

2021/22 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

MATH 165
Calculus I

4 Cr

C- or Better

COM S 101
Orientation

R Cr

Com S 127
Introduction to
Computer
Programming- Python

4 Cr

**Social
Science**

3 Cr

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

3 Cr

MATH 166
Calculus II

4 Cr

C- or Better

COM S 227
Object- Oriented Programming
JAVA
(Pre-Req placement into Math 143
or higher)

4 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

**Select a
Science
Sequence
from the
list on the
right.**

**8-10 Crs
total**

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 228
Intro to Data Structures
JAVA (Pre- Req C- in 227
CR/E Math 165)

3 Cr

C- or Better

**Social
Science**

3 Cr**

**Elective or
World Language
101**

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##

COMS 300/400
(Check Pre-Req
requirements) Select
course from approved
options
3Cr
C- or Better##

**Elective or
World Language
102**

3/4 Cr *

COM S 300/400
Check Prereqs
Select 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##

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

SpCm 212
Public Speaking
3 Cr

**Arts &
Humanities**
3 Cr

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

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/C++
(Pre-Req C- in Com S
228 and Math 165)

3 Cr

C- or Better##

**ENGL
302/305/
309/314**

3 Cr/C or Better

**Arts/Hum
PHIL 343**
Philosophy of
Technology
3 Cr **

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

3Cr/C- or Better##

COM S 300/400
Check Prereqs
Select course
from approved
options. **3 Cr**
C- or Better##

3 Cr

C- or Better##

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

3 Cr

C- or Better##

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

Elective*

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
3 Cr
C- or Better##

3 Cr

C- or Better##

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

Elective*

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 & 232 and Lab **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, 453, 454, 455, 461, 472, 474, 476, 477, Math 481, 486, 487, Cpr E 416, Crp E 430, 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.

* 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.