CHEM-C 333 Experimental Environmental Chemistry (2 cr.)
CHEM-C 317 Equilibria and Electrochemistry (3 cr.)
CHEM-C 318 Spectrochemistry and Separations (3 cr.)
CHEM-C 341 Organic Chemistry I Lectures (3 cr.)
CHEM-C 343 Organic Chemistry I Laboratory (2 cr.)

Certificate in Environmental Science

This 25 to 29 credit hour program prepares science majors or graduates for employment in the environmental field. It provides skills such as field collecting, water sampling, report and scientific writing, soil sampling, regulatory policies, chemical and analytical methods, and research methods. Students must be in a degree program in the natural sciences including biology, chemistry, geoscience, or physics, OR have a four year degree in one of those areas. Once admitted, the student should remediate any prerequisites (listed following). Some of these can be taken simultaneously with the required courses.

For further information or to apply, contact the School of Natural Sciences at (812) 941-2284.

Prerequisites include one semester of introductory biology with lab; one year general chemistry (usually C 105-C 125 and C 106-C 126) and one semester of organic chemistry (usually C 341-C 343); one semester of introductory geology (usually G 103 or G 104); one semester of college-level algebra (usually M 122 or M 125); one semester of physics (usually P 100, P 201, or P 221); and one semester of computer programming (usually C 201 or A 201).

Requirements

	Credits
Biology	8
Ecology L 473-L 474 or Environmental Environmental Biology L 350 (3 cr.) Microbiology M 420-L 474 (5 cr.)	
Chemistry	8
Environmental Chemistry C 303-C 333 (5 cr.) Spectrochemistry and Separations C 318 (C 317 will not be necessary as a prerequisite for C 318) (3 cr.)	
Geoscience	6
Environmental and Urban Geology G 300 (3 cr.) Introduction to Hydrology G 451 (3 cr.)	
Laws and Regulations	0-3
e.g., HPER-S 354 (3 cr.)	
Physics	3
Environmental Physics (3 cr.)	
Internship or job experience	0-1
	25-29

Computer Science

Bachelor of Science in Computer Science

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 GPA of at least 2.5 and have an overall GPA of at least 2.5: C201 Computer Programming II, 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. Admission to this program will be limited to the number of students who can be effectively accommodated given the available resources. While completing the required basic computer science course work, the student is also required to fulfill the basic mathematics requirement (C251, and 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. Please note that taking the course requirements for both options on this degree may add up to a number fewer than the required 120 credit hours. The student should fulfill the remaining hours with electives.

Notes: Candidates for the bachelor of science degree should first review "General Requirements for All Degrees at IUS" in this bulletin. General Education electives must be selected from the approved list of General Education courses. The First-Year Seminar S 104 must be completed as part of the first 26 credits. Students must petition the department coordinator for acceptance of any computer science–related coursework more than seven years old. A minimum grade of C is necessary for all courses of the degree curriculum and specifically required General Education courses.

Student Learning Goals

1. B.S. graduates will have clear understanding of the theoretical foundations of computing science, hardware structure, and programming algorithms and languages.

2. Graduates will be able to apply theory to the solution of practical business problems and to the analysis of existing algorithms and techniques, and to recommend techniques and algorithms appropriate to specific circumstances in the areas of automated systems.
3. Graduates will also be able to develop and evaluate new solutions in information technology areas.
4. Math/Science option graduates will seek employment in networking, hardware, and some systems-level programming; or transfer to graduate schools for higher studies. Information systems graduates will be prepared for the business world, understanding business problems and creating computer-based solutions through programming, systems analysis, and design; or may also decide to transfer to graduate schools for higher studies in business-based computing.

Information Systems Option

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

Curriculum

I. General Education. See campus requirements.

II. Written Communications – second writing course.
English ENG-W 234

III. Mathematics and Science
a. Mathematics
MATH-M 119-120 or M 215-216 and
MATH-K 300 or Economics ECON-E 280
b Physical Science
Physics PHYS-P 100 or P 201-202 or P 221-222
c. Social and Behavioral Sciences
Psychology PSY-P 101 and
Sociology SOC-S 163

IV. Business and Economics
BUS-A 201
BUS-A 202
ECON-E 100
ECON-E 200
BUS-F 301
BUS-L 201
BUS-M 301
BUS-P 301
A business minor is an option after completingthese courses; contact a business advisor for help.

V. Computer Science
CSCI-B 461
CSCI-B 490
CSCI-C 106
CSCI-C 201
CSCI-C 202
CSCI-C 237
CSCI-C 251
CSCI-C 311
CSCI-C 335
CSCI-C 343
CSCI-C 445
CSCI-C 455
CSCI-B/C/P 4XX (one course)

VI. General electives sufficient to total a minimum of 120 credits.

Science/Mathematics Option

The science/mathematics option prepares students seeking employment in the technical areas of computer applications or who may pursue a graduate degree in computer science. Within this option, the student may select courses that prepare them for careers in areas such as systems software design and implementation and scientific computing applications.

Curriculum

I. General Education. See campus requirements.

II. Written Communications – second writing course.
English ENG-W 234

III. Mathematics and Science
a. Mathematics
MATH-M 215
MATH-M 216
MATH-M 303
MATH-M 360
One approved MATH-M 300 or 400-level course
A mathematics minor is an option after completing these courses; contact a mathematics advisor for help.
b. Natural and Physical Sciences
15 credits, including
CHEM-C 105-106 or PHYS-P 221-222

IV. Computer Science
- CSCI–B 490
- CSCI-C 106
- CSCI-C 201
- CSCI-C 202
- CSCI-C 237
- CSCI-C 251
- CSCI-C 311
- CSCI-C 335
- CSCI-C 343
- CSCI-C 455
- CSCI-B/C/P 4XX (3 courses)

V. General electives sufficient to total a minimum of 120 credits.

Associate of Science in Computer Science

The 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-C 201 Computer Programming II is a required prerequisite to subsequent computer science courses and should be taken during the first semester of the first year. However, students who do not score high enough on the math placement test must take MATH-M 117 Intermediate Algebra before taking CSCI-C 201. Because of prerequisite relationships, the computer science courses must be taken in sequence.

Notes: Candidates for the associate of science degree should first review "General Requirements for All Degrees at IUS" in this bulletin. The First-Year Seminar S 104 must be completed as part of the first 26 credits. Students must petition the department coordinator for acceptance of any computer science–related coursework more than seven years old. A minimum grade of C is necessary for all courses of the degree curriculum and specifically required General Education courses.

Curriculum

I. Written Communication
- English ENG-W 131
- English ENG-W 234

II. Oral Communication
- Speech SPCH-S 121

III. Information Literacy
- First-Year Seminar S 104

IV. Arts and Humanities
One elective recommended from General Education

V. Social and Behavioral Sciences
Two electives, Psychology PSY-P 101 and Sociology SOC-S 163 recommended

VI. Mathematics
Mathematics MATH-K 300 or Economics ECON-E 280

VII. Computer Science.
a. Required courses
- CSCI-C 106
- CSCI-C 201
- CSCI-C 202
- CSCI-C 237
- CSCI-C 251
- CSCI-C 335
- CSCI-B/C/P 3XX/4XX (one course) or
- CSCI-Y 398 Internships in Professional Practice (3 credits) after completing concentration area

b. Concentration area (one area required)
1) Informatics Option
- INFO-I 101
- INFO-I 308

2) Computer Networking Option
- CSCI-A 247
- CSCI-B 438

3) Database Systems Option
- CSCI-C 343
- CSCI-B 461

4) Web Systems Option
- CSCI-N 341 or CSCI-A 346
- CSCI-N 342 or CSCI-A 348

VIII. General electives sufficient to total a minimum of 60 credits
Recommended: Courses that satisfy the Bachelor of Science degree requirements.

Certificate in Information Technology

The information technology certificate is a 29-credit-hour program that can be completed in one year. Requirements of the program can be used to continue toward the Computer Science Associate of Science or Bachelor of Science degrees.

On completing the certificate, student will be capable of understanding, troubleshooting, and managing

computing resources as well as software design logistics and programming in one or more computer languages.

Curriculum

I. General Education
   - Written Communication
     - English ENG-W 131
   - Oral Communication
     - Speech SPCH-S 121
   - Information Literacy
     - First-Year Seminar S 104

II. Computer Science Requirements
   - CSCI-C 106
   - CSCI-C 201
   - CSCI-C 202
   - CSCI-A 290 or CSCI elective
   - CSCI-A 212 or BUS-K 201
   - CSCI Elective

III. General electives sufficient to total a minimum of 29 credits

It is recommended that you select general electives that satisfy specific computer science A.S. or B.S. degree requirements.

Minor in Computer Science

Curriculum

a. Computer Science core
   - CSCI-C 201
   - CSCI-C 202
   - CSCI-C 251

b. Concentration area (one area required)
   1) Computer Networking Option
      - CSCI-A 247
      - CSCI-B 438
      - CSCI-C 237
      - CSCI-C 335
   2) Database Systems Option
      - CSCI-B 461
      - CSCI-C 343
   3) Client Server Option
      - BUS-K 321
      - CSCI-N 431
      - CSCI-N 432
   4) Information Technology Option
      - CSCI-A 247
      - CSCI-N 341
      - CSCI-N 342

Geosciences

Bachelor of Arts in Geoscience

B.A. in Geoscience may be completed in one the two tracks of Geography or Geology. Students pursuing a geography track may select one of the following concentrations: Human Geography, Geographic Information Science (GIS), Environmental Geoscience, and Physical Geography.

Student Learning Goals

1. Upon completing all requisite courses for a B.A. in geoscience, students will have mastered basic concepts of geography and/or geology.
2. Upon completing all requisite courses for a B.A. in geoscience, students will be able to initiate an original research project involving fieldwork or data analysis and convey this research clearly in oral, written, web-based, and/or cartographic form.
3. Upon graduation, geoscience majors will compete successfully in the professional job market or gain admittance to a geoscience graduate program.

Requirements In addition to the requirements listed in this bulletin in the sections "General Requirements for Undergraduate Degrees at IUS" and "General Requirements for the Bachelor of Arts Degree," the student must select a geoscience tract and complete one concentration within that tract.

All geoscience majors must complete the following core courses:

- GEOL-G 100 Earth Science: Geologic Aspects (5 cr.)
- GEOG-G 107 Physical Systems of the Environment (3 cr.)
- GEOG-G 338 Geographic Information Science (3 cr.)

Geography Track

In addition to the geoscience core courses, all geography concentration majors must complete the following courses:

- GEOG-G 108 Physical Systems of the Environment–Lab (2 cr.)
- GEOG-G 110 Introduction to Human Geography (3 cr.)
- GEOG-G 201 World Regional Geography (3 cr.)
- GEOG-G 333 Introductory Cartography (3 cr.)

Human Geography Concentration

For the Human Geography Concentration, students must complete the geoscience core, the geography track required courses, plus:

Select one from the following upper-level geography courses: