2019 COMPUTER SCIENCE FLOW CHART

Minimum of 120 Cr.

THIS FLOW CHART IS ONLY A GUIDE. PLEASE REFER TO YOUR ADVISOR FOR QUESTIONS.

Class based on ALEKS Math Assessment
MATH 140 - 3 cr, College Algebra
MATH 143 - 4 cr, Calculus Prep

Com S 127
Introduction to programming for problems solving
(Elective Course - 4 Cr**)**

Step 1

MATH 165
Calculus I
4 Cr
C- or Better

COM S 101
Orientation
R Cr

COM S 227
Introduction to Object- Oriented Programming, JAVA
(Pre-Req placement into Math 143 or higher)
4 Cr | *C- or Better*

Social Science
3 Cr

ENGL 150
(If English ACT 24 or higher, placement into English 250.
3 Cr

Step 2

MATH 166
Calculus II
4 Cr
C- or Better

COM S 203
Careers in Computer Science
R Cr
ComS 203 is a required course to graduate in Computer Science.

COM S 228
Introduction to Data Structures, JAVA
(Pre- Req C- in 227, CR/E Math 165)
3 Cr
C- or Better

Arts & Humanities
3 Cr

ENGL 250
(Pre Req ENGL 150 or exempt from ENGL150)
3 Cr
C or Better
Lib 160 (orientation*)*
1 Cr

Step 3

COM S 230
Discrete Computational Structures
(Pre-Req C- in Com S 227 and Math 165; Engl 150).
3 cr
C- or Better

COM S 300/400
(Check Pre-Req requirements)
300/400 level course from approved options.
3 Cr
C- or Better##

COM S 309
Software Development Practices.
(Pre-Req C- in ComS 228 and Math 165)
3 Cr/ C- or Better##

Social Science
*3 Cr***

Elective or World Language 101
*3/4 Cr ***

Step 4

MATH
Math option,
(Choose one)
207, 265, 266, 267, 304, 314, 317
3/4 Cr

COM S 311
Algorithms
(Pre-Req C- in Com S 228; Math 166, Com S 230 or CprE 310, Engl 150)
3 Cr/ C- or Better##

COM S 321
Introduction to Computer Architecture & Machine level programming.
(Pre-Req C- in Com S 228 and Math 165; ComS 230 or CprE 281, Engl 250)
3 Cr | C- or Better##

Arts & Humanities
3 Cr

Elective or World Language 102
*3/4 Cr ***

Step 5

Select a Science Sequence from the list on the right.

8-10 Crs total

COM S 331
Theory of Computing
(Pre-Req C- in ComS 228, Math 166 and in ComS 230 or CprE 310; Engl 250)
3 Cr/ C- or Better##

COM S 327
Advanced Prog. Techniques, C++
(Pre-Req C- in Com S 228 and Math 165)
3 Cr
C- or Better##

SpCm 212
Public Speaking
3 Cr

*Elective**

Step 6

STATISTICS
Option
(choose one)
305, 330, 341
3 Cr

COM S 300/400
(Check Pre-Req requirements)
300/400 level course from approved options.
3 Cr/C- or Better##

ENGL 302/305/ 309/314
3 Cr

Arts/Hum PHIL 343
Philosophy of Technology
*3 Cr ***
Only offered Spring Term

Step 7

COMS 342
Principles of Programming Languages.
(Pre-Req C- in 228 and Math 165; Com S 230 or CprE 310)
3Cr/C- or Better##

COMS 400
(Check Pre-Req requirements) 400 level course from Approved options
3 Cr
C- or Better##

COM S 300/400
(Check Pre-Req requirements) 300/400 level course from approved options.
3 Cr/ C- or Better##

Social Science
Can be combined with U.S. Diversity or International Perspective Requirement.
*3Cr***

*Elective**

Step 8

ComS 402
Senior Project
(Pre-Req ComS 309, 311, 331, Engl 250, SpCm 212. Co-Req ComS 342 & 352)
3 Cr/C-or Better##

COMS 352
Introduction to operating systems
(Pre-Req 321, 327, Engl 250)
3Cr
C- or Better##

COMS 400
(Check Pre-Req requirements) 400 level course from approved options
3Cr
C- or Better##

Arts/Hum
Can be combined with U.S. Diversity or International Perspective Requirement.
*3Cr***

*Elective**

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* Elective courses: Any course that is not remedial (can use minor or second major courses) - only need to meet 120 Cr total.

** U.S. Diversity, International Perspective, Arts & Humanities and Social Sciences approved course lists can be found on your degree audit, click on link for that particular requirement on your degree audit.

Requirements

World Language
- 1 year at college level or
- 3 years at high school

Arts and Humanities – 12 Cr.
1. Phil 343 – 3 Cr
2. Select additional 9 credits from LAS approved list on website and degree audit.

Social Sciences - 9 Cr
Select credits from the LAS approved list on website and degree audit.
　　3 cr. - U.S. Diversity
　　3 cr. - International Perspective.
Select credits from the University approved list on website and degree audit.

Science Sequence Options
BIOL 211/212 + Labs　　OR
BIOL 255/256 + Labs　　OR
CHEM 177/178 + Labs　　OR
GEOL 100/102 + Labs　　OR
PHYS 221/ 222 + Labs　　OR
PHYS 241/ 242 + Labs

Com S 300/400 – 15 credits
(Min of 6 credits at 400 level)

300 level options
Com S 319, 336, 362, 363
400 level options (6 credits)
Com S 407, 409, 410, 412, 413, 415, 417, 418, 421, 424, 425, 426, 430, 433, 435, 437, 440, 441, 444, 453, 454, 455, 461, 472, 474, 476, 477, Math 481, 486, 487, CprE/SE 416, Cpr E 431, Cpr E 458, Cpr E 489

Com S 414 is not an elective option

GRADUATION REQUIREMENT

8 credits from Computer Science must be at the 300+ level courses with a grade of "C" or better from ISU

Transfer Students must have at least 15.0 crs at 300+ level or above in COM S courses while in residence at ISU

Last 32 Credits must be taken at Iowa State University.

Adviser can waive 6 of the last 32 credits taken at Iowa State.