

# AVC Computer Science

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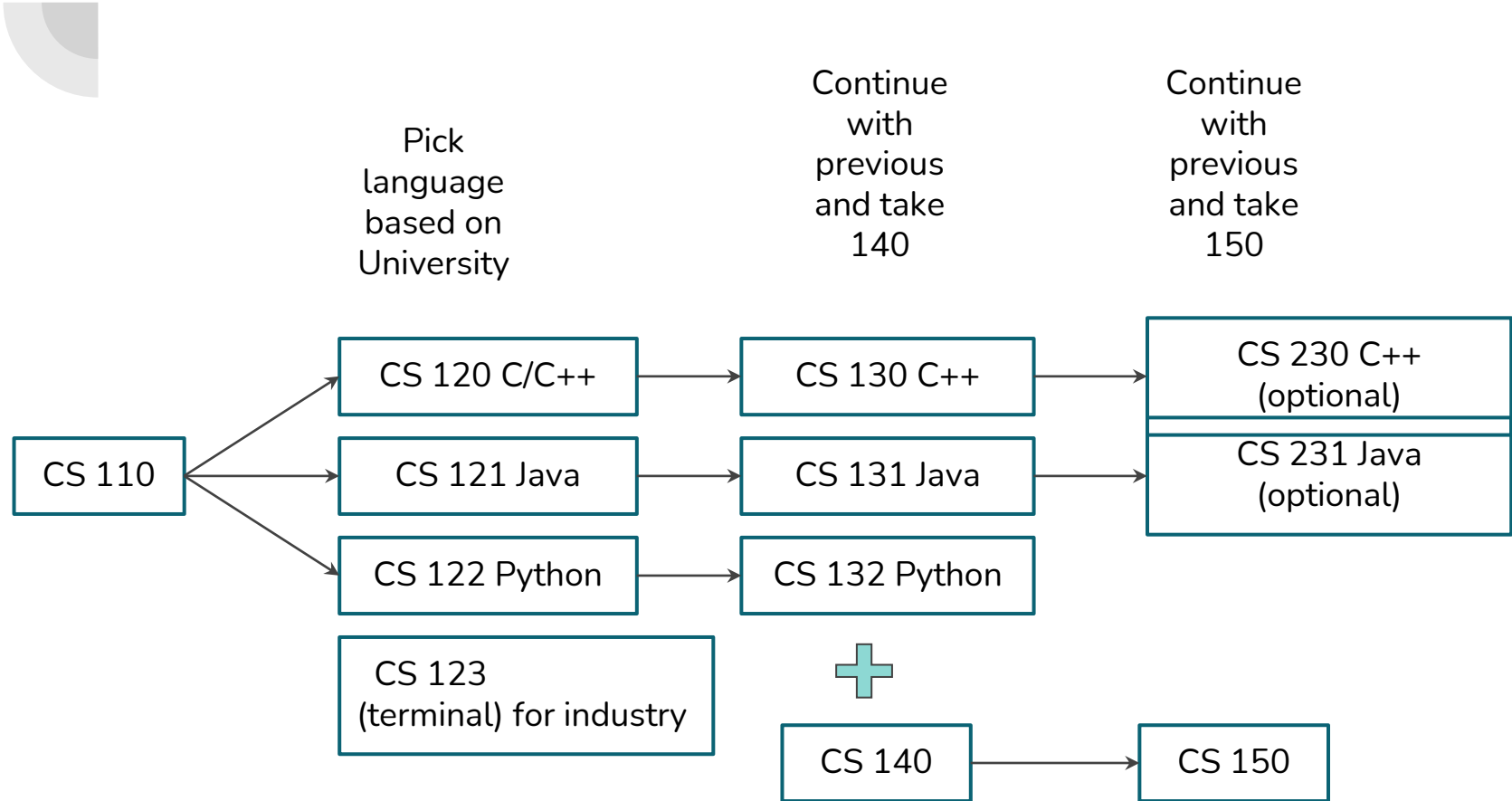




# Computer Science Courses as of Fall 2023

1. CS 100 Survey of Computer Science (formerly CIS 101)
1. CS 110 (C-ID 112) Introduction to Programming Concepts and Methodologies
1. CS 120 (C-ID 122) Programming and Algorithms in C/C++ (formerly CIS 161/173)
2. CS 121 (C-ID 122) Programming and Algorithms in Java (formerly CIS 111)
3. CS 122 (C-ID 122) Programming and Algorithms in Python (formerly CIS 177)
4. CS 123 (C-ID 122) Programming and Algorithms in C# (industry requested) (formerly CIS 174)
1. CS 130 (C-ID 132) Data Structures in C++ (CS 120 prereq)
2. CS 131 (C-ID 132) Data Structures in Java (CS 121 prereq) (formerly CIS 113)
3. CS 132 (C-ID 132) Data Structures in Python (CS 122 prereq)
1. CS 140 (C-ID 142) Assembly Language and Computer Architecture (CS 120 or 121 or 122 prereq) (formerly CIS 123)
1. CS 150 (C-ID 152) Discrete Structures (CS 130 or 131 or 132 prereq) (formerly CIS 121)
1. CS 230 Advanced Programming C++ (CS 130 prereq required)
2. CS 231 Advanced Programming Java (CS 131 prereq required) (formerly CIS 175)

# Course Flow





# Programming Fundamentals Certificate Requirements

## Programming Fundamentals (Total 15)

Complete all of the following

### Core Non Programming Courses (Total 9)

Complete all of the following

MATH150 - Calculus and Analytic Geometry 5

PHYS110 - General Physics 4

### Core Programming Courses (Total 6)

Complete the following number of rules: 1

#### C/C++ Programming (Total 6)

Complete all of the following

CS120 - Programming and Algorithms in C/C++ 3

CS130 - Data Structures using C++ 3

#### Java Programming (Total 6)

Complete all of the following

CS121 - Programming and Algorithms in Java 3

CS131 - Data Structures using Java 3

#### Python Programming (Total 6)

Complete all of the following

CS122 - Programming and Algorithms in Python 3

CS132 - Data Structures using Python 3



# Computer Science Degree Requirements

## Local AS Degree

approval)

### Computer Science AS Core Courses (Total 28-35)

Complete all of the following

#### Programming Language Options (Total 0)

Complete the following number of rules: 0

##### C/C++ Programming (Total 6)

Complete all of the following

CS120 - Programming and Algorithms in C/C++ 3

CS130 - Data Structures using C++ 3

##### Java Programming (Total 6)

Complete all of the following

CS121 - Programming and Algorithms in Java 3

CS131 - Data Structures using Java 3

##### Python Programming (Total 6)

Complete all of the following

CS122 - Programming and Algorithms in Python 3

CS132 - Data Structures using Python 3

### Core Courses Required (Total 22)

Complete all of the following

CS110 - Introduction to Programming Concepts and Methodologies 3

CS140 - Assembly Language and Computer Architecture 3

CS150 - Discrete Structures 3

MATH150 - Calculus and Analytic Geometry 5

MATH160 - Calculus and Analytic Geometry 4

PHYS110 - General Physics 4

### Core Electives (Total 6-13)

Complete the following number of credits: 6-13

CS230 - Advanced Programming and Algorithms in C++ 3

CS231 - Advanced Programming and Algorithms in Java 3

MATH220 - Linear Algebra 4

PHYS120 - General Physics 4

ENGR185 - Digital Logic and Design 4

BIOL110 - General Molecular Cell Biology 5

BIOL120 - General Organismal, Ecological and Evolutionary Biology 5

CHEM110 - General Chemistry 5

CHEM120 - General Chemistry 5

## AS-T Degree (pending final

### Computer Science AST Core Courses (Total 29-30)

Complete all of the following

#### Programming Language Options (Total 6)

Complete the following number of rules: 1

##### C/C++ Programming (Total 6)

Complete all of the following

CS120 - Programming and Algorithms in C/C++ 3

CS130 - Data Structures using C++ 3

##### Java Programming (Total 6)

Complete all of the following

CS121 - Programming and Algorithms in Java 3

CS131 - Data Structures using Java 3

##### Python Programming (Total 6)

Complete all of the following

CS122 - Programming and Algorithms in Python 3

CS132 - Data Structures using Python 3

### Core Courses Required (Total 19)

Complete all of the following

CS140 - Assembly Language and Computer Architecture 3

CS150 - Discrete Structures 3

MATH150 - Calculus and Analytic Geometry 5

MATH160 - Calculus and Analytic Geometry 4

PHYS110 - General Physics 4

### Core Course Options (Total 4-5)

Complete the following number of credits: 4-5

BIOL110 - General Molecular Cell Biology 5

BIOL120 - General Organismal, Ecological and Evolutionary Biology 5

CHEM110 - General Chemistry 5

PHYS120 - General Physics 4