

Associate of Science in Computer Science

This program is designed to meet the needs of students who plan a career in computer science or whose career area requires extensive first-hand knowledge of computer science. Together, the basic curriculum and electives afford students considerable flexibility in planning a degree program to meet their career objectives.

CSCI C201 Introduction to Computer Programming is a required prerequisite to subsequent computer science courses and should be taken during the first semester of the first year. However, students who have not completed two years of high school algebra or who do not score high enough to enter MATH M122 College Algebra on the math placement test must take MATH M007 Elementary Algebra and/or MATH M117 Intermediate Algebra before taking CSCI C201. Because of prerequisite relationships, the computer science courses must be taken in a sequence that satisfies prerequisites. The social sciences and humanities electives may be satisfied by taking any courses in those areas. In the final semester of the program, the student may, after obtaining the approval of a sponsoring full-time faculty member, undertake a project in CSCI C390 Individual Programming Laboratory or participate as an intern in Y398 Internship in Professional Practices. Selection as an intern is competitive and depends on the number of employers offering positions in the program. Finally, the general requirements for all degrees at IUS include a research writing requirement to be completed during the first 60 credit hours at IUS.

The Associate of Science in Computer Science requires at least 60 credit hours:

- I. General Education Core:
 - a. Communication.....9
English W131
Speech S121
English W231
Research Writing R200
 - b. Mathematics.....6
Economics E280
Economics E281
 - c. Social science electives6
Any social science course satisfies this elective requirement, but the following are recommended:
Psychology P101
Sociology S163
 - d. Humanities elective3
Any humanities course satisfies this elective requirement, but the following is recommended:
Philosophy P150
 - e. General electives12
It is recommended that you select general electives that satisfy specific Computer Science B.S. degree requirements.
 - f. Computer competency3
An IU Southeast general requirement.
Computer Science C106
- II. Computer Science Requirements:.....15
 - a. Core15
Computer Science C201 (3)
Computer Science C202 (4)
Computer Science C335 (4)
Computer Science C237 (4)
 - b. Concentration area
(one area required)6-9
 - 1) Computer Media Option
Purdue TG103 (3)
Purdue TG160 (3)
Computer Science A348 (3)
 - 2) Computer Networking Option
Computer Science A247 (3)
Computer Science B438 (3)
 - 3) Database Systems Option
Computer Science C343 (4)
Computer Science B461 (3)
 - 4) Information Processing Option
Computer Science C203 (3)
Computer Science C320 (3)
 - c. Computer internship3
Satisfied by taking one of the following:
Computer Science Y398 (Internship) (3)
An approved Computer Science 300- or 400-level course (3)

Bachelor of Science in Computer Science

Note: These specific requirements may change so as to affect individuals who begin programs during the 1997 fall semester and thereafter. Candidates for the Bachelor of Science degree should first review "General Requirements for All Degrees at IUS" in this bulletin.

Requirements To be admitted to the B.S. degree program in computer science a student must satisfy the IUS admission requirements. In addition, admission into the B.S. degree program requires that a student complete the following courses with a grade point average of at least 2.5 and have an overall grade point average of at least 2.5 in these computer science courses: C201 Introduction to Computer Programming, C202 Computer Programming, C237 Operating Systems Concepts, and C335 Computer Structures. These requirements must be met before attaining junior status (56 credit hours) in order to maintain a normal four-year schedule. While completing the required basic computer science course work, the student is also required to fulfill the basic mathematics requirement (M119-M120 or M215-M216). This is necessary to maintain a normal four-year schedule and to meet the mathematics prerequisite requirements of the upper-level computer science courses.

Each student will select one of two major option areas in which to pursue advanced courses: (1) information systems and (2) science/mathematics. Within each option area there are required advanced sequences in computer science and related disciplines that enable students to tailor their advanced course work to meet any one of several career objectives.

Information Systems Option

The information systems option is for students who seek employment in business or industry after graduation, or who may pursue a graduate degree in information systems. Within this option the students may select courses that prepare them for careers in areas such as applications programming, business systems design and implementation, and information systems management.

The Bachelor of Science in Computer Science—Information Systems

Option requires at least 123 credit hours:

- I. General Education Core:
 - a. Arts and Humanities6
Two courses including:
Philosophy P150 (Elementary Logic)
 - b. Communication.....9
English W131
English W231
Speech S121
Research Writing R200
 - c. Computer competency3
An IU Southeast general requirement.
CSCI C106
 - d. Foreign language.....8
One year of a single language is required.
 - e. Mathematics12-16
Economics E280-E281
Mathematics M215 (or M119)
Mathematics M216 (or M120)
 - f. Natural Sciences.....5-10
Physics P100 or Physics P201-P202
(or P221-P222)
 - g. Social and Behavioral Science12
Four courses including:
Psychology P101
Sociology S163
- II. Business & Economics Requirements24
A business minor degree is within easy reach after taking these courses; ask a computer science advisor for help.
Accounting A201-A202
Business F301, L201, M301, P301
Economics E107-E108
- III. Computer Science Requirements:
 - a. Core38
CSCI C201 (3)
CSCI C202 (4)
CSCI C237 (4)
CSCI C251 (3)
CSCI C311 (4)
CSCI C335 (4)
CSCI C343 (4)
CSCI C421 (3)
CSCI C445 (3)
CSCI C446 (3)

CSCI B4XX or C4XX (3)

b. Electives

- A247 Network Technologies and Administration
- A346 User-Interface Programming
- A348 Mastering the World Wide Web
- B438 Fundamentals of Computer Networks
- B461 Database Concepts
- C203 COBOL and File Processing
- C320 Advanced COBOL
- C390 Individual Programming Lab
- C422 Advanced Computer Organization
- C431 Assemblers and Compilers I
- C432 Assemblers and Compilers II
- C435 Operating Systems I
- C436 Operating Systems II
- C463 Artificial Intelligence I
- C464 Artificial Intelligence II
- C490 Seminar in Computer Science
- Y398 Internships in Professional Practice

- B461 Database Concepts
- C203 COBOL and File Processing
- C320 Advanced COBOL
- C390 Individual Programming Lab
- C421 Computer Organization
- C422 Advanced Computer Organization
- C431 Assemblers and Compilers I
- C432 Assemblers and Compilers II
- C435 Operating Systems I
- C436 Operating Systems II
- C463 Artificial Intelligence I
- C464 Artificial Intelligence II
- C490 Seminar in Computer Science
- Y398 Internships in Professional Practice

Requirements for a Minor in Computer Science

Minimum of sixteen credit hours to include:

- a. Core7
 - CSCI C201 (3)
 - CSCI C202 (4)
- b. Concentration area (one area required).9-14
 - 1) Computer Networking Option
 - CSCI A247 (3)
 - CSCI B438 (3)
 - CSCI C237 (4)
 - CSCI C335 (4)
 - 2) Database Systems Option
 - CSCI B461 (3)
 - CSCI C251 (3)
 - CSCI C343 (4)
 - 3) Information Processing Option
 - BUS K321 (3)
 - CSCI C203 (3)
 - CSCI C320 (3)
 - 4) Information Technology Option
 - CSCI A247 (3)
 - CSCI A346 (3)
 - CSCI A348 (3)

Science/Mathematics Option

The science/mathematics option is designed for students who intend to work in the more technical areas of computer applications or who intend to pursue a graduate degree in computer science. Within this option students may select courses to prepare themselves for careers in areas such as systems software design and implementation and scientific computing applications.

The Bachelor of Science in Computer Science—Science/Mathematics Option requires at least 123 credit hours.

I. General Education Core:

- a. Arts and Humanities6
 - Two courses including:*
 - Philosophy P150 (Elementary Logic)
- b. Communication9
 - English W131
 - English W231
 - Speech S121
 - Research Writing R200
- c. Computer competency3
 - An IU Southeast general requirement.*
 - CSCI C106
- d. Foreign Language8
 - One year of a single language is required.*
- e. Social and Behavioral Sciences12

II. Mathematics and Science Requirements:

- a. Mathematics19
 - A math minor degree is within easy reach after taking these courses; ask a computer science advisor for help.*
 - MATH M215
 - MATH M216
 - MATH M303
 - MATH M360
 - An approved MATH 300- or 400-level course
- b. Biological and Physical Sciences16
 - Sixteen credit hours including:*
 - Chemistry C105-C106 or Physics P221-P222

III. Computer Science Requirements:

- a. Core41
 - CSCI C201 (3)
 - CSCI C202 (4)
 - CSCI C237 (4)
 - CSCI C251 (3)
 - CSCI C311 (4)
 - CSCI C335 (4)
 - CSCI C343 (4)
 - CSCI C4XX-C4XX sequence (6)
 - CSCI B4XX or C4XX (9)

b. Electives

- A247 Network Technologies and Administration
- A346 User-Interface Programming
- A348 Mastering the World Wide Web
- B438 Fundamentals of Computer Networks