC 838 GPED 3
Textbooks: Programming in Ada
by Barnes, John Gilbert Presslie
Software Engineering with Ada
by Booch, Grady
Compilers: Verdix Ada
Computers: VAX 8600
Languages: Ada

A Quantitative Approach to Software Management and Engineering CMSC 735 GPE Y 2
Textbooks: IEEE Tutorial on Models and Metrics for Software Management and Engineering
by Basili, Victor R.
Software Engineering Metrics and Models
by Conte, S.D., Dunsmore, H.E., and Shen, V.Y.

Additional Information:
The department offers other software engineering related courses: Theory of Language Translation (CMSC 430), Theory of Programming Languages (CMSC 630), and a variety of software engineering related seminars.
1.17. Massachusetts

Boston University College of Engineering
Department of Electrical, Computer, and Systems Engineering
Programs in Systems Engineering, Computer Engineering, Electrical Engineering
Boston, MA, 02215, United States

Degrees: MS EE, MS CE, MS SYSE, PHD E

Contact: Dr. Brackett, John W.
Coordinator, Soft. Eng. Graduate Program
(617) 353-5898

Update: October 1988

Courses: Advanced Data Structures SC 504 B N B Y 1
Textbooks: To be selected
Compilers: DEC VAX Ada
Computers: Encore
Languages: Ada

Software System Design SC 511 U P R Y 4
Textbooks: Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.
Compilers: DEC VAX Ada
Computers: Encore
Languages: Ada

Applications of Formal Methods SC 517 G N R Y 1
Textbooks: Software Specification Techniques
by Gehani, Narain and McGettrick, Andrew D.
The Science of Programming
by Gries, David

Software Project Management SC 518 G P R Y 2
by Parikh, Girish and Zvegintzov, Nicholas
Software Engineering Economics
by Boehm, Barry W.

The Computer as a System Component SC 714 G P R Y 1
Textbooks: To be determined
Compilers: DEC VAX Ada
Computers: Encore
Languages: Ada

Software Engineering Project SC 912 G P R Y 4
Compilers: DEC VAX Ada
Computers: Encore
Languages: Ada predominately, but depends on project

Additional Information:
We also teach two courses, SC 465 and EK 215 that use the Ada programming
language to teach software engineering concepts.
All new courses (SC 504, SC 517, SC 518) were effective as of January 1988.
The master’s program in software engineering is MS SYSE with a Software
Engineering Option. It will be renamed Software Systems Engineering effective
1989.
The PHD with research specialization in Software Engineering is offered, but
the degree is officially called “PHD in Engineering.”
In Software Project Management (SC 518), we use Super project on IBM PC, VAX
Project Manager on VAX, and WICOMO (a cost estimation tool on IBM PC).

Massachusetts Institute of Technology School of Engineering
Department of Electrical Engineering and Computer Science
Program in Computer Science
Cambridge, MA, 02139, United States

Degrees: BS, MS, PHD
Contact: Prof. Corbato, F. J.
Associate Head for Comp. Sci. and Eng.
(617) 253-6001
Update: September 1988

Courses: Laboratory in Software Engineering 6.170 U P R T 1
Textbooks: Abstraction and Specification in Program Development
by Liskov, Barbara and Guttag, John
Compilers: CLU
Computers: DEC 20
Languages: CLU

Computer Language Engineering 6.035 U P O Y 6
Textbooks: Compilers, Principles, Techniques, and Tools
by Aho, Alfred V., Sethi, Ravi, and Ullman, Jeffrey D.
Compilers: CLU
Computers: DEC 20
Languages: CLU

Additional Information:
Students must take either Computer Language Engineering or an operating
systems course.

Northeastern University College of Computer Science
Boston, MA, 02115, United States

Degrees: BS, MS, PHD
Contact: Prof. Rasala, Richard
Director of Undergraduate Studies
(617) 437-2462
Update: September 1988

Courses: Software Design and Development COM1205 U P R A 6
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
Compilers: Turbo Pascal or Microsoft Quick C
Computers: IBM AT compatibles
Languages: Pascal or C
Software Design and Development COM3205 G N E Y 4
Textbooks: Abstraction and Specification in Program Development by Liskov, Barbara and John Guttag
Compilers: C
LISP
Pascal
Computers: IBM AT compatibles
Macintosh SEs
SUN workstations
Unix on VAX or on Pyramid
VAX-VMS
Languages: C
LISP
Pascal

Additional Information:
Software Design and Development (Undergraduate) and Software Design and (Graduate) are offered twice a year.
For Software Design and Development, the choice of machines and languages depends on the interests of each particular instructor and on the type of projects they wish the class to pursue. In addition, some students travel a great distance to come to class, and they prefer to work on machines they can access at home or on the job. In these cases, special arrangements are usually made with the instructor.
by Wiener, Richard and Sincovec, Richard

**Compilers:** Students’ choice: Ada, Lisp, C, Pascal

**Computers:** Students’ choice

**Languages:** Students’ choice: Ada, Lisp, C, Pascal

**Software Engineering Practicum** COINS 620 G P X B 3

**Programming Methodology** COINS 320 U P X O 10

**Textbooks:** *Software Engineering with Modula-2 and Ada* by Wiener, Richard and Sincovec, Richard

**Compilers:** DEC Ada

**Computers:** VAXStation 2000

**Languages:** Ada, PIC/ADL

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**University of Massachusetts at Boston**

Department of Mathematics and Computer Science
M.S. in Computer Science
Boston, MA, 02125, United States

**Degrees:** BS, MS

**Contact:** Dr. Simovici, Dan
Director of the Graduate Program
(617) 929-7966

**Update:** None

**Courses:**

**Software Engineering I** 650 G P R Y 1
Computers: *Unix on VAX 750*

**Software Engineering II** 660 G P R Y 1
Computers: *Unix on VAX 750*

**Software Engineering Laboratory I** 651 G P R Y 1
Computers: *Unix on VAX 750*

**Software Engineering Laboratory II** 661 G P R Y 1
Computers: *Unix on VAX 750*
1.18. Michigan

**Michigan State University** College of Engineering  
Computer Science Department  
Program in Computer Science  
East Lansing, MI, 48824-1027, United States

**Degrees:** BS, MS, PHD

**Contact:** Prof. Forsyth, John J.  
Assoc. Professor and Assoc. Chairperson  
(317) 355-1646

**Update:** October 1987

**Courses:**  
**Design of Language Processors I** CPS 451 U P R O 6  
Textbooks: *Compiler Construction: Theory and Practice*  
by Barrett, William A. and Couch, John D.  
*Software Engineering Concepts*  
by Fairley, Richard E.  
Compilers: C  
Computers: Sun 4 file server with workstations on Ethernet (C and UNIX environment)  
Languages: C

**Design of Language Processors II** CPS 452 U P R O 6  
Textbooks: *Compiler Construction: Theory and Practice*  
by Barrett, William A. and Couch, John D.  
*Software Engineering Concepts*  
by Fairley, Richard E.  
Compilers: C  
Computers: Sun 4 file server with workstations on Ethernet (C and UNIX environment)  
Languages: C

**Design of Language Processors III** CPS 453 U P R O 6  
Textbooks: *Compiler Construction: Theory and Practice*  
by Barrett, William A. and Couch, John D.  
*Software Engineering Concepts*  
by Fairley, Richard E.  
Compilers: C  
Computers: Sun 4 file server with workstations on Ethernet (C and UNIX environment)  
Languages: C

**Additional Information:**  
Full academic year sequence offered every year for Design of Language Processors I, II, and III.

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**Michigan Technological University** College of Sciences and Arts  
Department of Computer Science  
Houghton, MI, 49931, United States

**Degrees:** BS CS, MS CS

**Contact:** Dr. Ott, Linda M.  
Associate Professor  
(906) 487-2187

**Update:** October 1988
<table>
<thead>
<tr>
<th>Courses:</th>
<th>Software Engineering CS550 G P R Y 8</th>
</tr>
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<tbody>
<tr>
<td>Textbooks:</td>
<td><em>Software Engineering: A Practitioner's Approach, 2nd ed.</em> by Pressman, Roger S.</td>
</tr>
<tr>
<td>Computers:</td>
<td>Sequent Balance 8000 running Dynix</td>
</tr>
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</table>

<table>
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<th>Courses:</th>
<th>Software Engineering CS465 U P E Y 3</th>
</tr>
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<tbody>
<tr>
<td>Textbooks:</td>
<td><em>Software Engineering, 2nd ed.</em> by Summerville, I.</td>
</tr>
<tr>
<td>Compilers:</td>
<td>CC</td>
</tr>
<tr>
<td>Computers:</td>
<td>Sequent Balance 8000 running Dynix</td>
</tr>
<tr>
<td>Languages:</td>
<td>C</td>
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<tr>
<th>Systems Software Project CS341 U P R T 1</th>
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<tr>
<td>Textbooks:</td>
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<td>Compilers:</td>
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<td>Computers:</td>
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<tr>
<td>Languages:</td>
</tr>
</tbody>
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**University of Michigan-Dearborn** School of Engineering
Department of Industrial and Systems Engineering
Dearborn, MI, 48128, United States

**Degrees:** BSE ISE, MSE ISE

**Contact:** Dr. Kachhal, S. K.
Chairman
(313) 593-5272

**Update:** None

<table>
<thead>
<tr>
<th>Courses:</th>
<th>Software Engineering I&amp;SE 553 G P E Y 1</th>
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<tbody>
<tr>
<td>Textbooks:</td>
<td><em>Controlling Software Projects: Management Measurement and Estimation</em> by DeMarco, Tom</td>
</tr>
<tr>
<td></td>
<td><em>Software Design and Development</em> by Gilbert, Philip</td>
</tr>
<tr>
<td>Computers:</td>
<td>Michigan Terminal System (Amdahl)</td>
</tr>
</tbody>
</table>

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**Wayne State University** College of Engineering
Department of Electrical and Computer Engineering
Detroit, MI, 48202, United States

**Degrees:** BS, MS, PHD

**Contact:** Prof. Meisel, Jerome
Acting Chair
(313) 577-3920

**Update:** None

<table>
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<th>Courses:</th>
<th>Engineering Software Design ECE 660 G P X Y 1</th>
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<tr>
<td>Textbooks:</td>
<td><em>Software Engineering: A Practitioner's Approach</em> by Pressman, Roger S.</td>
</tr>
<tr>
<td>Computers:</td>
<td>Amdhal 470 V8</td>
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<td></td>
<td>IBM 3081</td>
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<td></td>
<td>IBM 4381</td>
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<td></td>
<td>MTS (Michigan Terminal System)</td>
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</table>
Additional Information:
The course ECE 660 has been taught both at campus and at the Ford premises under Ford/WSU Master's program in Electronics and Computer Control System. The students have been using PSL/PSA from ISDOS.

Western Michigan University
College of Arts and Sciences
Department of Computer Science
Kalamazoo, MI, 49008-5021, United States

Degrees: BS CS, MS CS

Contact: Dr. Kerstetter, Mark
         Associate Professor
         (616) 387-5658

Update: October 1988

Courses: Software Systems Development 544 B P B O 8
                     by Pressman, Roger S.
                     The Mythical Man-Month: Essays on Software Engineering
                     by Brooks, Frederick Phillips
         Compilers: C
                    COBOL
                    FORTRAN
                    Pascal
         Computers: IBM-PC/XT/AT
                    IBM PS/2
                    Macintosh
                    VAX/Unix
                    VAX/VMS
         Languages: C
                    COBOL
                    FORTRAN
                    Pascal
                    dBase

Additional Information:
Software Systems Development is offered 3 times a year.
Software Systems Development uses real projects. Therefore, student teams work on a variety of machines and with a variety of languages and compilers. Each team of 4 to 5 students typically works on a different project.
Documentation is required including: abstract, planning document, requirements document, preliminary design document, user's manual, and maintenance manual. Each team must make a one-hour presentation to the instructor, client, classmates, and invited guests during a "presentation day" at the end of the semester.
1.19. Minnesota

University of Minnesota Institute of Technology  
Department of Computer Science  
Program in Computer Science  
Minneapolis, MN, 55455, United States

Degrees: BS, MS, PHD

Contact: Dr. Fox, David  
Head, Computer Science  
(612) 625-0726

Update: June 1987

Courses:

Software Engineering (I) Csci 5180 B P E Y 6  
Textbooks: *Abstraction and Specification in Program Development*  
by Liskov, Barbara and Guttag, John

Compilers: Ada  
Computers: Sun  
Languages: Ada, MSG

Software Engineering (II) Csci 5181 B P E Y 6  
Textbooks: *Software Engineering with Ada*  
by Booch, Grady

Compilers: Ada  
Computers: Sun  
Languages: Ada, MSG

Software Engineering (III) Csci 5199 B P E Y 3  
Textbooks: *Software Engineering with Ada*  
by Booch, Grady  
*Software Testing and Evaluation*  
by DeMillo, R.A. et al.  
*Software Validation: Inspection - Testing - Verification - Alternatives*  
by Hausen, H.L.  
*The Art of Software Testing*  
by Myers, Glenford J.

Compilers: Ada  
Computers: Sun  
Languages: Ada, MSG

Software Requirement, Design and Maintenance Csci 5199/8199 B P E B 3  
Textbooks: *Handbook of Software Engineering*  
by Vick, Charles R. and Ramamoorthy, C.V.  
*Software Design Strategies*  
by Bergland, Glenn D. and Gordon, Ronald D.

Software Verification and Validation, Metrics Csci 5199/8199 B P E B 3  
Textbooks: *IEEE Tutorial: Software Testing and Validation Techniques*  
by Miller, Edward and Howden, William E.  
*Software Engineering Metrics and Models*  
by Conte, S.D., Dunsmore, H.E., and Shen, V.Y.  
*Software Testing and Evaluation*  
by DeMillo, R.A. et al.  
*Software Validation: Inspection - Testing - Verification - Alternatives*
by Hausen, H.L.
*The Art of Software Testing*
by Myers, Glenford J.

**Software Engineering with Ada** Csci 5199/8199 B P E Y 3
Textbooks: *Software Engineering with Ada*
by Booch, Grady

Compilers: Ada
Computers: Sun
Languages: Ada

**Software Specification** Csci 5199/8199 B P E Y 3
Textbooks: *Software Specification Techniques*
by Gehani, Narain and McGettrick, Andrew D.

**Additional Information:**
We also have weekly seminars on various aspects of software engineering.
1.20. Missouri

Washington University  Sever Institute of Technology
Department of Computer Science
St. Louis, MO, 63130, United States

Degrees:  BS, MS, DSC (Doctor of Science)

Contact:  Dr. Roman, Gruia Catalin
          Associate Professor
          (314) 889-6190

Update:  January 1989

Courses:  Programming Systems and Language  CS 455 B P R O 11
          Textbooks:  Formal Specification of Programming Languages
                      by Pagan, Frank G.
                      Programming Languages: Design and Implementation
                      by Pratt, Terrence W.
          Compilers:  DEC Ada
                      Franz Lisp
                      Prolog
          Computers:  MicroVAX II
          Languages:  Ada
                      Lisp
                      Prolog

Software Engineering Workshop  CS 456 B P R O 11
          Textbooks:  Software Engineering with Modula-2 and Ada
                      by Wiener, Richard and Sincovec, Richard

Distributed System Design  CS 576S G P E B 2
          Textbooks:  Coordinated Computing: Tools and Techniques for Distributed Software
                      by Filman, Robert E. and Friedman, Daniel P.

Modular Programming  CS 545S G P E B 5
          Textbooks:  Programming in Ada
                      by Barnes, John Gilbert Presslie
                      Programming in Modula-2
                      by Wirth, Niklaus
          Compilers:  DEC Ada
                      DECSRC Modula-2+
          Computers:  VAX 11/750
          Languages:  Ada
                      Modula-2
                      Smalltalk

Research Seminar on Distributed System Design  CS 673.1 - CS 673.6 G N E T 2

Additional Information:
Programing Systems and Languages and Software Engineering Workshop are offered twice yearly.
1.21. New Hampshire

Dartmouth College  
Department of Mathematics and Computer Science  
Hanover, NH, 03755, United States

Degrees:  BA, MS, PHD

Contact:  Bent, Samuel W.  
Associate Professor  
(603) 646-2760

Update:  October 1988

Courses:  **Software Design and Implementation** CS 23 U P R O 2  
Textbooks:  *Programming Pearls*  
by Bentley, Jon Louis  
*Software Engineering Concepts*  
by Fairley, Richard E.

Compilers:  C  
Lightspeed Pascal

Computers:  CONVEX  
Macintosh  
VAX 11/785

Languages:  AWK  
C  
LEX  
Pascal

Additional Information:  
Software Design and Implementation is offered two terms a year. We previously had one course with data structures and a large programming project. We have subdivided it. Software Design and Implementation will emphasize software tools.
1.22. New Jersey

Monmouth College
Department of Mathematics/Computer Science
West Long Branch, NJ, 07764, United States

Degrees: MS SE
Contact: Dr. Canavan, Bob
Professor of Math. and Computer Science
(201) 571-3441
Update: None
Courses: Network Design and Protocols I SE 510 G X R X 1
Network Design and Protocols II SE 511 G X R X 1
Operating System Implementation SE 515 G X R X 1
Software Engineering I SE 516 G X R X 1
Software Engineering II SE 517 G X R X 1
System Project Implementation SE 525 G X R X 1

Montclair State College
School of Mathematics and Computer Science
Department of Mathematics and Computer Science
Upper Montclair, NJ, 07043, United States

Degrees: BS, MA CS
Contact: Prof. Wolff, K.
Chairperson
(201) 893-5132
Update: None
Courses: Software Engineering and Reliability Y0701 594 G P E B 1
Textbooks: Ethnotechnical Review Handbook
by Freedman, Daniel P.
Software Engineering: A Practitioner's Approach
by Pressman, Roger S.
Software Engineering: Design, Reliability and Management
by Shooman, Martin L.
Software Reliability: Principles and Practices
by Myers, Glenford J.
1.23. New Mexico

New Mexico Institute of Mining and Technology
Department of Computer Science
Program in Computer Science
Socorro, NM, 87801, United States

Degrees: BS, MS, PHD

Contact: Prof. Sung, Andrew H.
Chairman
(505) 835-5949

Update: January 1989

Courses:

**Software Construction** CS328 U P E O 6
- Textbooks: *The Mythical Man-Month: Essays on Software Engineering*
  by Brooks, Frederick Phillips
- Compilers: C
- Computers: VAX 750 under UNIX
- Languages: C

**Design and Analysis of Software Systems** CS528 G P E D 3
- Compilers: C
- Computers: VAX 750 under UNIX
- Languages: C

Additional Information:
Software Construction is offered every 1 or 1 1/2 years.

University of New Mexico - Los Alamos
Department of Computer Science
Los Alamos, NM, 87544, United States

Degrees: AAS CS

Contact: Ms. Coop, Angela
Associate Director for Instruction
(505) 662-5919

Update: July 1987

Courses:

**Introduction to Software Engineering** CS 260 U P R Y 2
- Textbooks: *Software Engineering*
  by Sommerville, Ian
- Compilers: C
  UNIX BSD Pascal
- Computers: VAX 11/750
- Languages: Ada
  C
  Pascal

Additional Information:
Introduction to Software Engineering is required with Fundamentals of Data Structures (CS 363) as an alternative.
1.24. New York

City University of New York  The Graduate School and University Center
Ph.D. Program in Computer Science
New York, NY, 10036-8099, United States

Degrees: PHD

Contact: Prof. Beckman, Frank S.
Executive Officer
(212) 790-4594

Update: June 1988

Courses: Topics in Software Systems and Software Engineering C.Sc. U813 X X X X 1

Clarkson University  School of Science
Department of Mathematics and Computer Science
Potsdam, NY, 13676, United States

Degrees: BS, MS, PHD (not in Software Eng)

Contact: Dr. Fokas, A. S.
Chairman
(315) 268-2395

Update: September 1988

Courses: Software Design and Development MA 450 U N E Y 6
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
Computers: Gould
Z-100 MS DOS
Zenith 200

Software Tools MA 250 U P R Y 2
Compilers: Turbo C
Computers: Zenith 200
Languages: C

Columbia University  School of Engineering and Applied Sciences
Department of Computer Science
New York, NY, 10027, United States

Degrees: BA, BS, MS, PHD

Contact: Dr. Kaiser, Gail E.
Assistant Professor
(212) 280-3856

Update: None
Courses:  
**Software Design Laboratory** W3152 U P R Y 1  
Computers:  Unix

**Software Engineering** W4156 B P B Y 1

**Programming Environments and Software Tools** E6123 G P E X 1

**Special Projects in Computer Science** W3998, W4995, others B N E D 1  
Computers:  Tops 20  
Unix

Additional Information:  
Programming Environments and Software Tools began in Spring 87. Various projects in software engineering and other areas can be negotiated between one or more students and a faculty member. Often the projects involve a small piece of a faculty member's research and may be supervised by a Ph.D. student.

Iona College  
School of Arts and Science  
Department of Computer and Information Sciences  
Program in Computer Science  
New Rochelle, NY, 10801, United States

Degrees:  BA, BS, MS

Contact:  Dr. Mallozzi, J.  
Chair of Department  
(914) 633-2578

Update:  September 1988

Courses:  
**Software Engineering** CIS 390 U P E Y 4  
Textbooks:  *Software Engineering: A Practitioner’s Approach* by Pressman, Roger S.

Compilers:  PL/I Optimizing  
Turbo Pascal  
VS Pascal

Computers:  PC & IBM mainframe  
Languages:  PL/I  
Pascal  
others

**Introduction to Software Engineering** CIS 640 G P E Y 1  
Computers:  IBM mainframe

Polytechnic University, Brooklyn Campus  
School of Engineering  
Department of Electrical Engineering and Computer Science  
Computer Science Division  
Brooklyn, NY, 11201, United States

Degrees:  BS CS, BS EE, MS CS, MS IS, PHD CS

Contact:  Prof. Shooman, Martin L.  
Professor

Update:  None
Courses: **Software Engineering I** CS606 G P B O 1
Textbooks: *Software Engineering: Design, Reliability, and Management*
by Shooman, Martin L.
Computers: Software Engineering Laboratory

**Software Engineering II** CS607 G P E B 1
Textbooks: *Software Engineering: Design, Reliability, and Management*
by Shooman, Martin L.
Computers: Software Engineering Laboratory

Additional Information:
Formerly Polytechnic Institute of New York, Brooklyn Campus.
The B.S. in E.E. is offered with Computer Engineering Option.
Software Engineering I is offered twice a year.

Polytechnic University, Farmingdale Campus School of Engineering
Department of Electrical Engineering and Computer Science
Computer Science Division
Farmingdale, NY, 11735, United States

Degrees: BS CS, BS EE, MS CS, MS IS, PHD CS

Contact: Prof. Shooman, Martin L.
Professor

Update: None

Courses: **Software Engineering I** CS606 G P B O 1
Textbooks: *Software Engineering: Design, Reliability, and Management*
by Shooman, Martin L.
Computers: Software Engineering Laboratory

**Software Engineering II** CS607 G P E B 1
Textbooks: *Software Engineering: Design, Reliability, and Management*
by Shooman, Martin L.
Computers: Software Engineering Laboratory

Additional Information:
Formerly Polytechnic Institute of New York, Farmingdale Campus.
The B.S. in E.E. is offered with Computer Engineering Option.
Software Engineering I is offered twice a year.

Polytechnic University, Westchester Campus School of Engineering
Department of Electrical Engineering and Computer Science
Computer Science Division
White Plains, NY, 10605, United States

Degrees: BS CS, BS EE, MS CS, MS IS, PHD CS

Contact: Prof. Shooman, Martin L.
Professor

Update: None

Courses: **Software Engineering I** CS606 G P B Y 1
Textbooks: *Software Engineering: Design, Reliability, and Management*
Rensselaer Polytechnic Institute (Entry 1) School of Science
Department of Computer Science
Troy, NY, 12180, United States

Degrees: BS, MS, PHD

Contact: Prof. Flaherty, Joseph E.
Chairman
(518) 276-6348

Update: September 1988

Courses: Design and Documentation 66.496 U P R Y 2
Computers: Modula-2
UNIX WWB & PWB

Master’s Project 66.698 G N R O 16

Software Design and Development 66.444 U P O Y 2
Textbooks: Software Engineering: Planning for Change
by Lamb, David Alex
Software Engineering Guidelines
by Priest et al.
Writing Better Computer Documentation
by Brockmann, R. John

Additional Information:
Design and Documentation and Software Leadership are proposed as part of a revised curriculum.
Master’s Project is a substantial software design and implementation project done under close faculty supervision. It has a schedule which is individually arranged.

Rensselaer Polytechnic Institute (Entry 2) School of Engineering
Department of Electrical, Computer and Systems Engineering
Troy, NY, 12180, United States

Degrees: BS, ME, MS, PHD EE, PHD CSE, DENG

Contact: Prof. Flaherty, Joseph E.
Chairman
(518) 276-6348

Update: None

Courses: Software Engineering I 35.677 G P E Y 1
Textbooks: Classics in Software Engineering
by Yourdon, Edward N.
Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.
Software Engineering II 35.678 G P E Y 1
Textbooks: Classics in Software Engineering
by Yourdon, Edward N.
Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.

Rochester Institute of Technology School of Computer Science
Graduate Department of Computer Science
Rochester, NY, 14623, United States

Degrees: BS CS, MS CS

Contact: Dr. Anderson, Peter
Chairperson
(716) 475-2529

Update: None

Courses: Software Engineering I ICSS-801 G N E T 1
Textbooks: Software Engineering: Design, Reliability, and Management
by Shooman, Martin L.

Software Engineering Laboratory ICSS-802 G P E Y 1
Textbooks: Reference Manuals for Software Systems
Computers: Pyramid UNIX
VAX VMS

Additional Information:
An M.S. in Software Development and Management was first offered in Fall, 1987.

State University of New York at Binghamton The Thomas J. Watson School of
Engineering, Applied Science and Technology
Department of Computer Science
Binghamton, NY, 13901, United States

Degrees: BS CS, MS CS, PHD AT/CS (PHD in Adv Tech with a specialization in CS)

Contact: Dr. Piatkowski, Thomas F.
Chairman
(607) 777-4803

Update: October 1988

Courses: Software Engineering I CS-545 G P E Y 4
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
Software Engineering with Ada
by Booch, Grady

Compilers: ALSYS Ada
DEC Ada

Computers: IBM PC/AT
VAX 780
Languages: Ada

Software Engineering Analysis CS-546 G P E D 2
Textbooks: Software Engineering: Design, Reliability, and Management
by Shooman, Martin L.

Compilers: ALSYS Ada
DEC Ada
Computers: IBM PC/AT
VAX 780
Languages: Ada

Software Engineering I (cross listed with CS-545) CS-345 U P E B 5
Textbooks: 
  * Software Engineering Concepts
    by Fairley, Richard E.
  * Software Engineering with Ada
    by Booch, Grady

Compilers: ALSYS Ada
DEC Ada
Computers: IBM PC/AT
VAX 780
Languages: Ada

Additional Information:
Miscellaneous software engineering projects have been undertaken. For example, a group study produced a lengthy report on how to implement a Masters degree in "Software and Computer Systems Engineering." Future projects will involve major studies of software methodologies, software metrics, software design as well as the design and implementation of large software projects.

State University of New York at Stony Brook College of Engineering and Applied Science
Department of Computer Science
Stony Brook, NY, 11794, United States

Degrees: BS, MS, PHD

Contact: Prof. Henderson, Peter B.
        Graduate Program Director
        (516) 632-8470

Update: May 1987

Courses: Techniques of Software Design MSC-520 G N R Y 11
Textbooks: 
  * IEEE Tutorial on Software Engineering
    by Wasserman, Anthony I. and Freeman, Peter
  * Software Engineering Concepts
    by Fairley, Richard E.

Compilers: Berkeley UNIX Pascal
Computers: VAXes and Sun workstations under UNIX 4.3 BSD
Languages: CLU
          Modula-2
          Pascal

Union College School of Computer Science
Department of Electrical Engineering and Computer Science
Schenectady, NY, 12308, United States

Degrees: BS, MS

Contact: Prof. Hannay, David
        Co-Chair EE/CS Department
Update: None

Courses: Software Engineering CSC-260 U P X Y 1
Textbooks: C Primer by Hancock, L. and Krieger, M.
Classics in Software Engineering by Yourdon, Edward N.

Computers: VAX
1.25. North Carolina

North Carolina State University
Department of Computer Science (Undergraduate)
Program in Computer Studies (Graduate)
Raleigh, NC, 27695, United States

Degrees: BS, MS, MCS

Contact: Prof. Tai, K. C.
Professor
(919) 737-7862

Update: May 1987

Courses:

Software Engineering CSE 510 G P E Y 10
Textbooks: Software Engineering: Design, Reliability, and Management
by Shooman, Martin L.
Software Engineering Concepts
by Fairley, Richard E.
Compilers: Pascal/VS
UCSD Pascal
Computers: IBM 4381 (VM/CMS)
MicroVAX (Ultrix)
SAGE (UCSD p system)
Languages: Pascal

Software Engineering Project CSC 472 U P E Y 4
Compilers: Verdix C
Computers: MicroVAX (Ultrix)
Languages: C and UNIX Shell

Intro to Programming Environments CSC 471 U P E Y 4
Compilers: Verdix C
Computers: MicroVAX (Ultrix)
Languages: C and UNIX Shell

Software Engineering with Ada CSC 481 U P E Y 4
Textbooks: Software Engineering with Ada
by Booch, Grady
Compilers: Verdix Ada
Computers: MicroVAX (Ultrix)
Languages: Ada

University of North Carolina at Chapel Hill College of Arts and Sciences
Department of Computer Science
Chapel Hill, NC, 27599-3175, United States

Degrees: MS, PHD

Contact: Ms. Coble, Katrina
Admissions
(919) 962-1931

Update: January 1989
Courses:  **Software Engineering Laboratory** Comp 145 B P R Y 23
Textbooks:  *IEEE Tutorial on Software Design Techniques*
            by Freeman, Peter and Wasserman, Anthony I.
            *The Mythical Man-Month: Essays on Software Engineering*
            by Brooks, Frederick Phillips
Computers:  Macintoshes
            Masscomps
            Special graphics computers
            Suns
            VAXes
Languages:  C
            C++
            Smalltalk
1.26. North Dakota

North Dakota State University  College of Science and Mathematics
  Department of Computer Science
  Fargo, ND, 58105, United States

Degrees:  BS, MS, PHD

Contact:  Prof. Magel, Kenneth
  Chair, Comp. Sci. and Operation Research
  (701) 237-8189

Update:  October 1988

Courses:  **Software Development** CS 513 G P X Y 1
   Textbooks:  *Software Engineering: A Practitioner's Approach*  
               by Pressman, Roger S.
   Computers:  VAX 11/780 running Berkeley Unix 4.3
               Zenith PCs running MS DOS 3.1

**Systems Analysis** CS 213 U P X Y 1
Computers:  IBM 3081 using CMS

**System Testing and Maintenance** CS 313 U P R Y 1
Textbooks:  *The Art of Software Testing*  
            by Myers, Glenford
Compilers:  Macintosh Pascal
Computers:  Macintosh II
Languages:  Pascal

Additional Information:
  Every undergraduate takes at least four courses that require substantial
  projects. Every graduate student takes at least two courses that require
  substantial projects. Several courses at all levels devote 2-3 weeks each
  to software engineering methodologies, concepts, or practices.
1.27. Ohio

Air Force Institute of Technology  School of Engineering  
Department of Computer Engineering  
Wright-Patterson AFB, OH, 45433-6583, United States

Degrees:  MS, MS CE, MS EE, PHD

Contact:  Dr. Howatt, James W.  
Assistant Professor of Computer Systems  
(513) 255-6913

Update:  September 1988

Courses:  Software Project Management  AMGT553 G N O A 3  
Textbooks:  Locally produced lecture notes and articles from open literature

Software Engineering  EENG593 G P R T 8  
Textbooks:  Software Engineering: A Practitioner’s Approach  
by Pressman, Roger S.  
Computers:  VAX 11/785 UNIX

Software Systems Programming Laboratory  EENG690 G P R A 6  
Compilers:  JANUS/Ada  
Computers:  Zenith Z-248 (MS-DOS)  
Languages:  Ada

Advanced Software Engineering  EENG793 G P E Y 6

Introduction to Software Engineering with Ada  MATH 555 G N R T 6  
Textbooks:  Ada Primer  
by SoTech, Inc.  
Reference Manual for the Ada Programming Language  
by ANSI/MIL-STD-1815A  
Software Components with Ada: Structures, Tools, and Subsystems  
by Booch, Grady  
Software Engineering with Ada  
by Booch, Grady  
Computers:  VAX 11/785 UNIX  
Languages:  Ada

Advanced Software Environments  MATH755 G P E Y 4  
Textbooks:  Programming with APSE Software Tools  
by Freedman, Roy S.  
Research Directions in Software Technology  
by Wegner, Peter  
Computers:  VAX 11/785 UNIX

Additional Information:  
In Software Project Management, students run assorted cost estimation programs and project scheduling software.

Bowling Green State University  School of Arts and Sciences  
Department of Computer Science  
Bowling Green, OH, 43402, United States
Degrees:  BS CS, MS CS
Contact:  Dr. Mynatt, Barbee
          Associate Professor
          (419) 372-2339
Update:  November 1987
Courses:  **Software Development** 464 U P E Y 8
          Textbooks:  *Software Engineering: A Practitioner’s Approach*
          by Pressman, Roger S.
          Computers:  IBM PC
          Languages:  Macintosh
          **Software Engineering** 564 G P E Y 5
          Languages:  SAS (Statistical Analysis System)

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**Cleveland State University**  James J. Nance College of Business
Administration
Department of Computer and Information Science
Cleveland, OH, 44115, United States

Degrees:  BS CIS, MS CIS
Contact:  Prof. Heines, Thomas S.
          Chairman
          (216) 687-4760
Update:  November 1987
Courses:  **Structured Systems Analysis** CIS 433 U P E O 6
          Textbooks:  *Structured Analysis Methods for Computer Information Systems*
          by Teague, Lavette C. and Pidgeon, Christopher

**Structured Systems Design** CIS 434 U P E O 6
Textbooks:  *The Practical Guide to Structured Systems Design*
by Page-Jones, Meilir
Computers:  IBM 3081
           IBM PC
Languages:  COBOL
           PSL/PSA
           Structured Architect
dBase III

**Software Engineering** CIS 620 G P R O 6
Textbooks:  *System-370 Job-Control Language*
by Brown, Gary D.
*The C Programming Language*
by Kernighan, Brian and Ritchie, Dennis
Computers:  IBM 3081
           VAX 11/750

**Systems Analysis and Design** CIS 634 G P E O 6
Textbooks:  *The Practical Guide to Structured Systems Design*
by Page-Jones, Meilir
Computers:  IBM 3081
           IBM PC
Languages:  COBOL
           PSL/PSA
Structured Architect
dBase III

Additional Information:
Structured Systems Analysis and Structured Systems Design are offered 2-3 times per year. Software Engineering is offered 3 times per year. Systems Analysis and Design is offered 2 times per year.

Kent State University
School of Arts and Sciences
Department of Mathematical Sciences
Program in Mathematics/Computer Science
Kent, OH, 44242, United States

Degrees: BS, MS, PHD

Contact: Prof. Rothstein, Michael
Assistant Professor
(216) 672-2430

Update: May 1987

Courses: Software Engineering 63251 G P E Y 6
Textbooks: Software Engineering by Sommerville, Ian
Compilers: C, Pascal
Computers: VAX 750 (UNIX)

Software Engineering Projects 43107 U P E D 3
Textbooks: Software Engineering by Sommerville, Ian
Computers: UNIX

Wright State University
College of Engineering and Computer Science
Department of Computer Science and Engineering
Programs in Computer Science, Computer Eng., Computer Science and Eng. (Ph.D.)
Dayton, OH, 45435, United States

Degrees: BA, BS, BS CE, MS, MS CE, PHD

Contact: Prof. Carson, Howard V.
Assistant to the Chair
(513) 873-2491

Update: October 1988

Courses: Software Engineering I Software Engineering 760 G P E Y 1
Textbooks: Software Engineering Concepts by Fairley, Richard E.
Compilers: compiler suitable to project
Computers: computer suitable to project
Languages: language suitable to project

Software Engineering II Software Engineering 761 G P E Y 1
Textbooks: Approaches to Prototyping by Budde, Reinhard
**Tutorial: Software Reusability**
by Freeman, Peter

Compilers: compiler suitable to project
Computers: computer suitable to project
Languages: language suitable to project

**Introduction to Software Engineering** Computer Engineering 460/660 B P R T 1
Textbooks: *Software Engineering Concepts*
by Fairley, R. E.
*Software Engineering with Ada 2nd ed.*
by Booch, Grady

Compilers: VAX Ada compiler
Computers: DEC VAX 11/785 running VMS
Languages: Ada

**Concurrent Software Design** Computer Engineering 434/634 B P R T 1
Textbooks: *Advanced Programmers Guide to UNIX SYSTEM V*
by Thomas, Rebecca and Yates, Jean
*Operating Systems Concepts*
by Peterson, James L. and Silberschatz, Abraham
*The C Programming Language*
by Kernighan, Brian W. and Ritchie, Dennis M.

Compilers: C
Computers: NCR Tower 32/600 running UNIX System V
Languages: C

**Additional Information:**
Data Structures and Software Design (unlisted) involves some software engineering. A local area network of eight SUN-3 Unix workstations with high resolution terminals, including one color display, were available in 1987 to provide a powerful software development environment.
1.28. Oklahoma

Rogers State College
Computer Science Division
Claremore, OK, 74017, United States

Degrees: AAS CAD, AAS CET, AAS CP, AS CS

Contact: Prof. Layton, Clifford D.
Director, Computer Science Division
(918) 341-7510 x286

Update: None

Courses: Software Engineering (Systems Analysis and Design) CS 2133 X X R X 1
1.29. Oregon

Oregon State University
School of Science
Department of Computer Science
Program in Computer Systems
Corvallis, OR, 97331, United States

Degrees: BS, MS, PHD

Contact: Prof. Lewis, Ted
Professor
(503) 754-3273

Update: None

Courses: Software Design CS 319 U P R T 1
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
Computers: IBM PC
Macintosh
Unix (HP)

Software Systems: Methodology CS 561 G P R Y 1
Computers: Macintosh
Languages: C
Modula-2
Pascal

Software Systems: Design CS 562 G P R Y 1
Computers: Macintosh
Languages: C
Modula-2
Pascal

University of Oregon
School of Arts and Sciences
Department of Computer and Information Science
Eugene, OR, 97403, United States

Degrees: BA, BS, MA, MS, PHD

Contact: Prof. Eliason, Alan
Associate Professor
(503) 686-4408

Update: October 1988

Courses: Software Methodology I CIS 422 U P R T 11
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
The Practical Guide to Structured Systems Design
by Page-Jones, Meilir
Writing Efficient Programs
by Bentley, Jon Louis
Computers: Apollo workstations
Tektronic 4404 Pegasus
VAX 11/750
Languages:  C
          RAPID
          Smalltalk

**Software Methodology II** CIS 423 U P E O 11
Textbooks:  *Software Engineering Concepts*
            by Fairley, Richard E.
            *The Practical Guide to Structured Systems Design*
            by Page-Jones, Melior
            *Writing Efficient Programs*
            by Bentley, Jon Louis
Computers:  Apollo workstations
            Microcomputers
            Tektronic 4404 Pegasus
            VAX 11/750
Languages:  C
            RAPID
            Smalltalk

**Software Engineering** CIS 510 G N R Y 11
Textbooks:  *Interactive Programming Environments*
            by Barstow, David R., Shrobe, Howard E., and Sandewall, Erik
            *Proceedings*
            by ACCA
            *Software Specification Techniques*
            by Gehani, Narain and McGettrick, Andrew D.
Computers:  VAX 11/750
Languages:  C
            RAPID
            Smalltalk

**Additional Information:**
Software Methodology II is offered two or three times a year.
Other courses are offered in Expert Systems and Database Management Systems at graduate level.
1.30. Pennsylvania

Carnegie Mellon University
School of Computer Science
Pittsburgh, PA, 15213, United States

Degrees: PHD CS

Contact: Dr. Habermann, A. Nico
Professor and Dean
(412) 268-2592

Update: February 1989

Courses: Software Engineering 15-413 U P E Y 15
Textbooks: Software Engineering: A Practitioner’s Guide
by Pressman, Roger S.
Compilers: Ada
C
Lisp
Computers: Andrew workstations
Unix on Vax
Languages: Ada
C
Lisp

Drexel University College of Science
Department of Mathematics and Computer Science
Philadelphia, PA, 19104, United States

Degrees: BS CS, MS CS, PHD CS

Contact: Dr. Popyack, Jeffrey L.
Program Coordinator for Computer Science
(215) 895-2668

Update: October 1988

Courses: Software Engineering I N677 U P R Y 6
Textbooks: Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.
Specification of Complex Systems
by Cohen, B., Harwood, W.T., and Jackson, M.I.
Compilers: Lightspeed Pascal
Prime C
Sheffield Pascal
Computers: Apple Macintosh
IBM PC/AT
Prime 9955
Languages: C
Pascal

Software Engineering II N678 U P E Y 6
Textbooks: Software Engineering: A Practitioner’s Approach (required)
by Pressman, Roger S.
Specification of Complex Systems (recommended)  
by Cohen, B., Harwood, W.T., and Jackson, M.I.

Compilers:  
- Lightspeed Pascal  
- Prime C  
- Sheffield Pascal

Computers:  
- Apple Macintosh  
- IBM PC/AT  
- Prime 9955

Languages:  
- C  
- Pascal

Software Engineering I M745 G P E B 6  
Textbooks:  
- Software Engineering: A Practitioner's Approach  
  by Pressman, Roger S.

Compilers:  
- Prime C  
- Sheffield Pascal

Computers:  
- Prime 9955

Languages:  
- C  
- Pascal

Software Engineering II M746 G P E B 6  
Textbooks:  
- Software Engineering: A Practitioner's Approach  
  by Pressman, Roger S.

Compilers:  
- Prime C  
- Sheffield Pascal

Computers:  
- Prime 9955

Languages:  
- C  
- Pascal

Topics in Software Engineering M748 G P E D 6

Lehigh University  
College of Engineering and Physical Sciences  
Department of Electrical Engineering  
Bethlehem, PA, 18015, United States

Degrees:  
- BS CS, BS CE, BS EE, MS CS, MS CE, MS EE, PHD CS, PHD CE, PHD EE

Contact:  
Dr. Varnerin, Larry  
Chairman  
(215) 758-4823

Update:  
May 1987

Courses:  
Software Engineering ECE 116 U P R Y 6  
Textbooks:  
- Software Engineering Concepts  
  by Fairley, Richard E.

Computers:  
- CYBER 180 Model 850  
- DEC 20 Model 2065  
- Zenith Z-100 PC series

Temple University  
College of Engineering, Computer Sciences and Architecture  
Department of Computer and Information Sciences  
Programs in Computer Science and Information Science  
Philadelphia, PA, 19122, United States
Degrees: BA, BS, BBA, MA, MS BA, PHD, PHD BA

Contact: Ms. Shteir, Laurie  
(215) 787-1681

Update: September 1988

Courses: **Theorem Proving and Program Verification** 675 G P E X 1  
Textbooks: *An Introduction to the General Theory of Algorithms*  
by Machtey, M. and Young, P.  
*The Design of Well-Structured and Correct Programs*  
by Alagic, Saud and Arbib, Michael A.

**Software Engineering** 690 G N E X 3  
Textbooks: *Software Engineering: A Practitioner’s Approach*  
by Pressman, Roger S.

Computers: OPS5  
Pascal  
VMS

**Information Systems Analysis and Design** 201 U P R T 1  
Textbooks: *Elements of Systems Analysis*  
by Gore, Marvin and Stubbe, John

**Project in Information Science** 301 U P R T 1  
Computers: AT&T 3B2  
PCs

**Software Design** 338 U P E Y 1  
Textbooks: *Reliable Software Through Composite Design*  
by Myers, Glenford J.  
*Software Engineering: A Practitioner’s Approach*  
by Pressman, Roger S.  
*Structured Design*  
by Yourdon, Edward N. and Constantine, Larry

Computers: IBM 4381 PCs

Additional Information:  
Business Administration programs with concentration in Computer and Information Science.

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The Pennsylvania State University College of Science  
Computer Science Department  
Program in Computer Science  
University Park, PA, 19802, United States

Degrees: BS, MS, PHD

Contact: Dr. Lambert, Joseph M.  
Department Head  
(814) 865-9505

Update: June 1987

Courses: **Software Design Methods** 498 U P E Y 2  
Textbooks: *Software Engineering: Design, Reliability, and Management*  
by Shooman, Martin L.

Compilers: IBM Ada  
Computers: IBM 3090  
Languages: Ada
University of Pennsylvania School of Engineering and Applied Science
Department of Computer and Information Science
Program in Computer Science and Engineering
Philadelphia, PA, 19104, United States

Degrees: BSE

Contact: Dr. Badler, Norman I.
Undergraduate Chair
(215) 898-5862

Update: January 1989

Courses: Interactive System Design CSE 280 U P E B 1
Textbooks: Interactive Programming Environments
by Barstow, David R., Shrobe, Howard E., and Sandewall, Erik
Computers: Color Graphics
IBM PC/XT/AT
VAX 8650
**University of Pittsburgh** School of Library and Information Science
Interdisciplinary Department of Information Science
Pittsburgh, PA, 15260, United States

**Degrees:** BS, MS, PHD

**Contact:** Dr. Korthage, Robert R.
Chairman
(412) 624-9420

**Update:** June 1987

**Courses:** Information Systems Analysis, Design, and Evaluation INF SC 272 G P E O 6

Textbooks: *Software Engineering: A Practitioner’s Approach, 2nd ed.* by Pressman, Roger S.
*Software Psychology* by Shneiderman, Ben

Compilers: C
COBOL
FORTRAN
Pascal

Computers: IBM PC
Mac
VAX 780
VAX 8650

Languages: C
Pascal

Software Engineering and Software Tools INF SC 276 G P E O 5

Textbooks: *Fundamentals of Systems Analysis, 3rd ed.* by FitzGerald, Jerry and FitzGerald, Ardra

Compilers: C
COBOL
FORTRAN
Pascal

Computers: IBM PC
Mac
VAX 780
VAX 8650

Languages: C
Pascal

**Additional Information:**

Here are the projected schedules for the courses:

- **Information Systems Analysis, Design, and Evaluation**
  
  - 1988-89: Winter Term
  - 1989-90: Fall Term
  - 1990-91: Fall Term

- **Software Engineering and Software Tools**
  
  - 1988-89: Fall and Spring Terms
  - 1989-90: Winter Term
  - 1990-91: Spring Term

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**Villanova University** College of Liberal Arts and Sciences
Mathematical Sciences Department
Villanova, PA, 19085, United States

Degrees: BS CS, BS M, MS CS, MA M

Contact: Dr. Joyce, Daniel  
(215) 645-7344

Update: January 1989

Courses: Software Engineering CSC 4700 U P R Y 2  
Textbooks: Software Engineering Concepts  
by Fairley, Richard E.  
The Mythical Man-Month: Essays on Software Engineering  
by Brooks, Frederick Phillips

Compilers: Logitech Modula-2/86 Pascal

Computers: PCs

Languages: Modula-2

Software Engineering CSC 8540 G N E T 2  
Textbooks: Software Engineering: A Practitioner's Approach  
by Pressman, Roger S.

Additional Information:  
One of the requirements for the Master's degree in Computer Science is  
writing an independent study. This often assumes the form of a major  
project, sometimes a group project, embodying principles of software  
engineering.
1.31. South Carolina

Clemson University  College of Sciences  
Department of Computer Science  
Clemson, SC, 29634-1906, United States

Degrees:  BS, BS CIS, MS, PHD CS

Contact:  Dr. Turner, A. Joseph  
Professor and Chairman  
(803) 656-3444

Update:  October 1987

Courses:  Software Development Methodology  CpSc 472/672 B P B O 6  
Textbooks:  Software Engineering: A Practitioner’s Approach  
by Pressman, Roger S.  
Software Engineering Concepts  
by Fairley, Richard E.

Compilers:  Ultrix C  
Computers:  DEC VAX 11/780 running Ultrix  
Languages:  C

Design and Programming Methodology  CpSc 872 G P E Y 3  
Textbooks:  Software Specification Techniques  
by Gehani, Narain and McGettrick, Andrew D.  
Languages:  Various specification languages

Software Verification, Validation, and Measurement  CpSc 873 G P E O 1  
Textbooks:  IEEE Tutorial: Software Testing and Validation Techniques  
by Miller, Edward and Howden, William E.

Additional Information:  
Software Development Methodology is offered once or twice per year. Software Verification, Validation, and Measurement is offered every two years when demand warrants.
1.32. Tennessee

East Tennessee State University  School of Applied Science and Technology
Department of Computer and Information Sciences
Programs in Computer Science and Information Science
Johnson City, TN, 37614, United States

Degrees:  BS, MS

Contact:  Dr. Bailes, Gordon L.
Chairman
(615) 929-5332

Update:  September 1988

Courses:  Software Engineering  222-3250 U P R T 8
Textbooks:  Systems Analysis and Design Methods
            by Whitten, Bentley, and Ho
Compilers:  Meridian AdaVantage
            TeleSoft Ada
Computers:  IBM 4341 under CMS
            IBM PC
            TI PC
Languages:  Ada
            COBOL
            PL/I

Information Analysis  222-5200 G P B Y 2
Textbooks:  Advanced Structured Analysis and Design
            by Peters, Laurence
            Software Engineering: A Practitioner’s Approach
            by Pressman, Roger S.
Computers:  TI Business Pro
Languages:  Teamwork/PCSA by Cadre

Systems Design  222-5300 G P B Y 2
Textbooks:  Advanced Structured Analysis and Design
            by Peters, Laurence
            Software Engineering: A Practitioner’s Approach
            by Pressman, Roger S.
            Software Engineering with Ada
            by Booch, Grady
Compilers:  Janus Ada under MS-DOS
            Meridian AdaVantage
            TeleSoft Ada under VM/CMS
Computers:  IBM 4341
            TI PC
            VAX
Languages:  Ada
            Teamwork/PCSA by Cadre

Advanced Techniques in Ada  222-3310 U P E Y 11
Compilers:  TeleSoft Ada
Computers:  IBM 4341
Languages:  Ada
University of Tennessee at Chattanooga  School of Engineering
Department of Computer Science
Chattanooga, TN, 37403, United States

Degrees:  BS CS, MS CS

Contact:  Dr. Thompson, Jack
         Head, Computer Science
         (615) 755-4329

Update:  July 1987

Courses:  Software Engineering I 350 U P R O 9
          Textbooks:  Systems Analysis and Design Methods
                       by Whitten, Bentley, and Ho
          Compilers:  PL/I
          Computers:  IBM 4381
          Languages:  PL/I

Software Engineering II 450 B P E Y 2
Textbooks:  Software Engineering Concepts
            by Fairley, Richard E.
Compilers:  PL/I
Computers:  IBM 4381
Languages:  PL/I

Additional Information:
Software Engineering I is offered twice per year.

Vanderbilt University  School of Engineering
Department of Computer Science
Nashville, TN, 37235, United States

Degrees:  BA, BS, MS, ME, PHD

Contact:  Dr. Schach, Stephen R.
         Director of Graduate Studies
         (615) 322-2924

Update:  May 1987

Courses:  Software Engineering  CS352 G P E Y 3
          Textbooks:  Ada, an Advanced Introduction
                       by Gehani, Narain
          Compilers:  VAX Ada
          Computers:  VAX 11/785
          Languages:  Ada
1.33. Texas

Rice University
Department of Computer Science
Program in Computer Science
Houston, TX, 77251-1892, United States

Degrees: BA CS

Contact: Prof. Kennedy, Ken
Chairman
(713) 527-4834

Update: September 1988

Courses: Programming Studio COMP 310 X P X Y 3
Textbooks: Abstraction and Specification in Program Development by Liskov, B. and Guttag, John
Compilers: Powell’s Modula-2 compiler on VAX
moving to C++ compiler on SUN/UNIX
Computers: VAX - 11/750
moving to SUN - 3/50
Languages: Modula-2
moving to C++

Southwest Texas State University School of Science
Department of Computer Science
San Marcos, TX, 78666, United States

Degrees: BA, BS, MA, MS

Contact: Dr. Hwang, C. J.
Chairman
(512) 245-3409

Update: June 1987

Courses: Software Engineering CS 3398 U P E Y 5
Textbooks: Software Engineering by Sommerville, Ian
Software Engineering: A Practitioner’s Approach by Pressman, Roger S.
Compilers: C
FORTRAN
Pascal
Computers: VAX 8600 with VMS

Advanced Software Engineering CS 5398 G P E Y 3
Textbooks: Principles of Information System Analysis and Design by Mills, Linger, and Hevner
Software Engineering with Ada by Booch, Grady
Compilers: VAX Ada
VAX C
Computers: VAX 8600 with VMS
Languages: Ada
Stephen F. Austin State University  School of Business Administration
Department of Computer Science
Nacogdoches, TX, 75962, United States

Degrees:  BBA, BS, MS, MS CS

Contact:  Dr. Grout, Jarrell C.
Professor
(409) 568-1876

Update:  October 1988

Courses:  Software Development Principles 513 G N E B 2
Textbooks:  Software Engineering Concepts
by Fairley, Richard E.

Texas Christian University  AddRan College
Computer Science Department
Ft. Worth, TX, 76129, United States

Degrees:  MSDD

Contact:  Dr. Comer, James R.
Chairman
(817) 921-7166

Update:  October 1987

Courses:  Introduction to Software Design and Development SODE 5143 G N R Y 9
Textbooks:  Software Engineering Concepts
by Fairley, Richard E.

Ada Design and Development SODE 6013 G P E D 4
Textbooks:  Software Engineering with Ada
by Booch, Grady
Compilers:  DEC Ada
Computers:  DEC VAX 11/780
Languages:  Ada

Software Quality Assurance and Metrics SODE 6043 G P E D 4
Textbooks:  Software Metrics
by Gilb, Tom

Security and Privacy SODE 6053 G P E D 4
Textbooks:  Foiling the System Breakers: Computer Security and Access Control
by Lobel, Jerome

Modern Software Requirements and Design Techniques SODE 6113 G P R Y 8
Textbooks:  Software Design: Methods and Techniques
by Peters, Lawrence J.
Structured Requirements Definition
by Orr, Kenneth T.
Applied Design, Programming and Testing Techniques SODE 6123 G P R Y 8
Textbooks: IEEE Tutorial on Software Maintenance
by Parikh, Girish and Zvegintzov, Nicholas
The Art of Software Testing
by Myers, Glenford J.

Management of Software Development SODE 6153 G P R Y 8
Textbooks: Controlling Software Projects
by DeMarco, Tom
Management Methodology for Software Product Engineering
by Gunther, Richard C.

Economics of Software Development SODE 6163 G P R Y 8
Textbooks: Software Engineering Economics
by Boehm, Barry W.

Effective Communications in Small Groups SODE 6193 G P E D 3
Textbooks: Task Design: An Integrative Approach
by Griffin, Ricky W.

Software Implementation Project I SODE 7113 G P R Y 7

Software Implementation Project II SODE 7123 G P R Y 7

The University of Texas at Arlington
Department of Computer Science Engineering
Arlington, TX, 76019, United States

Degrees: BS, MS CS, MS CSE, ME CSE, PHD CS, PHD CSE

Contact: Dr. Grabow, Paul C.
Assistant Professor
(817) 273-2348

Update: September 1988

Courses: Methods in Software Engineering CSE 4310 U P E Y 6
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
The Mythical Man-Month: Essays on Software Engineering
by Brooks, Frederick Phillips

Compilers: Pascal
Computers: VAX 11/780
Languages: Pascal

Software Engineering CS 5324 G P R O 6
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
The Mythical Man-Month: Essays on Software Engineering
by Brooks, Frederick Phillips

Compilers: Ada
Pascal
Computers: VAX 11/780
Languages: Ada
Gypsy
ISML
Prolog

Advanced Software Engineering CS 6324 G P E Y 6
Textbooks: Applying Software Engineering Principles with FORTRAN
by Marca, David

Compilers: Ada
Pascal

Computers: VAX 11/780
Languages: Ada
Pascal

Software Engineering in Ada CSE 5321 G P E O 2
Textbooks: Programming in Ada
by Barnes, John Gilbert Presslie

Compilers: DEC Ada
Computers: VAX 11/780
Languages: Ada

Managing System Development CSE 5346 G P E Y 1
Textbooks: Cost Estimation for Software Development
by Londeix, B.
Principles of Software Engineering Management
by Gilb, T.

Compilers: DEC Pascal
Computers: VAX 8700
Languages: Pascal

Additional Information:
Software Engineering is offered twice per year (spring and summer).
Software Engineering in Ada is offered intermittently.

The University of Texas at Austin College of Natural Science
Department of Computer Science
Austin, TX, 78712, United States

Degrees: BA, BS, MS, PHD

Contact: Dr. Werth, Laurie
Professor
(512) 471-7316

Update: January 1989

Courses: Software Engineering CS373 U P E T 7
Textbooks: Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.
Software Engineering Concepts
by Fairley, Richard E.

Compilers: C
Excelerator
IDE
Smalltalk (Parc Place)
Teamwork
Toolgenerators

Computers: HP9000 workstations
Macintosh

Languages: Ada
C
Pascal
Smalltalk

Large Scale Software Development CS 395T G N E B 3
Textbooks: Managing a Programming Project
by Metzger, Philip W.
**Software Engineering Economics** EE 382M G N E Y 4
Textbooks: *Software Engineering Economics*
by Boehm, Barry W.
*Software Engineering Metrics and Models*
by Conte, S.D., Dunsmore, H.E., and Shen, V.Y.

**Additional Information:**
We integrate Software Engineering in the CS 1, CS 2 (Pascal), and Data Structures sequence at the undergraduate level.

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**The University of Texas at Dallas** School of Natural Sciences and Mathematics
Program in Computer Science
Richardson, TX, 75083, United States

**Degrees:** BS, MS, PHD

**Contact:** Dr. Ntafos, Simeon
Associate Professor and Program Head
(214) 690-2181

**Update:** None

**Courses:**
- **Software Engineering** CS 6354 G N E Y 1
  Textbooks: *Software Engineering*
  by Sommerville, Ian

- **Software Validation, Verification, and Performance Measurement** CS 6367 G P E O 1

**Additional Information:** Software Validation, Verification, and Performance Measurement is offered twice every three years.

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**The University of Texas at San Antonio** College of Science and Engineering
Division of Mathematics, Computer Science and Systems Design
Program in Computer Science
San Antonio, TX, 78285, United States

**Degrees:** BS, MS

**Contact:** Dr. Hanavan, E. Patrick

**Update:** None

**Courses:**
- **Programming Methodology** CS 3773 U P R O 1
  Textbooks: *Automated Data Systems Documentation Standards*
  by unknown
  *Software Engineering: A Practitioner's Approach*
  by Pressman, Roger S.
  *The Elements of Programming Style*
  by Kernighan, Brian and Plauger, P.J.

  **Computers:** IBM 4381 with CMS
  VAX 11/780 with VMS

- **Software Design** CS 5103 G P E O 1
  Textbooks: *The Program Development Process: Part II: The Programming Team*
  by Aron, Joel D.
Computers: IBM 4381 with CMS

**Software Configuration Management** CS 5143 G P E O 1
Textbooks: *Software Configuration Management: An Investment in Product Integrity* by Bersoff, Edward et al.

**Software Testing** CS 5133 G P E O 1
Textbooks: *The Art of Software Testing* by Myers, Glenford J.
Computers: VAX 11/780 with VMS

**Additional Information:** Programming Methodology is offered in Fall and Spring semesters. Software Design, Software Configuration Management, and Software Testing are offered together in regular semester rotation. The graduate courses (5103, 5133, 5143) comprise a depth area of study for graduate students, who must develop at least three such areas in their course of study.

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**University of Houston - Clear Lake** School of Natural and Applied Sciences
Department of Computer Science and Information Systems
Program in Computer Science
Houston, TX, 77058, United States

**Degrees:** BA CIS, BS CS, MA CIS, MS CS

**Contact:** Dr. Collins, George C.
Asst. Dean & Director of Student Affairs
(713) 488-9386

**Update:** September 1988

**Courses:**

**Ada Programming Language** CSCI 3432 U P R T 1
Textbooks: *Ada as a Second Language* by Cohen, Norman H.
Computers: VAX 11/785

**Software Design Methodologies** CSCI 4432 U P E Y 3
Textbooks: *A Unified Methodology for Developing Systems* by Wallace, Stockenberg and Charette
Compilers: Ada (DEC)
Computers: VAX 11/785
Languages: Ada

**Software Design Tools** CSCI 5435 G P E Y 1
Textbooks: *Software Engineering* by Sommerville, Ian
Compilers: Ada (DEC)
Computers: VAX 11/785
Languages: Ada

**Additional Information:** UH-CL has a strong emphasis on the engineering of computer automated systems, which includes the integration and trade-off studies of issues involving software, hardware, and people. Therefore, several research projects and these have a strong component of software engineering. In addition, two system-level courses offered annually that contain such a component are Computer Automated Systems (CTEC 4532) and Synthesis of Computer Networks (CTEC 6532).
1.34. Utah

Brigham Young University  College of Math and Applied Sciences
Department of Computer Science
Provo, UT, 84602, United States

Degrees:  BS CS, MS CS, PHD CS

Contact:  Prof. Woodfield, Scott N.
Associate Professor
(801) 378-2915

Update:  November 1987

Courses:  Introduction to Software Design  CS 327 U P R O 10
Textbooks:  Composite Structure Design
by Myers, Glenford J.
Software Engineering
by Sommerville, Ian
Computers:  UNIX (VAX, Sun Microsystems, 3B2)
Languages:  Ada
           Eiffel

Software Testing  CS 429 U P E O 10
Textbooks:  Software Testing Techniques
by Beizer, Boris

Systems Analysis  CS 425 U P E O 10
Textbooks:  Structured Analysis and System Specification
by DeMarco, Tom
           Structured Systems Analysis: Tools and Techniques
by Gane, Chris and Sarson, Trish

Software Development and Maintenance  CS 525 G P E O 4
Textbooks:  IEEE Tutorial on Software Design Techniques
by Freeman, Peter and Wasserman, Anthony I.

Software Management and Quality Assurance  CS 527 G P E O 4
Textbooks:  IEEE Tutorial: Software Configuration Management
by Bryan, William, Chadbourne, Christoper, and Siegel, Stan
           Software Cost Estimation and Life-Cycle Control
by Putnam, Lawrence H.
           Software Quality Assurance: A Practical Approach
by Chow, Tsun S.

Theory of Software Engineering  CS 627 G P E O 4

Additional Information:
Introduction to Software Design is offered 3 times/year. Software Testing and
Systems Analysis are offered once or twice per year. Software Development and
Maintenance, Software Management and Quality Assurance, and Theory of Software
Engineering are offered once every 3 semesters.

University of Utah
Department of Computer Science
Salt Lake City, UT, 84112, United States
Degrees: MS, PhD

Contact: Jenson, Susan
         Administrative Officer
         (801) 581-8224

Update: February 1989

Courses: **Software Engineering Laboratory** CS 451, CS 452, CS 453 U P X X

**Software Engineering** CS 631 B P X X
Textbooks: *Abstraction and Specification in Program Development* by Liskov, B.
Compilers: Clue Compiler
Computers: DEC VAX 11/780
          SUN 3/280
Languages: Clue

**Software Engineering** CS 632 B P X X
Textbooks: Various published papers
Compilers: Student’s choice
Computers: DEC VAX 11/780
           Various others
Languages: Student’s choice

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**Utah State University** College of Science
Department of Computer Science
Logan, UT, 84322-4205, United States

Degrees: BS, MS

Contact: Prof. Jones, Greg
         Associate Professor
         (801) 750-3267

Update: October 1988

Courses: **Software Development/Implementation** CS 655-6 G P E O 9
Textbooks: *Software Engineering Concepts*
           by Fairley, Richard E.
Compilers: TeleSoft Ada
Computers: HP 9000
           Macintosh
           PC clones
           VAX 8500
Languages: Ada

**Software Systems** CS 456 U P R O 8
Textbooks: *Software Engineering Methodology*
           by Turner, Ray
Compilers: VMS
Computers: VAX 8500
Languages: Pascal

Additional Information:
Software Development/Implementation is offered twice a year, and Software Systems is offered 3 times/year.
1.35. Virginia

College of William and Mary School of Arts and Sciences
Department of Computer Science
Williamsburg, VA, 23185, United States

Degrees: BS CS, MS CS, PHD CS

Contact: Dr. Noonan, Robert E.
Professor
(804) 253-4748

Update: September 1988

Courses:

Software Tools and Environments CS 435, 535 B P E Y 5
Textbooks: Software Tools in Pascal
by Kernighan, Brian and Plauger, P.J.
Compilers: Sheffield Pascal
Computers: Primes
Languages: Pascal

Software Engineering CS 555 G P E O 11
Textbooks: Software Engineering: A Practitioner's Approach
by Pressman, Roger S.
Compilers: Sheffield Pascal
Computers: Primes
Languages: Pascal

Human Factors CS 575 G P E B 5
Textbooks: Software Psychology: Human Factors in Computer and Information Systems
by Shneiderman, Ben
Compilers: Sheffield Pascal
Computers: Primes
Languages: Pascal

Theory of Program Correctness CS 552 G P B O 5
Textbooks: The Science of Programming
by Gries, David
Compilers: Sheffield Pascal
Computers: Primes
Languages: Pascal

Program Testing CS 605 G P E B 5
Compilers: Sheffield Pascal
Computers: Primes
Languages: Pascal

Additional Information:
Software Engineering and Theory of Program Correctness are offered once every 3 semesters.

University of Virginia School of Engineering and Applied Science
Department of Computer Science
Charlottesville, VA, 22903, United States

Degrees: MS CS, MCS, PHD
Contact:  Prof. Cook, Robert P.  
Chairman  
(804) 924-7605

Update:  June 1987

Courses:  **Software Engineering Laboratory**  CS 485 U P R Y 6
Textbooks:  *Software Engineering Concepts*  
by Fairley, Richard E.  
Compilers:  Sheffield Pascal  
Computers:  Prime  
Languages:  Pascal

**Software Engineering**  CS 685 G P E Y 6
Textbooks:  *Software Engineering Concepts*  
by Fairley, Richard E.  
Compilers:  AT&T C  
Sheffield Pascal  
Computers:  AT&T 3B5s  
Prime  
Languages:  Ada  
C  
Pascal

**Software Engineering**  CS 885 G N E D 1

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**Virginia Commonwealth University**  School of Arts and Sciences  
Department of Mathematical Sciences  
Program in Computer Science  
Richmond, VA, 23284, United States

Degrees:  BA, BS, MA, MS

Contact:  Dr. Haver, William E.  
Department Chairman  
(804) 257-1301

Update:  None

Courses:  **Software Engineering**  591 B P E D 1
Textbooks:  *Software Engineering*  
by Sommerville, Ian  
Computers:  IBM 3170  
IBM PC  
IBM PC/AT  
Pyramid mini-computer network
1.36. Washington

Seattle University  School of Science and Engineering
Department of Software Engineering/Computer Science
Program in Software Engineering
Seattle, WA, 98122, United States

Degrees: MSE

Contact: Dr. Mills, Everald E.
Director of Soft. Eng. and Comp. Sci.
(206) 626-5464

Update: September 1988

Courses: Technical Communication SE 508 G N R Y 9
Textbooks: Software Communication Skills
by Glass, Robert
Computers: Encore
Macintosh
PCs
Languages: C
Pascal

Software Systems Analysis SE 510 G P R Y 9
Textbooks: Structured Analysis and System Specification
by DeMarco, Tom
Computers: Encore
Macintosh
PC
Languages: Various languages

System Design Methodology SE 512 G P R Y 9
Textbooks: The Practical Guide to Structured Systems Design
by Page-Jones, Meilir
Computers: Encore
Macintosh
PC
Languages: Various Languages

Programming Methodology SE 514 G P R Y 9
Textbooks: Writing Efficient Programs
by Bentley, Jon Louis
Computers: Encore
Macintosh
PC
Languages: Various languages

Software Quality Assurance SE 516 G P R Y 9
Textbooks: Software Reliability Guidebook
by Glass, R.
Computers: Encore
Macintosh
PC
Languages: Various languages

Software Metrics SE 518 G P R Y 9
Textbooks: Software Engineering Metrics and Models
by Conte, S.D., Dunsmore, H.E., and Shen, V.Y.
Computers: Encore
Macintosh
PC
Languages: Various languages

Software Project Management SE 531 G P R Y 9
Textbooks: *Managing a Programming Project, 2nd ed.*
by Metzger, Phillip
Computers: Encore
Macintosh
PC
Languages: Various languages

System Procurement and Contract Acquisition SE 533 G P E Y 9
Textbooks: *Data Processing Contracts: Structure, Contents, and Negotiations*
by Brandon, Dick H. and Segelstein, S.
Computers: Encore
Macintosh
PC
Languages: Various languages

Human Factors in Computing SE 560 G P E Y 9
by Bailey, R.W.
Computers: Encore
Macintosh
PC
Languages: Various languages

Software Engineering Project 1, 2, 3 SE 585, SE 586, SE 587 G P R Y 9
Compilers: Varies by project
Computers: Varies by project
Languages: Varies by project

Special Topics SE 591, SE 592, SE 593 G P E D 9
Textbooks: *Varies by topic*
Compilers: Varies by topic
Computers: Varies by topic
Languages: Varies by topic

Independent Study SE 596, SE 597, SE 598 G P E D 9
Textbooks: *Varies by topic*
Compilers: Varies by topic
Computers: Varies by topic
Languages: Varies by topic

Additional Information:
At Seattle University, Software Engineering is viewed as an academic/professional discipline, which has its principal academic basis in computer science. Thus, the following graduate courses in computer science are also offered as technical electives in the MSE program:
ESW 500 Information Structures and Algorithms
ESW 501 Computer Systems Principles
ESW 541 Database Systems
ESW 551 Distributed Computing
ESW 553 Artificial Intelligence
ESW 564 Computer Graphics
ESW 566 Real Time Systems
University of Washington College of Arts and Sciences
Department of Computer Science
Seattle, WA, 98195, United States

Degrees: BS CS, MS CS, PHD CS

Contact: Prof. Pattis, Richard E.
Assistant Professor
(206) 545-3798

Update: October 1988

Courses: Software Engineering CSci 503 G P E Y 3
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
The Mythical Man-Month: Essays on Software Engineering
by Brooks, Frederick Phillips

Compilers: Turbo Pascal
Unix C
Xerox XDE

Computers: IBM PC/AT
MicroVAX II
VAX 8550
Xerox Dandelion

Languages: C
Mesa
Pascal

Washington State University College of Sciences and Arts
Department of Computer Science
Pullman, WA, 99164, United States

Degrees: BS, MS, PHD

Contact: Dr. Benson, David B.
Professor
(509) 335-2706

Update: None

Courses: Software Development CptS 422 U P E Y 1
Textbooks: C: An Advanced Introduction
by Gehani, Narain
Introducing the Unix System
by McGilton, Henry and Morgan, Rachel
Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.
The Mythical Man-Month: Essays on Software Engineering
by Brooks, Frederick Phillips
The Unix C Shell Field Guide
by Anderson, Gail and Anderson, Paul

Computers: Unix systems

Software Development Lab CptS 423 U P E Y 1
Textbooks: C By Dissection: The Essentials of C Programming
by Kelley, Al and Pohl, Ira
Introducing the Unix System  
by McGilton, Henry and Morgan, Rachel  
Computers: Unix systems  

Verification CptS 522 G P E Y 1  
Textbooks: The Science of Programming  
by Gries, David  

Additional Information:  
Research opportunities in system software engineering, software test concepts, distributed computing concepts, especially theory.
1.37. West Virginia

West Virginia College of Graduate Studies (WVCOGS) Engineering and Science Division
Information Systems
Institute, WV, 25112, United States

Degrees: MS
Contact: Prof. Hutton, Robert N.
Associate Professor
Update: May 1987

Courses: Systems Analysis Techniques IS 605 G N R Y 5
Textbooks: Structured Analysis Methods for Computer Information Systems
by Teague, Lavette C. and Pidgeon, Christopher

System Design IS 610 G P R Y 6
Textbooks: Business Computer Systems Design
by Dolan, Kathleen A.
Computers: VM/CMS

Software Engineering Principles IS 625 G P E Y 2
Textbooks: Software Engineering with Ada
by Booch, Grady
Compilers: VAX Ada
Computers: VAX
Languages: Ada

West Virginia University College of Arts and Sciences
Department of Statistics and Computer Science
Program in Computer Science
Morgantown, WV, 26506, United States

Degrees: BS, MS
Contact: Dr. Butcher, Donald F.
Chairman
(304) 293-3607
Update: June 1987

Courses: Software Engineering CS 275 U P E Y 2
Textbooks: Software Engineering
by Sommerville, Ian
Languages: Ada

Ada with Software Engineering CS 291/391 B P E Y 3
Textbooks: Software Engineering with Ada
by Booch, Grady
Compilers: Digital Ada
Computers: VAX 11/780 under VMS
Languages: Ada

Principles of Software Development CS 170 U P E Y 5
Compilers: PL/I optimizing compiler on VAX PL/I
Computers: IBM 3081
VAX 11/780
Languages: PL/I and System Utilities

**Software Engineering in Data Communications** CS 350 G P E Y 4
Compilers: ALSYS Ada
IBM PC Assembler
Lattice C
RT-11 Assembler
VAX UNIX C

Computers: IBM PC/AT
IBM PC/XT
IBM PCs
PDP 11/23s
VAX 11/750
Languages: Ada
Assembly
C

**Additional Information:**
Courses numbered 0-99 are Freshman and Sophomore level courses. Courses numbered 100-299 are Junior and Senior level courses. Graduate students can count (3 or 4) 200 level courses for credit towards MS degree. Courses numbered 300-399 are MS level courses, and courses numbered 400-499 are Ph.D. level courses. All 200 level courses have CS 1, 2, 50 and 51, a year of calculus, and a course in discrete mathematics as prerequisites.
1.38. Wisconsin

Marquette University College of Engineering
Department of Electrical, Computer and Biomedical Engineering
Program in Electrical Engineering
Milwaukee, WI, 53233, United States

Degrees: BS EE, MS EE, PHD EE

Contact: Dr. Niedejohn, Russell J.
Professor and Chairman
(414) 224-6820

Update: September 1988

Courses: Software Engineering EECE-211 G N E T 11
Compilers: Pascal
Computers: VAX
Languages: Pascal

Additional Information:
Other courses on compilers, advanced software, database, operating systems, and architecture.

University of Wisconsin-Madison College of Engineering
Department of Industrial Engineering
Madison, WI, 53706, United States

Degrees: MS, PHD

Contact: Prof. Gustafson, David H.
Department Chairman
(608) 262-3768

Update: October 1987

Courses: Computer Methods in Industrial Engineering 490-612-9 G N B Y 9
Textbooks: Software Engineering
by Sommerville, Ian
Compilers: Turbo Pascal
Computers: IBM PC
Languages: Pascal

University of Wisconsin-Milwaukee School of Engineering and Applied Science
Department of Electrical Engineering and Computer Science
Milwaukee, WI, 53201, United States

Degrees: BS, MS, PHD

Contact: Dr. Vairavan, K.
Chair, Computer Science
(414) 963-5357
Update: June 1988

Courses: Introduction to Software Engineering 262-536 B P R T 7

Textbooks: Software Engineering
by Sommerville, Ian
The C Programming Language
by Kernighan, Brian and Ritchie, Dennis

Compilers: Unix C compiler

Computers: ISI 68K's
VAX 11/750

Languages: C
1.39. Wyoming

University of Wyoming College of Arts and Sciences
Computer Science Department
Program in Computer Science
Laramie, WY, 82071, United States

Degrees: BS CS, BA CS, BS MIS, MS CS, PHD CS

Contact: Prof. Rowland, John
(307) 766-6475

Update: September 1988

Courses: Software Engineering COSC 684 B P O B 1
Textbooks: Software Engineering
by Sommerville, Ian
Compilers: Ada on VAX 8800
Computers: PC
VAX 11/785
VAX 8800
Languages: Ada

Software Engineering Management COCS 884 G P O B 1

Software Engineering Laboratory COCS 685 B P O B 1

Additional Information:
COSC 885 Software Management Laboratory is pending. It would be run jointly
with the Software Engineering Laboratory with members of this class acting
as team leaders.
2. Canada

2.1. Alberta

The University of Alberta
School of Science
Department of Computing Science
Edmonton, AB, T6G 2H1, Canada

Degrees: BS, MS, PHD

Contact: Prof. White, Lee J.
Chairman
(403) 432-4589

Update: October 1987

Courses:

Software Engineering CMPUT 401 U P R T 4
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
Compilers: Modula-2
Pascal
Computers: Macintosh
Sun workstations (UNIX OS)

Languages: Modula-2
Pascal

Interactive Programming Environments CMPUT 652 G P E B 3
Textbooks: Interactive Programming Environments
by Barstow, David R., Shrobe, Howard E., and Sandewall, Erik
Compilers: Cornell program synthesizer generator
Smalltalk
Computers: VAX systems (UNIX OS)
Languages: Smalltalk

Software Testing CMPUT 501 G P E B 3
Textbooks: Computer Program Testing
by Chandrasekaran, B. and Radicchi, Sergio
Software Testing Techniques
by Beizer, Boris
Computers: VAX systems (UNIX OS)

Specification and Verification CMPUT 508 G P E Y 3
Textbooks: Communicating Sequential Processes
by Hoare, C.A.R.
The Logic of Programming
by Hehner, E.C.
The Science of Programming
by Gries, David
Computers: VAX computer systems (UNIX OS)
Languages: Various specification languages
2.2. British Columbia

University of Victoria School of Arts and Sciences  
Department of Computer Science  
Victoria, BC, V8W 2Y2, Canada

Degrees: BS, MS

Contact: Dr. Hoffman, Daniel  
Assistant Professor  
(604) 721-7222

Update: June 1987

Courses: Software Engineering CSC 365 U P R T 6  
Textbooks: The Mythical Man-Month: Essays on Software Engineering  
by Brooks, Frederick Phillips

Compilers: C  
Pascal on Unix 4.2

Computers: Pyramid  
VAX 11/780

Languages: C  
Pascal

Implementation of Software Engineering Methods CSC B P E Y 3  
Compilers: C

Computers: Pyramid  
Sun  
VAX

Languages: C

Additional Information:  
Software Engineering/Education Cooperative Project - a joint project with IBM Canada to advance the state of the art in educational software.
2.3. Nova Scotia

Acadia University Jodrey School of Computer Science
Department of Computer Science
Wolfville, NS, B0P 1X0, Canada

Degrees: BCS, MS

Contact: Dr. Oliver, Leslie H.
Professor and Director
(902) 542-2201 x331

Update: October 1988

Courses: Software Engineering Comp 3653 U P B Y 4
Textbooks: Software Engineering Concepts
by Fairley, Richard E.
Compilers: Turbo Pascal
Unix C
Computers: PC-Compatible
SUN
Languages: C
Pascal

Additional Information:
Also offers degrees in BCSH, BCSS Hardware, BCSS Software, and BCSS Business
Data Processing.
2.4. Ontario

**Carleton University** Faculty of Engineering  
Department of Systems and Computer Engineering  
Programs in Computer Systems Engineering and Electrical Engineering  
Ottawa, ON, K1S 5B6, Canada

**Degrees:** BE, ME, MCS, MS, PHD  
**Contact:** Prof. Bowen, B. A.  
Chairman  
(613) 564-2793  
**Update:** None

**Courses:**  
**Software Engineering** 94.480 U N X Y 1  
Textbooks:  
*Software Tools in Pascal*  
by Kernighan, Brian and Plauger, P.J.  
*System Design with Ada*  
by Buhr, R.J.A.

**Digital Systems Engineering** 94.533 G N X T 1  
**System Design with Ada** 94.531 G N X T 1

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**Queen’s University** Faculty of Arts and Science  
Department of Computing and Information Science  
Kingston, ON, K7L 3N6, Canada

**Degrees:** BS, MS  
**Contact:** Dr. Lamb, David A.  
Assistant Professor  
(613) 545-6067  
**Update:** June 1987

**Courses:**  
**Modules and Specifications** CISC 322 U P E Y 2  
**Software Engineering** CISC 422/CISC 838 B P E Y 4  
Textbooks:  
*Software Engineering : Planning for Change*  
by Lamb, David

**Compilers:** IBM Pascal/VS  
**Computers:** IBM 3081 under VM/CMS  
**Languages:** Pascal/VS

**Additional Information:**  
As a senior thesis, Computing majors take CISC-499, a course where  
(working by themselves, supervised by a faculty member) they complete  
a substantial programming project.

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**University of Ottawa** Faculty of Science  
Department of Computer Science  
Program in Computer Science
Ottawa, ON, K1N 9B4, Canada

Degrees: BS, MCS

Contact: Dr. Raymond, Jacques
Professor
(613) 564-5423

Update: October 1988

Courses: Software Engineering I CSI 3111 U P R Y 4
Textbooks: Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.
Software Engineering Concepts
by Fairley, Richard E.
Languages: Ada
Pascal
Prolog

Software Engineering II CSI 4112 U P R Y 6
Textbooks: Software Engineering: A Practitioner’s Approach
by Pressman, Roger S.
Software Engineering Concepts
by Fairley, Richard E.
Computers: VAX 750
Languages: Ada
C

Software Testing: Theory and Practice CSI 5111 G N E Y 7
Textbooks: Selected papers

Software Engineering CSI 5112 G N E Y 5
Textbooks: Selected papers
Computers: VAX 750
Languages: Ada
Modula II

Additional Information:
B.Sc. Major and Honours with General Computer Science option.
B.Sc. Major and Honours with Information and Management System option.
Software Engineering is offered in the Winter and Summer terms.
Software Engineering I is offered twice a year.
We also have courses in Ada (Ada Language Concepts, CSI 2161) and Modula II
(Modula II Language Concepts, CSI 2169).

University of Waterloo Faculty of Mathematics
Department of Computer Science
Waterloo, ON, N2L 3G1, Canada

Degrees: BM, MM, PHD

Contact: Dr. Taylor, David
(519) 888-4432

Update: October 1988

Courses: Applications Software Engineering CS 430 U P E Y 1
Textbooks: Software Engineering: A Practitioner’s Approach, 2nd ed.
by Pressman, Roger S.
**Business System Analysis** CS 432 U P E O 1  
Textbooks: *Information Systems Analysis: with an Intro to 4th Generation Technologies*  
by Hall, V.J. and J.W. Mosevich  
Computers: IBM PC

**Software System Design and Implementation** CS 446 and CS 646 B P E T 1  
by Pressman, Roger S.

**Techniques in Systems Analysis** CS 482 U P E T 1  
Textbooks: *Information Systems Analysis: with an Intro to 4th Generation Technologies*  
by Hall, V.J. and J.W. Mosevich

**Additional Information:**  
Applications Software Engineering and Techniques in Systems Analysis are offered in the Fall and Spring terms.
2.5. Quebec

McGill University School of Computer Science
Montreal, PQ, H3A 2K6, Canada

Degrees: MS, PHD

Contact: Prof. Madhavji, Nazim H.
Professor
(514) 398-7073

Update: None

Courses: Advanced Topics (Software Engineering) 308-762A G P E Y 5
Textbooks: Software Development: A Rigorous Approach
by Jones, C.B.
Software Engineering
by Sommerville, Ian
Software Engineering Environments
by Hunke, H.
Software Engineering with Modula-2 and Ada
by Wiener, Richard and Sincovec, Richard
Compilers: Cambridge Modula-2
Modula-2/68
Powell Modula-2
Computers: Sun 3
VAX 11/780
Languages: Modula-2

Advanced Topics (Programming Environments) 308-767B G P E Y 3
Textbooks: Interactive Programming Environments
by Barstow, David R., Shrobe, Howard E., and Sandewall, Erik
Compilers: Cambridge Modula-2
Modula-2/68
Powell Modula-2
Computers: Sun 3
VAX 11/780
Languages: Modula-2

Additional Information:
1) The School offers research study (M.Sc. and Ph.D.) in software engineering.
2) The School offers software engineering projects for Masters students.
2.6. Saskatchewan

University of Regina Faculty of Science
Department of Computer Science
Regina, SK, S4S 0A2, Canada

Degrees: BA, BS, MS

Contact: Dr. Maguire, R. B.
Department Head
(306) 584-4632

Update: October 1988

Courses: Business Information Systems CS270 U P R T 11
Textbooks: Elements of Systems Analysis, 4th ed.
by Gore, Marvin and Stubbe, John W.
Computers: IBM PC AT
Languages: Excelerator InTech

Advanced Systems Analysis and Design CS372 U P E Y 4
Textbooks: Introduction to Systems Analysis and Design: A Structured Approach
by Kendale, Penny A.
Compilers: Unix C
Computers: Berkeley 4.2 Unix on VAX 750
Languages: C programming language

Project Management for Data Processing Applications CS373 U P E B 2
Textbooks: Information Resource Management
by Hussain, Donna and Hussain, K.M.

University of Saskatchewan College of Engineering
Department of Computational Science
Program in Computer Science
Saskatoon, SK, S7N 0W0, Canada

Degrees: BS CS, BC CS, MS CS, PHD CS

Contact: Dr. Sorenson, Paul
Professor
(306) 966-4886

Update: October 1988

Courses: Computer Systems CMPT 230.6 U P R Y 1
Computers: VAX 8600

Information Systems Analysis and Design CMPT 477.6 U P E Y 1
Textbooks: Advanced Structured Analysis and Design
by Peters, L.
Software Design and Development
by Gilbert, P.
Compilers: DEFT analysis and design (CASE tools)
Computers: Macintosh

Information Systems CMPT 876.3 G P E Y 1
Computers: Sun workstations
VAX 8600

Additional Information:
Other degree offered: combined B.Sc. (Computer Science) and B.Eng. (Electrical Engineering).
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