



Program Map: Computer Science

Completion Award

Associate in Computer Science, DTA/MRP

Program Length

6 Quarters

Program Code

CSA

Apply Online

pencol.edu/GetStarted

This is the Associate in Computer Science program map for the Math & Science Area of Study. This map is intended as a general guide. Please work with an academic advisor regarding your specific goals and transfer requirements.

Suggested Order

Order	Category	Course	Credits
1	Communication Skills	ENGL& 101: Composition I	5
2	Elective	MATH& 141: Precalculus I	5
3	Humanities 1	Choose one: ART& 100: Art Appreciation MUSC& 105: Music Appreciation IS 101: Understanding the Humanities IS 107: History of Reason PHIL& 115: Critical Thinking	5
4	Communication Skills	Choose one: ENGL&102: Composition II ENGL& 235: Technical Writing	5
	Check for requirement at transfer institution.		
5	Elective	MATH& 142: Precalculus II	5
6	Major Requirement	CS& 141: Computer Science I with Java	5

30 Credits

7	Humanities 2	CMST& 220: Public Speaking	5
8	Major Requirement	CS 142: Computer Science II with Java	5
9	Social Science 1	Choose one: POLS& 101: Intro Political Science PSYC& 100: General Psychology SOC& 101: Introduction to Sociology SOCSI 101: Contemporary Global Issues	5

45 Credits

10	Natural Science 1	PHYS& 221L: Engineering Physics I	5
11	Quantitative Skills 1	MATH& 151: Calculus I: Analytic Geometry	5

Suggested Order

Order	Category	Course	Credits
12	Social Science 2	<i>Choose one:</i> ANTH& 234: Religion and Culture HIST& 126, 127, or 128: World Civilizations I, II, or III HIST& 146, 147, or 148: U.S. History I, II, or III POLS& 202: American Government POLS& 203: International Relations POLS& 204: Comparative Government PSYC 210: Cognitive Psychology SOC 115: Understanding Diversity SOC 230: Sociology of Gender and Sexuality	5
13	Natural Science 2	PHYS& 222L: Engineering Physics II	5
14	Natural Science 3	MATH& 152: Calculus II: Analytic Geometry	5
15	Social Science 3	<i>Choose one:</i> ECON& 201: Microeconomics ECON& 202: Macroeconomics	5
16	Humanities 3 Choose one from a different subject than Humanities 1 and 2.	<i>Choose one:</i> ART 126, 127, or 128: History of Art I, II, or III CMST& 102: Introduction to Mass Media CMST 201: Social Media & Society ENGL 250: Intercultural Literature ENGL& 254: World Literature I IS 109: Introduction to Indigenous Humanities MUSC& 141: Music Theory I PHIL 130: Ethics	5
17	Required Remaining Credit	PHYS& 223L: Engineering Physics III	5
18	University Specific Requirement or Elective	MATH& 163: Calculus 3: Analytic Geometry	5

Total credits required: 90



Math & Science

Area of Study Outcomes

Communication Competencies

- Comprehend the difference between written opinions vs ideas supported by scientific inquiry.
- Demonstrate the ability to communicate scientific ideas and the process of science.

Quantitative Reasoning

- Manipulate numbers (large and small), use common measurement systems, and solve simple linear algebraic problems.
- Recognize functional relationships between and among measurable phenomena.
- Apply systematic approaches and logic to solving quantitative problems.
- Translate mathematical symbols into words and words into mathematical symbols.
- Demonstrate the ability to use modeling and simulation to solve scientific problems.

Information Competencies

- Recognize the difference between questions of high scientific impact vs those unlikely to provide critical information about a scientific phenomenon or process.
- Ability to apply the process of science.

Critical Thinking

- Identify and troubleshoot scientific problems.
- Demonstrate the ability to use quantitative reasoning and analyze data.
- Demonstrate the ability to apply the process of science.

Personal and Interpersonal Competencies

- Gain an understanding of the relationships between science and society.
- Gain familiarity with and an appreciation for the interdisciplinary nature of science.
- Demonstrate the ability to collaborate and understand the importance of collaboration in science.

Career Pathways

By earning a degree or certificate in the area of Math & Science you'll be on your way to any of the following career opportunities listed below:

- Astronomer
- Atmospheric scientist
- Bioengineer
- Biologist
- Chemist
- Computer Scientist
- Engineer
- Environmental scientist
- Mathematician
- Materials scientist
- Physicist
- Sustainable agriculturist

Program Notes

Please note that many universities require a foreign language and intermediate algebra (Math 98 at PC) as admissions criteria. Select from three subject areas to fulfill Social Science, Natural Science, and Humanities Distribution requirements. Please refer to the AA degree guide for additional information.

Possible additional pre-college classes depending upon placement level: Engl 90 (5 credits) and Math 63/90 (5-10 credits).