Course Descriptions for all COMPUTER SCIENCE courses
(in order by semester)

CISC 115 Computer Science I (Cr4) (4:0)
Introduction to computing through the development of algorithms and programs which are implemented in a high level function/object oriented language; simple data types, control structures, documentation, basic file manipulation, problem solving techniques, modular design, structured data types, and object oriented implementations. Prereq. - Appropriate competence as outlined in the Mathematics Placement Policy, or MATH 026 or 028 either with a C or better.

ENGL 101 English I (Cr3) (3:0)
A writing-intensive course giving close attention to the process of writing through networked workshops and conferences involved in preparation and revision of drafts. The course develops skills in logical and focused writing, through development of a main point by means of supporting ideas and evidence. In addition, students learn to integrate information from secondary sources through the use of summary, paraphrase, and direct quotation in various forms of thesis-based writing. Prereq. - Competence in reading and writing as determined by English Department through testing and/or course work. Approved for the Honors Program.

MATH 180 Calculus I (Cr4) (4:0)
Limits of functions, derivatives, chain rule, implicit differentiation, extrema, indefinite and definite integration; Fundamental Theorem of Calculus, transcendental functions and applications. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH145 or 160 either with a C or better.

CISC 125 Computer Science II (Cr4) (4:0)
Continuation of CISC 115 including stacks, backtracking, simulation, recursion, pointers, linear structures, searching, sorting, merging, elementary algorithm analysis, abstract base classes. Prereq. - CISC 115.

CMTH 102 Speech Communication (Cr3) (3:0)
Basic principles of communication theory and practice, including speech preparation and delivery, and the effective use of critical thinking and listening in relation to intrapersonal, interpersonal, intercultural, and group communication.

ENGL 151 English II (Cr3) (3:0)
Students continue to develop the academic writing and critical reading skills begun in English I. Students may elect to work on introduction to literature (L), report writing (R), or technical writing (T). Prereq.-ENGL 101. Also available through Online Learning. ENGL 151L (literature option) is approved for the Honors Program and has a designated as a Diversity (D) core course.

MATH 181 Calculus II (Cr4) (4:0)
Techniques and applications of integration, L'Hopital's Rule, improper integrals, solving differential equations using separation of variables, sequences and series, conics, parametric equations and polar coordinates. Prereq. - MATH 176 or 180 either with C or better, or score of 4 or 5 on AP Calculus AB or BC test. Core: QL.
**CISC 230 Data Structures and Algorithm Analysis (Cr4) (4:0)**
Performance analysis and measurement of programs, formal induction proofs, asymptotic notation, algorithm analysis, hashing, binary trees, binary search trees, balanced search trees, graphs, biconnected components, spanning trees, shortest path algorithms. Prereq. - CISC 125. Offered fall semester only.

**CISC 225 Computer Organization (Cr4) (4:0)**
This course focuses on computer organization and programming at machine level using assembly language and machine code (low level coding). It will expand knowledge and experience causing the student to become more effective when programming a computer, and understanding how computers and other languages work. It covers the following topics: processor components and organization, addressing techniques, low level data representation, instruction and types and representation, information transfer, control flow, machine and assembly language programming. Prereq. - CISC 125. Offered spring semester only.

**MATH 202 Discrete Math (Cr3) (3:0)**
An introduction to mathematical discrete structures and algorithms will be presented. Topics include: sets, logic, proof techniques, mathematical induction, combinatorics, relations, graph and trees. Prereq. - MATH 176 or 180 either with C or better. Offered spring semester only.