

# 2019 COMPUTER SCIENCE FLOW CHART

**Minimum of 120 Credits**

Computer Science Transfer Courses with a grade of "C" or better will be eligible for departmental review.

Please be aware that if you transfer in credits which fulfill all your general education requirements (right two columns) there may be semesters where you will not be a full time student. You may need to add a minor to meet full time status (12 credits or more.) Minor information can be found at:

<http://catalog.iastate.edu/collegescurricula/minorstext>

## Requirements

### World Language:

1 year at the college level or 3 years at high school.

### Arts and Humanities – 12 Cr

- 1) Phil 343 – 3 Cr
- 2) Select an additional 9 Cr 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 Persp.

### 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.



Class based on ALEKS Math Assessment  
**MATH 140 - 3 cr**  
**MATH 143 - 4 cr**

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

COURSES HIGHLIGHTED IN YELLOW MAY BE TRANSFERABLE TO THE COMPUTER SCIENCE MAJOR AT IOWA STATE. View the Iowa State Equivalency Guide at:

<http://www.admissions.iastate.edu/equiv/index.php>



**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**  
*C- or Better prior to 2017 catalog*



**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**



**COM S 230**  
Discrete Computational Structures  
(Pre-Req C- in Math 165 and ComS 227; 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 \***



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

**COM S 311**  
Algorithms  
(Pre-Req C- in Coms 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 \***



Select a Science Sequence from the list on the right.

**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\***



8-10 Crs Total

**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**  
*C or Better*

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



**COM S 342**  
Principles of Programming Languages  
(Pre-Req C- in 228 and Math 165; ComS 230 or CprE 310)  
**3 Cr**  
*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)  
**3 Cr\*\***

**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##**

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

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

**Arts & Humanities**  
(can be combined with U.S. Diversity or International Perspective requirement)  
**3 Cr\*\***

**Elective\***

\* Elective courses - Any course that is not remedial (can use minor or second major courses) Only needed 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.