Bachelor of Science (BS)  
Checksheet for Computer Science Majors

Degree Code 219A

I. GENERAL EDUCATION CURRICULUM

The science taken in AREA II-D fulfills part or all of the Science Inquiry Perspective. MAT 1110 fulfills the Quantitative Literacy requirement.

II. MAJOR REQUIREMENTS

(not including 9-12 s.h. counted in Area I, above) ................................................................. 67-70

2.0 major GPA is required for graduation. Major GPA calculation will include all courses taken in the major department, plus any other courses under II. Minimum of 18 semester hours of courses taken to fulfill major requirements must be courses offered by Appalachian.

A. Computer Science (39 hours):

C S 1440  (4)  Computer Science I (Pre: MAT 1020/1025 w/minimum grade “C-“)
C S 2440  (4)  Computer Science II (Pre: CS 1440 or 1445 w/minimum grade “C”, Co: 1100)
C S 2450  (3)  Introduction to Computer Systems (Pre: CS 2440 w/min grade of “C”)
C S 2490  (3)  Introduction to Theoretical Computer Science (Pre: CS 2440 w/min grade of “C”)
C S 3100  (2)  Junior Seminar [WID] (Pre: ENG 2001)
C S 3430  (3)  Database (Pre: CS 2440 w/ min grade of “C”)
C S 3460  (3)  Data Structures (Pre: CS 2440 w/min grade of “C”)
C S 3481  (3)  Computer Systems I (Pre: CS 2450, 2490; Co: 3460)
C S 3482  (3)  Computer Systems II (Pre: CS 3481, 3460; Co: 3490)
C S 3490  (3)  Programming Languages (Pre: CS 2490, 3460)
C S 3667  (3)  Software Engineering (Pre: CS 2490 w/min grade of “C”)
C S 4100  (2)  Senior Seminar (Pre: Sr. standing; CS 3100)
C S 4800  (3)  Capstone Project [CAP] (Pre: Sr. standing; CS 3667)

B. Mathematics (18 hours):

C S 1100  (3)  Discrete Mathematics (Pre: MAT 1020 or 1025 w/minimum grade “C-“)
MAT 1110  (4)  Calculus with Analytic Geometry I (Pre: MAT 1025 w/min grade C-)
MAT 1120  (4)  Calculus with Analytic Geometry II (Pre: MAT 1110 w/min grade C-)
MAT 2240  (3)  Introduction to Linear Algebra (Pre: MAT 1120)
STT 3850  (4)  Statistical Data Analysis I (Pre: MAT 1110)

C. Computer Science electives (Select 9 hours) No more than three hours of CS 3470 may be included in the nine hours. Some graduate level classes may be chosen as electives with permission of the graduate school and the CS department.

C S 3440  (3)  Client-Side Web Programming (Pre: CS 2440 w/min C-)
C S 3463  (3)  Simulation (Pre: CS 3460, STT 2810 or 4250)
C S 3470  (1-6) Current Computer Use C S 4465  (3)  Comp Graphics (Pre: CS 3460; MAT 2240)
C S 3500  (3)  Independent Study in Computer Science C S 4520  (4)  Operating Systems (Pre: CS 3482)
C S 3530-3549  (1-4) Selected Topics courses C S 4550  (3)  Theoretical Comp Sci (Pre: CS 2490)
C S 3750  (3)  Appld Neural Ntwks (Pre: CS 1440 w/min C; MAT 2240) C S 4620  (4)  Real-time Systems (Pre: CS 3482)
C S 3760  (3)  Sys Admin & Security (Pre: CS 3460 w/min grade C) C S 4740  (3)  Digital Image Proc (Pre: CS 1440 w/min C; MAT 2240)
C S 3770  (3)  Computational Crypt (Pre: CS 3460) C S 4310  (3)  Numerical Methods (Pre: MAT 2310)
C S 4435  (3)  Server-side Web Programming (Pre: CS 3430, 3440) MAT 4990  (3)  Numerical Linear Algebra (Pre: MAT 4310)
C S 4440  (3)  Artificial Intelligence (Pre: CS 3460)

D. Science Requirement: Complete a minimum of 13 semester hours from one of the following options:

Option A: PHY 1150  (5)  Analytical Physics I (Co: MAT 1110) PHY 1150  (5)  Analytical Physics I (Co: MAT 1110)
PHY 1151  (5)  Analytical Physics II (Co: MAT 1120) AND one of the following 8 s.h. sequences:

AND choose one of the following courses:

AST 1001  (4)  Intro Astronomy I-Solar Systems
AST 1002  (4)  Intro Astronomy II-Stars & Galaxies (Pre: AST 1001)

BIO 1801  (4)  Biological Concepts I (Co: CHE 1101)
CHE 1101/1110  (4)  Intro Chem I & Lab

CHE 1102/1120  (4)  Introductory Chemistry I-Lab

GLY 1101  (4)  Intro to Physical Geology

GLY 1102  (4)  Intro. to Hist Gly OR GLY 1103  (4)  Int Env & App Gly

Option B: CHE 1101/1110  (4)  Introductory Chemistry I-Lab (Pre: CHE 1101)
CHE 1102/1120  (4)  Introductory Chemistry II-Lab (Pre: CHE 1101/1110)

BIO 1801  (4)  Biological Concepts I (Co: CHE 1101)
BIO 1802  (4)  Biological Concepts II (Pre: BIO 1801)

GLY 1101  (4)  Introduction to Physical Geology

GLY 1102  (4)  Intro. to Hist Gly OR GLY 1103  (4)  Int Env & App Gly

III. MINOR (optional)

IV. ELECTIVES (taken to total minimum required for the degree, normally 122 hours) ................................................................. 8-11

2 semester hour of free electives must be outside the major discipline. 122

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