



Program Map: Pre-Physical Science

Completion Award
AS Degree, DTA

Program Length
6 Quarters

Program Code
AS1P

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This is the Associate in Science Track 1, pre-Physical 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	Quantitative Skills	MATH& 151 Calculus I: Analytic Geometry	5
3	Required Pre-Major	Engineering Physics I	5
4	Required Pre-Major	PHYS& 222L: Engineering Physics II	5
5	Quantitative Skills	MATH& 152: Calculus II: Analytic Geometry	5
6	Humanities	Choose one:	5

CMST& 210: Interpersonal Communication
CMST&220: Public Speaking

30 Credits

7	Required Pre-Major	PHYS& 223L: Engineering Physics III	5
8	Social Science or Humanities	Choose one:	5
		HIST& 126, 127, or 128: World Civilizations I, II, or III PHIL& 101: Introduction to Philosophy PHIL& 115: Critical Thinking	
9	Required Pre-Major	MATH& 163: Calculus 3: Analytic Geometry	5

45 Credits

10	Social Science	SOCSI 101: Contemporary Global Issues	5
11	Required	CHEM& 161L: General Chemistry with Lab I	5
12	Additional Requirements	Choose one	5
		BIOL& 221L Ecology and Evolution CS& 141: Computer Science I with Java	
13	Remaining Credit	Choose one:	5

MATH 210: Linear Algebra
MATH 224: Intermediate Analysis
MATH 238: Differential Equations

Suggested Order

Order	Category	Course	Credits
14	Required	CHEM& 162L: General Chemistry with Lab II	5
15	Additional Requirement	Choose one: BIOL& 222L: Molecular and Cellular Biology CS 142: Computer Science II with Java	5
16	Required	CHEM& 163L: General Chemistry with Lab III	5
17	Additional Requirements	Choose one: BIOL& 223L: Organismal Biology MATH 210: Linear Algebra MATH 224: Intermediate Analysis MATH 238: Differential Equations	5
18	Remaining Credits	Elective <i>Choose in consultation with advisor and transfer institution</i>	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 as an admissions criterion.

Possible additional pre-college classes depending upon placement level:

- Engl 90 (5 credits) and Math 63/90 (5-10 credits).
- CHEM&121L or a 2.0 in high school Chemistry is a prerequisite for CHEM&161L. If needed, CHEM&121L could be counted as an additional requirement.
- MATH& 141 and MATH& 142 can be counted as additional requirements (if needed).