Learning Goals for the Computer Science Major

Computers are an integral part of the modern world, and pervade science, business, entertainment and communications. Hardware and software continue to evolve rapidly: today's cell phones have more computing capacity than mainframes of the 1960s. The Computer Science major prepares students to become active participants in this exciting and expanding field.

Computer Science Majors are expected to:

1. Know how to write code in representative high-level programming languages.
2. Understand the mathematical foundations of computer science, as well as calculus and the computational mathematical fields which rely on computer programs.
3. Understand the principles of operating systems and data structures.
4. Be able to develop software to solve real-world problems.

*The first goal above should be achieved by successfully completing the courses:*

- CS 101,102  *Computers and Programming I, II*
- CS 280  *Programming Language Concepts*

*The second goal should be achieved by successfully completing:*

- Math 135  *Calculus I*
- Math 136  *Calculus II*
- Math 235  *Calculus III*
- Math 237  *Discrete Structures*
- Math 473  *Numerical Analysis*

*The third goal should be achieved by successfully completing courses:*

- CS 332  *Operating Systems*
- CS 335  *Data Structure & Algorithm Design*
- CS 435  *Advanced Data Structures & Algorithm Design*
The fourth goal should be achieved by successfully completing the courses:

CS 288  Intensive Programming Practicum
CS 490  Guided Design in Software Engineering
CS 491  Computer Science Project

Computer Science Majors are also expected to:

1. Have good problem-solving skills and communication skills in order to work in a group.

2. Be able to apply programming skills in diverse settings.

Learning Goals for the Information Systems Major

Computers are an integral part of the modern world, and pervade science, business, entertainment and communications. Hardware and software continue to evolve rapidly: today's cell phones have more computing capacity than mainframes of the 1960s. The Information Systems major prepares students to become active participants in this exciting and expanding field.

Information Systems Majors are expected to:

1. Have a firm foundation in writing code.

2. Understand techniques and ideas of the mathematics relating to computer and information networks.

3. Understand databases, computer networks, and website design, with the ability to establish and maintain these in an enterprise.

4. Acquire skills needed to manage information systems in an enterprise.

The first goal above should be achieved by successfully completing the courses:

CS 101,102  Computers and Programming I, II
CS 335  Data Structures and Algorithm Design

The second goal above should be achieved by successfully completing the
courses:

Math 119  Basic Calculus  
Math 211  Probability  
Math 219  Basic Linear Algebra  
Math 327  Discrete Structures

The third goal should be achieved by successfully completing:

IS 117  Introduction to Website Development  
CS 356  Introduction to Computer Networks  
IS 431  Database Design, Management and Applications

The fourth goal should be achieved by successfully completing elective courses at the Business School and:

IS 455  Information Systems Management  
IS 491  Senior Project

Information Systems Majors are also expected to:

1. Have an ability to solve practical problems in networking and information systems.

2. Have some knowledge of business administration.