

2022/23 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 1400 - 3 cr, College Algebra

MATH 1430 - 4 cr, Calculus Prep



MATH 1650
Calculus I

4 Cr
C- or Better

COM S 1010
Orientation

R Cr

Com S 1270
Introduction to
Computer
Programming- Python
4 Cr/ C- or Better

**Social
Science**

3 Cr

ENGL 1500
(If English ACT 24 or
higher, placement
into English 2500.
3 Cr



MATH 1660
Calculus II

4 Cr
C- or Better

COM S 2270
Object- Oriented Programming
JAVA
(Pre-Req placement into Math 143
Or higher),(COMS 1270 or CPR E
1850 or SE 1850 or EE 2850
4 Cr | C- or Better

**Arts &
Humanities**

3 Cr

ENGL 2500
(Pre-Req ENGL 1500 or exempt from
ENGL1500)
3 Cr
C or Better
Lib 1600 (orientation)
1 Cr



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

COM S 2300
Discrete
Computational Structures
(Pre-Req C- in Com S
2270 and Math 1650;
Engl 150).
3 cr
C- or Better

COM S 2280
Intro to Data Structures
JAVA (Pre- Req C- in 2270
CR/E Math 1650)
3 Cr
C- or Better

**Social
Science**

3 Cr**

**Elective or
World Language
1010**

3/4 Cr *



**8-10 Crs
total**

COM S 3110
Algorithms
(Pre-Req C- in Com S
2280; Math 1660, Com S
2300 or CprE 3100,
Engl 1500)
3 Cr/ C- or Better##

COM S 3210
Introduction to Computer
Architecture & Machine level
programming.
(Pre-Req C- in Com S 2280 and
Math 1650; ComS 2300 or CprE
2810, Engl 2500)
3 Cr C- or Better##

COMS 3000/4000
(Check Pre-Req
requirements) Select
course from approved
options
3Cr
C- or Better##

**Elective or
World Language
1020**

3/4 Cr *



MATH
Math option,
(Choose one)
2070, 2650, 2660,
2670, 3040, 3140, 3170
3/4 Cr

COM S 3090
Software Development
Practices.
(Pre-Req C- in
ComS 2280 and Math
1650)
3 Cr/ C- or Better##

**COM S
3000/4000**
Check Prereqs
Select course from
approved options.
3 Cr
C- or Better##

SpCm 2120
Public Speaking
3 Cr

**Arts &
Humanities**
3 Cr



**STATISTICS
Option
(Choose one)
3050,3300,3410
3 Cr**

COM S 3310
Theory of Computing
(Pre-Req C- in ComS
2280, Math 1660 and
in ComS 2300 or CprE
3100; Engl 2500)
3 Cr/ C- or Better##

COM S 3270
Advanced Prog.
Techniques, C/C++
(Pre-Req C- in Com S
2280 and Math 1650)
3 Cr
C- or Better##

**ENGL
3020/3050/
3090/3140**
3 Cr/C or Better

**Arts/Hum
PHIL 3430**
Philosophy of
Technology
3 Cr **



COMS 3420
Principles of
Programming Languages.
(Pre-Req C- in 2280 and
Math 1650; Com S 2300
or CprE 3100)
3Cr/C- or Better##

**COM S
3000/4000**
Check Prereqs
Select course
from approved
options. **3 Cr**

COMS 4000
(Check Pre-Req
requirements) 4000
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*



ComS 4020
Senior Project
(Pre-Req ComS 3090,
3110, 3210, 3310, Engl
2500, SpCm 2120)
3 Cr/C-or Better##

COMS 3520
Introduction to
operating systems
(Pre-Req 3210, 3270,
Engl 2500)
3Cr
C- or Better##

COMS 4000
(Check Pre-Req
requirements) 4000
Level course from
Approved options
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 3430 – 3 Cr
2. Select additional 9 credits from LAS approved list on website and APR.

Social Sciences - 9 Cr

Select credits from the LAS approved list on website and APR.

- 3 cr. - U.S. Diversity**
- 3 cr. - International Perspective.**

Select credits from the University approved list on website and APR.

Science Sequence Options

- BIOL 2110 & 2120 + Labs **OR**
- BIOL 2550 & 2560 + Labs **OR**
- CHEM 1770 & 1780 + Labs **OR**
- GEOL 1000 & 1020 + Labs **OR**
- PHYS 2310 & 2320 + Labs
- Some classes offered only Fall OR Spring*

Com S 3000/4000 – 15 credits (Min of 6 credits at 4000 level)

- 3000 level options**
- Com S 3190, 3360, 3620, 3630**
- 4000 level options (6 credits)**
- Com S 4070, 4090, 4100, 4120, 4130, 4150, 4170, 4180, 4210, 4240, 4250, 4260, 4300, 4330, 4350, 4370, 4400, 4410, 4530, 4540, 4550, 4610, 4720, 4740, 4760, 4770, 4870, 4880, Math 4810, Cpr E 4160, Cpr E 4190, Crp E 4300, Cpr E 4310, Cpr E 4580, Cpr E 4890**

Com S 4140 is not an elective option

GRADUATION REQUIREMENT

8 credits from Computer Science must be at the 3000+ level courses with a grade of "C" or better from ISU

Transfer Students must have at least 15.0 crs at 3000+ 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 in the Academic Progress Report and University/LAS approved lists on our website.