### *B.S.  in Computer Information Science*

The Computer Science program is designed to educate the student in computer science with primary areas of application in business, mathematics, and scientific problem solving. These applications are taught with emphasis on the principles of software engineering. Students graduating from this program can be employed by industry, federal agencies for computer science related jobs.

Graduates of this program can also enter graduate school in Computer Sciences.

# COMPUTER AND INFORMATION SCIENCE CURRICULUM WORKSHEET

**Natural and Applied Sciences Department**

## Bachelor of Science Degree

## 2011-2014 AY

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **NAME:** | | | | | **ADVISOR:** | | | | |
| **EMAIL:** | | | | | **ENTERED:** | | | | |
| **PHONE:** | | | | | **ANT. GRADUATION:** | | | | |
| | | | | | **DATE LAST UPDATED:** | | | | |
| | **GENERAL EDUCATION** | | | | | **MAJOR COURSES** | | | |
| **COURSE NUMBER** | **COURSE NAME** | **CR** | **Sem** | **Grade** | **COURSE NUMBER** | **COURSE NAME** | **CR** | **Sem** | **Grade** |
| **I. CORE REQUIREMENTS** | | | | | **REQUIRED MAJOR COURSES (33 credits)** | | | | |
| | **Essential Skills (15 Credits)** | | | | CIS101 | Programming I ◊ | 3 | | |
| HEN 112 | English I | 3 | | | CIS102 | Programming II ◊ | 3 | | |
| HEN 113 | English II | 3 | | | CIS 206 | Programming III ◊ | 3 | | |
| HEN 114 | Speech | 3 | | | CIS 207 | Information Structures ◊ | 3 | | |
| EDU110 | Intro to Interpretation & Analysis | 3 | | | CIS 209 | Computer Organization ◊ | 3 | | |
| HPH110 | Critical Thinking | 3 | | | CIS 105 | Basic Assembly Language ◊ | 3 | | |
| | | | | | CIS 301 | Programming Languages ◊ | 3 | | |
| | **Mathematics (4 credits)** | | | | CIS 302 | Operating Systems ◊ | 3 | | |
| MAT 160 | Calculus I ◊ | 4 | | | CIS 303 | Compiler Construction ◊ | 3 | | |
| | | | | | CIS 321 | Info Organization & Retrieval ◊ | 3 | | |
| | **African-American Experience (3 credits)** | | | | CIS 401 | Topics in CIS ◊ (Upper) | 3 | | |
| AAS210 | A-A Experience in a Global Context | 3 | | | **ADVANCED CIS ELECTIVES (6 credits)** | | | | |
| | | | | | CIS403 | Topics Java | 3 | | |
| | **Freshmen Experience (2 credits)** | | | | CIS 400 | Topics Visual Basic | 3 | | |
| GAC 101 | Freshmen Seminar I | 1 | | | CIS 413 | Software Engineering ◊ | 3 | | |
| GAC 102 | Freshman Seminar II | 1 | | | CIS 311 | Systems Simulation Programs ◊ | 3 | | |
| **Note:** All Core requirements must be completed before a student is considered a Junior. | | | | | CIS 330 | Algorithms and Fortran ◊ | 3 | | |
| | | | | | CIS 331 | Theory of Computability ◊ | 3 | | |
| **II. DISTRIBUTION REQUIREMENTS (Can Not Be Major Courses)** | | | | | | | | | |
| | **Humanities (6 credits)*** | | | | | | | | |
| | Humanities Elective I | 3 | | | | | | | |
| | Humanities Elective II | 3 | | | MAT355 | Probability & Statistics | 3 | | |
| *Satisfactory courses include literature, language, theater, music, arts, & philosophy. | | | | | MAT331 | Numerical Analysis | 3 | | |
| | **Foreign Language (6 credits)**** | | | | MAT361 | Applied Mathematics | 3 | | |
| | Foreign Language I | 3 | | | | **Total Required Major Credits** | **39** | | |
| | Foreign Language II | 3 | | | | | | | |
| **Must be in the same language. | | | | | | **REQUIRED RELATED COURSES (13 Credit)** | | | |
| | **Social Sciences (6 credits)***** | | | | HEN319 | Advanced Composition (Upper) | 3 | | |
| | Social Science Elective I | 3 | | | MAT202 | Discrete Mathematics | 3 | | |
| | Social Science Elective II | 3 | | | MAT270 | Calculus II | 4 | | |
| ***Courses include anthropology, economics, geography, history, political science, psychology & sociology. | | | | | MAT313 | Linear Algebra (Upper) | 3 | | |
| | **Natural Science (8 credits)@** | | | | | | | | |
| SPY/SPH 31 | Physics I ◊ (Calculus Based) | 4 | | | | **FREE ELECTIVES (14 Credit)** | | | |
| SPY/SPH 31 | Physics II ◊ (Calculus Based) | 4 | | | _____ | Free Elective 1 | 2 | | |
| @Satisfactory courses include biology, chemistry, physics, earth or space science. | | | | | _____ | Free Elective 2 | 3 | | |
| | **Health & Wellness (4 credits)** | | | | _____ | Free Elective 3 (Upper) | 3 | | |
| REC 111 | Health & Wellness | 2 | | | _____ | Free Elective 4 (Upper) | 3 | | |
| REC | Physical Education | 1 | | | _____ | Free Elective 5 (Upper) | 3 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| REC | Physical Education | 1 | | | | | | 14 | | |
| | **Total Credits in General Education** | **54** | | | | **TOTAL CREDITS FOR GRADUATION** | | **120** | | |
| **III. INTENSIVE COURSES** | | **CR** | **Sem** | **Grade** | | **DEVELOPMENTAL/REMEDIAL COURSES+++:** | | **CR** | **Sem** | **Grade** |
| _____ | Writing Course (W) | | | | | **ERE 001** | **Reading Study Skills+++** | | | |
| _____ | Writing Course (W) | | | | | **HEN 011** | **Elements of Writing+++** | | | |
| _____ | Writing Course (W) | | | | | **(MAT001, 002)+++** | | | | |
| _____ | Global Course (G) | | | | | ◊ Courses listed with a diamond are used to calculate major GPA. | | | | |
| _____ | A-A Heritage Course (A) | | | | | ++PASSHE Policy 1990-06-A holds that 42 credits of the total 120 must be upper level courses. | | | | |
| _____ | Information Literacy Course (I) | | | | | +++Credits earned do not count towards the 120 credits required for graduation. | | | | |
| **1. A minimum of 2.0 overall cumulative GPA and a minimum of 120 credit hours excluding any developmental courses (+++) are required for graduati** | | | | | | | | | | |
| **2. All major courses have to be "C" or better.** | | | | | | | | | | |

# COMPUTER & INFORMATION SCIENCES
# BACHELOR OF SCIENCE IN COMPUTER & INFORMATION SCIENCES CURRICULUM GUIDE
# 2011 - 2014

| COURSE | CREDIT |
|---|---|
| **FIRST YEAR FALL** | |
| HPH 110 CRITICAL THINKING | 3 |
| HEN112 ENGLISH I | 3 |
| NATURAL SCIENCE ELECTIVE I | 3 |
| AAS 210 A-A Exp in Glob Cont | 3 |
| GAC100 FRESHMAN SEMINAR | 2 |
| REC PHYSICAL ACTIVITY | 1 |
| | **15** |
| **SOPHOMORE FALL** | |
| CIS102 COMPUTER PROG II | 3 |
| CIS105 BASIC ASSEMBLER | 3 |
| HEN319 ADVANCED COMPOSITION | 3 |
| HEN114 SPEECH | 3 |
| HUMANITIES ELECTIVE I | 3 |
| | **15** |
| **JUNIOR FALL** | |
| CIS207 INFORMATION STRUCT. | 3 |
| CIS321 INF. ORG. & RETRIEVAL | 3 |
| SOCIAL SCIENCE ELECTIVE I | 3 |
| SPY/SPH315 PHYSICS I (N.S. ELEC II) | 4 |
| MAT270 CALCULUS II | 4 |
| | **17** |
| **SENIOR FALL SENIOR SPRING** | |
| CIS303 COMPILER CONST. | 3 |
| CIS_ADVANCED CIS ELEC | 3 |
| FOREIGN LANGUAGE I | 3 |
| FREE ELEC | 2 |
| FREE ELEC | 3 |
| | **14** |

| COURSE | CREDIT |
|---|---|
| **FIRST YEAR SPRING** | |
| CIS101 COMPUTER PROG I | 3 |
| HEN113 ENGLISH II | 3 |
| FREE ELEC | 3 |
| MAT160 CALCULUS I | 4 |
| REC 111 HEALTH & WELLNESS | 2 |
| REC PHYSICAL ACTIVITY | 1 |
| | **16** |
| **SOPHOMORE SPRING** | |
| CIS206 COMPUTER PROG III | 3 |
| CIS209 COMPUTER ORGANIZATION | 3 |
| EDU 110 INTRO.INTERP. & ANALY | 3 |
| MAT202 DISCRETE MATH | 3 |
| HUMANITIES ELECTIVE II | 3 |
| | **15** |
| **JUNIOR SPRING** | |
| CIS301 PROGRAMMING LANG. | 3 |
| CIS302 OPERATING SYSTEMS | 3 |
| SOCIAL SCIENCE ELECTIVE II | 3 |
| SPY/SPH316 PHYSICS II | 4 |
| MAT313 LINEAR ALGEBRA | 3 |
| | **16** |
| | |
| CIS401 TOPICS IN CIS | 3 |
| CIS_ ADVANCED CIS ELEC | 3 |
| FOREIGN LANGUAGE II | 3 |
| FREE ELEC | 3 |
| | **12** |
| | **TOTAL 120** |

**GRADUATION REQUIREMENTS**

**A MINIMUM 2.0 GRADE POINT AVERAGE AND A MINIMUM OF 120 HOURS OF CREDIT, EXCLUDING ANY DEVELOPMENTAL COURSES, ARE REQUIRED FOR GRADUATION.**