

Department of Computer Science

*Please note: Not accepting new students.
This program is currently under review.*

Mission

The Department of Computer Science prepares students to develop and support information systems. The degree programs train them in systems analysis and design, application development, and in the use of databases to enter both the business side and the technical side of today's electronic communication and system administration.

Vision

Today's world runs on information, and the computer-based information system is the tool that gathers, stores, organizes and integrates data so that it becomes useful information. Without information systems, most modern organizations would be hard pressed to meet their strategic, tactical and operational goals. Students gain practical experience by developing computer programs and applications, and by building computers, networks, and communication systems. The Bachelor of Science Degree in Computer Information Systems (CIS) and the Associate Science (A.S.) degree in Computer Networking prepare students to meet these challenges of a dynamic world.

Program Goals

The goal of both degree programs is to prepare students for careers in fields that support computer-based systems of communication. Graduates may enter such disciplines as Telecommunications Management, Network Management, Systems Analysis, High Technology Marketing and Sales, and Information Systems Design. While the A.S. program is centered on gaining expertise with hardware, software and network design, the B.S. program combines coursework in programming, database management, data communications, and system administration with substantial coursework in business.

Affording students hands-on experience is central to the educational philosophy followed in the Department of Computer Science. The Department maintains two computer science laboratories and shares a workshop with NHU's science programs. Upon completion of the program NHU computer science students should effectively demonstrate the following:

1. business and computer science communication skills, including written, oral and presentation;
2. teamwork and leadership skills in a multicultural setting;
3. ability to integrate knowledge across the computer disciplines to offer solutions to problems commonly encountered in business; and
4. ability to solve computer-related problems.

Computer Proficiency Examination

The National Hispanic University has implemented a Computer Proficiency Assessment Program (SAM 2007 – Skills Assessment Manager 2007) that measures a student's proficiency in computer application skills (Word Processing, Presentation Development, Spreadsheet and Database). The assessment considers four individual examinations; each measuring the skills learned in the CS 100 and CS 103 courses. These examinations are required of all new students. The following are the keys features of the examinations.

1. The examination will be given in the computer laboratory, library or CCS. A client/server environment will accommodate the testing process.
2. The examination will be given during the CS 100 and CS 103 classes. The SAM 2007 assessment consists of the following 4 examinations:
 - CS 100 midterm exam
 - CS 100 final exam
 - CS 103 midterm exam
 - CS 103 final exam
3. A minimum score of 70% must be achieved for each examination.
4. All students' records will be stored on the SAM 2007 server database.
5. If students want to challenge CS 100 and/or CS 103 course(s), they must do so separately. See the catalog section "Credit by Examination" for details.
6. Even if students successfully challenge the CS 100 and/or CS 103 course(s), they still must pay the tuition for the credited units.

Associate of Science Degree in Computer Networking

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The curriculum in the Associate of Science Degree in Computer Networking is designed with a three-fold purpose:

- To prepare the student to continue work toward a Bachelor’s degree in computer science or related field.
- To provide the student with the knowledge and skills to enter the workforce.

Requirements

In order to meet the academic requirements for graduation with an Associate of Science Degree in Computer Networking from The National Hispanic University, the student must:

- Complete a minimum of 75 units of college credit, including:
 - a. A minimum of 34 units of General Education to satisfy the GE Breadth requirement
 - b. 10 units of NHU Core Courses
 - c. All required Computer Science Courses (or their equivalent), 31 units
- Attain an overall grade point average of “C” (2.0) or higher.

General Plan

NHU Core Courses	10 units
General Education Courses	34 units
Computer Science Courses	31 units
Total	75 units

NHU Core Courses

CS 100 Introduction to Computers	3 units
CS 103 Advanced Computer Applications	3 units
SPA 100 Elementary Spanish I	3 units
<i>or</i>	
SPA 230 Spanish for the Spanish Speaker	3 units
INF 100 Information Competency	1 unit

General Education Courses

Area A: Communication in the English Language and Critical Thinking (9 units)

Oral communication

SPC 100	3 units
Public Speaking	

Written Communication

ENG 100	3 units
English Composition and Reading	

Critical Thinking

ENG 201	3 units
Critical Thinking, Reading, and Writing Across the Curriculum	

or

PHL 200	3 units
Introduction to Logic	

Area B: Physical Universe and its Life Forms (13units)

Life Science

BIO 100	4 units
General Biology	

Physical Science

CHE 130	3 units
Chemistry	

PHY 120	3 units
Physics	

Mathematics

MAT 100	3 units
College Algebra	

Area C: Arts, Literature, Philosophy, and Foreign Languages (3 units)

Art

ART 100	3 units
Art Appreciation	

or

Letters

PHL 100	3 units
Introduction to Philosophy	

or

Humanities

ENG 250	3 units
Contemporary Multicultural Literature	

Area D: Social, Political and Economic Institutions and Behavior (6 units)

Comparative Systems

HIS 100 3 units
U.S. History I

Social Issues

HIS 201 3 units
U.S. History II

Area E: Lifelong Understanding and Self Development (3 units)

ANT 125 3 units
Human Understanding and Development

or

UNI 100 3 units
First-Year Seminar

Computer Science Courses

CS 107 3 units
Personal Computer Systems

CS 110 3 units
Data Communications and Networking

CS 130 3 units
Network Operating Systems

CS 212 3 units
Internet Protocols

CS 220 4 units
Networking Basics

CS 221 4 units
IOS Configuration

CS 222 4 units
Routing and Switching

CS 223 4 units
Network Design (WANs)

Bachelor of Science in Computer Information Systems

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In order to meet the academic requirements for graduation with a Bachelor of Science in Computer Information Systems, students must:

- Complete a minimum of 128 units of college credit;
- Satisfy NHU General Education Breadth requirements as described in this catalog;
- Meet requirements for NHU Core Courses;
- Meet requirements for the major as described in this catalog;
- Meet the University’s residency requirement which is the completion of 30 units at NHU;
- Complete a minimum of 45 upper division units;
- Complete a minimum of 15 upper division units in the major;
- Attain an overall grade point average of “C” (2.0) or higher with a “C” (2.0) or higher in all units attempted in the major.

In addition, students must:

- File a formal application for a graduation with the Department Chair.
- Ensure that all financial obligations to the University have been met, including payment of outstanding fee.

General Plan

NHU Core Courses	10 units
General Education Courses	49 units
- Lower Division	40 units
- Upper Division	9 units

C.I.S. Major Courses (69 units)	
- Business Lower Division	9 units
- Business Upper Division	9 units
- Computer Science Lower Division	24 units
- Computer Science Upper Division	27 units

Total 128 units

NHU Core Courses

CS 100 3 units
Introduction to Computers

CS 103 3 units
Advanced Computer Applications

SPA 100 3 units
Elementary Spanish I

or

SPA 230 3 units
Spanish for the Spanish Speaker I

INF 100 1 unit
Information Competency

General Education Courses

Lower Division Requirements (40 units)

Area A: Communication in the English Language and Critical Thinking (9 units)

Oral communication

SPC 100 3 units
Public Speaking

Written Communication

ENG 100 3 units
English Composition and Reading

Critical Thinking

ENG 201 3 units
Critical Thinking, Reading, and Writing Across the Curriculum

or

PHL 200 3 units
Introduction to Logic

Area B: Area B: Physical Universe and its Life Forms (10 units)

Physical Science

GEO 200 3 units
Physical Geography

Life Science

BIO 100 4 units
General Biology

Mathematics

MAT 100 3 units
College Algebra

Area C: Arts, Literature, Philosophy, and Foreign Languages (9 units)

Arts

ART 100 3 units
Art Appreciation

or

Humanities

ENG 250 3 units
Contemporary Multicultural Literature

or

Letters

PHL 100 3 units
Introduction to Philosophy

Area D: Social, Political and Economic Institutions and Behavior (9 units)

Human Behavior

ANT 100 3 units
Introduction to Anthropology

or

PSY 100 3 units
Introduction to Psychology

Comparative Systems

HIS 100 3 units
U.S. History I

Social Issues

HIS 201 3 units
U.S. History II

Area E: Lifelong Understanding and Self Development (3 units)

ANT 125 3 units
Human Understanding and Development

or

UNI 100 3 units
First-Year Seminar

Upper Division Requirements (9 units)

Area I: Advanced Written Composition (3 units)

ENG 300 3 units
Advanced Writing Skills

Area II Human Expression Across the Globe (3 units)

ENG 301 3 units
World Literature

or

PHL 300 3 units
Personal, Professional, and Social Ethics

Area III: World Issues and Problems (3 units)

HIS 414 3 units
World History I

or

SPC 300 3 units
Argumentation and Advocacy of World Issues

Computer Information Systems Major Courses

Business Lower Division Requirements (9 units)

BUS 101 3 units
Introduction to Business

BUS 240 3 units
General Accounting Principles

BUS 260 3 units
Business Statistics

Business Upper Division Requirements (9 units)

BUS 325 3 units
Business Communication

BUS 351 3 units
Business Ethics

BUS 368 3 units
Project Management

Computer Science Lower Division Requirements (24 units)

CS 101 3 units
Introduction to Programming

CS 105 3 units
Object-Oriented Programming I

CS 106 3 units
Object-Oriented Programming II

CS 107 3 units
Personal Computer Systems

CS 110 3 units
Data Communications and Networking

CS130 3 units
Network Operating Systems

CS 150 3 units
Elementary Algorithms and Data Structures

CS 212 3 units
Internet Protocols

Computer Science Upper Division Requirements (27 units)

CS 300 3 units
Introduction to Internet/Telecommunications

CS 322 3 units
Client Administration

CS 330 3 units
Database Management Systems

CS 332* 3 units
Server Administration

CS 340* 3 units
Advanced Networking

CS 360 3 units
Object-Oriented Analysis and Design

CS 380 3 units
Graphical Programming

CS 460 3 units
Management of Information Systems

CS 490 A 3 units
Computer Information Systems Internship

OR
CS 490B 3 units
Computer Information Systems Senior Project

* *These courses may be substituted for upper division courses offered in a 4-year institution such as: Database Management Systems, Networked Databases, Web Design and Programming, Middleware, Multimedia, IT Security, e-Commerce, Computer Graphics and Visualization, High-Performance Computer Architecture, Artificial Intelligence, Applied Logic, Relational Database Systems, Information Resource Management and Data Administration, Database Design and Administration, Visual Programming, Macroeconomics, Business Statistics, and other topics with prior approval from the department Chair.*