

# Associate in Science Degree Science, Technology, Engineering and Math

**Meta-Major:** Science, Technology, Engineering, and Mathematics (STEM)

**Specialization:** Biological/Chemical Sciences

VALENCIA COLLEGE

Catalog 2024 - 2025

## Planning Your Degree Pathway

This document outlines the courses needed to complete your AS degree (which requires 64 eligible credits) based on your degree pathway and specialization for transfer purposes. These courses include general education requirements as well as courses that may be used to meet our elective requirements and common program prerequisites (CPPs), which are courses required to earn your intended bachelor's degree from a public Florida college or university. Please connect with your assigned Student Success Coach if you need introductory coursework, have previously earned college credit (such as AP, CLEP, military, or transfer), or would like to modify when you take certain courses and/or how many courses you take in a term.

## Common Program Prerequisites (CPP)

- **BSC 1010C**<sup>\*^</sup>
- **BSC 1011C**<sup>\*^</sup>
- **CHM 1045C**<sup>\*^</sup>
- **CHM 1046C**<sup>\*^</sup>
- **CHM 2210C**<sup>\*^</sup>
- **CHM 2211C**<sup>\*^</sup>
- **STA 2023**<sup>\*+^</sup>
- **MAC 2311C**<sup>\*+^</sup>
- **PHY 2053C**<sup>\*+^</sup> and **PHY 2054C**<sup>\*+^</sup>  
or  
**PHY 2048C**<sup>\*+^</sup> and **PHY 2049C**<sup>\*+^</sup>

## Additional Degree Requirements

- **Introductory Coursework:** Placement testing may require completion of preparatory coursework
- **Foreign Language:** Required for students that plan to transfer and enroll in a bachelor's program at another institution
- **Civic Literacy:** Must satisfy with POS 2041, or AMH 2010, or AMH 2020 or appropriate scores on AP or CLEP exams (also satisfies Social Science Core)
- **Grade Point Average (GPA):** Need to maintain 2.0 or higher for both Overall GPA and Valencia GPA
- **Valencia Residency:** Complete at Valencia at least 25% of the college-level credits required for the AS degree

## Sample Term-by-Term Plan | Part Time (6-10 credits)

See reverse for all General Education course options

Term 1	Credits
<a href="#">SLS 1122</a> – New Student Experience	3
<a href="#">ENC 1101</a> – Freshman Composition I <sup>*+</sup>	3
<a href="#">SPC 1608</a> Fundamentals of Speech or <a href="#">SPC 1017</a> Interpersonal Communication	3

Term 3	Credits
<a href="#">CHM 1046C</a> – Gen. Chem. w/ Qual Analysis II <sup>*^</sup>	4
<a href="#">MAC 2311</a> – Calculus with Analytic Geo. I <sup>*+^</sup>	4

Term 5	Credits
<a href="#">CHM 2211C</a> – Organic Chemistry II <sup>*^</sup>	4
<a href="#">MAC 2312</a> – Calculus with Analytic Geo. II <sup>*+^</sup>	4

Term 7	Credits
<a href="#">PHY 2048C</a> -General Physics w/Calc. I <sup>*+^</sup> or <a href="#">PHY 2053C</a> – College Physics I w/Alg. & Trig. <sup>*+</sup>	4
<a href="#">POS 2041</a> -U.S. Government or <a href="#">AMH 1010</a> -U.S. History to 1877 or <a href="#">AMH 2020</a> U.S. History 1877 to Present	3

Term 2	Credits
<a href="#">ENC 1102</a> – Freshman Composition II <sup>*+</sup>	3
<a href="#">CHM 1045C</a> – Gen. Chem. w/ Qual Analysis I <sup>*^</sup>	4

Term 4	Credits
<a href="#">BSC 1010C</a> – General Biology I <sup>*^</sup>	4
<a href="#">CHM 2210C</a> – Organic Chemistry I <sup>*^</sup>	4

Term 6	Credits
<a href="#">BSC 1011C</a> – General Biology II <sup>*+^</sup> or <a href="#">MAC 2313</a> – Calculus with Analytic Geo III <sup>*+^</sup>	4
Humanities Core	3
Social Science Institutional	3

Term 8	Credits
<a href="#">PHY 2049C</a> – General Physics w/Calc. II <sup>*^</sup> or <a href="#">PHY 2054C</a> – College Physics II w/Alg. & Trig. <sup>*+</sup>	4
Humanities Institutional	3

## Electives and Pathway-Specific Information

- Starting your math sequence lower than MAC 2311 will require additional coursework. See a coach to discuss math sequence and options.
- It is strongly recommended to complete both parts of a science sequence at the same institution.
- Biology and Biomedical majors must take STA 2023 instead of MAC 2312
- Biology and Biomedical majors can take PHY 2053C and PHY 2054C instead of PHY 2048C and PHY 2049C
- Biochemistry and Chemistry majors take MAC 2313, Biology; Biomedical and Forensic Science majors take BSC 1011C  
Due to the order of prerequisite courses you need to take, not all semesters of this plan will qualify you for full-time enrollment.

## Financial Aid Notice

Federal Financial Aid will only pay for courses for the required Associates in Science Degree. Work closely with your assigned Student Success Coach to verify the degree on your record and to develop a customized plan that includes the required classes each term.

## General Education Course Options

Courses listed below are 3 credit hours each unless otherwise stated

### Communication (4 courses)

[SLS 1122](#) – New Student Experience  
[ENC 1101](#) – Freshman Composition I\*+  
[ENC 1102](#) – Freshman Composition II\*+  
Pick one:  
[SPC 1608](#) – Fundamentals of Speech or  
[SPC 1017](#) – Interpersonal Communication

### Humanities Core (Pick 1)

[ARH 1000](#) – Art Appreciation  
[HUM 1020](#) – Introduction to Humanities  
[LIT 1000](#) – Introduction to Literature  
[MUL 1010](#) – Music Appreciation\*+  
[PHI 2010](#) – Philosophy  
[THE 1000](#) – Introduction to Theater

### Humanities Institutional (Pick 1)

[HUM 2220](#) – Humanities - Greek and Roman\*+  
[HUM 2223](#) – Medieval Humanities \*+  
[HUM 2232](#) – Humanities Renaissance and Baroque\*+  
[HUM 2234](#) – 18<sup>th</sup> and 19<sup>th</sup> Century Humanities \*+  
[HUM 2250](#) – 20<sup>th</sup> and 21<sup>st</sup> Century Humanities \*+  
[HUM 2310](#) – Mythology\*+  
[HUM 2403](#) – Middle Eastern Humanities\*+  
[HUM 2410](#) – Asian Humanities\*+  
[HUM 2454](#) – African-American Humanities\*+  
[HUM 2461](#) – Latin American Humanities\*+  
[REL 2300](#) – World Religions\*+  
[ARC 1701](#) – History of Architecture I\*+  
[ARH 2051](#) – Introduction to Art History II\*+  
[MUT 1111](#) – Music Theory I~  
[PHI 2600](#) – Ethics and Critical Thinking\*+

### Math Core (Pick 1)

[MAC 1105](#) – College Algebra\*+  
[STA 2023](#) – Statistical Methods\*+  
[MGF1130](#) – Mathematical Thinking\*+  
[MAC 2311](#) – Calculus with Analytic Geometry I\*+

### Math Institutional (Pick 1)

*You may instead select a second course from "Math Core"*

[MAC 1114](#) – College Trigonometry\*+  
[MAC 1140](#) – Precalculus Algebra\*+  
[MAC 2312](#) – Calculus with Analytic Geometry II\*+  
[MAC 2233](#) – Calculus for Business and Social Science\*+  
[MGF1131](#) – Mathematics in Context\*+

#### Key:

\* Class has a prerequisite

+ Class requires "C" grade or higher

^ Course may require a specific grade for transfer institution

~ Must be paired with MUL 1010 to earn Humanities credit

**Bold** – Common Program Prerequisite (included in sample plan)

### Social Sciences Core (Pick 1)

[POS 2041](#) – U.S. Government  
[AMH 2010](#) – United States History to 1877  
[AMH 2020](#) – U.S. History 1877 to Present  
[ANT 2000](#) – Introduction to Anthropology  
[ECO 2013](#) – Principles of Economics – Macro  
[PSY 2012](#) – General Psychology  
*-POS 2041, AMH 2010 or AMH 2020 can satisfy Civic Literacy*

### Social Sciences Institutional (Pick 1)

[ANT 2410](#) – Cultural Anthropology\*+  
[ASL 2510](#) – Deaf Culture\*+  
[EUH 2000](#) – Ancient and Medieval Western Civilization\*+  
[EUH 2001](#) – Modern Western Civilization\*+  
[INR 2002](#) – International Politics\*+  
[POS 2112](#) – State and Local Government\*+  
[SYG 2000](#) – Introductory Sociology  
[SYG 2010](#) – Social Problems\*+  
[WOH 2012](#) – World History to 1500\*+  
[WOH 2022](#) – World History Since 1500\*+

### Science Core (Pick at least 1)

*You must complete a minimum of 6 credit hours of total science coursework. 3 credit hours must come from "Science Core."*

[AST 1002](#) – Astronomy  
[BSC 1005](#) – Biological Science  
[BSC 1005L](#) – Lab in Applied Biology (1 credit)  
[BSC 1005C](#) – Biological Science Combined w/ Lab (4 credits)  
[BSC 1010C](#) – General Biology I (4 credits)  
[CHM 1020](#) – Chemistry in Everyday Life  
[CHM 1045C](#) – General Chemistry with Qualitative Analysis I \* (4 credits)  
[ESC 1000](#) – Earth Science  
[EVR 1001](#) – Introduction to Environmental Science  
[GLY 2010C](#) – Physical Geology (4 credits)  
[OCE 1001](#) – Introduction to Oceanography  
[PHY 1020](#) – Conceptual Physics\*  
[PHY 2048C](#) – General Physics with Calculus I\* (4 credits)  
[PHY 2053C](#) – College Physics I with Algebra and Trigonometry \* (4 credits)

### Science Institutional (Pick 1)

[BOT 2010C](#) – Botany (4 credits)  
[BSC 1011C](#) – General Biology II\* (4 credits)  
[BSC 1020](#) – Human Biology  
[BSC 1020C](#) – Human Biology Combined (4 credits)  
[BSC 1026](#) – Biology of Human Sexuality  
[BSC 1421C](#) – Introduction to Biotechnology (4 credits)  
[BSC 2093C](#) – Human Anatomy and Physiology I\* (4 credits)  
[BSC 2094C](#) – Human Anatomy and Physiology II\* (4 credits)  
[CHM 1025C](#) – Introduction to General Chemistry\* (4 credits)  
[CHM 1046C](#) – General Chemistry with Qualitative Analysis II\* (4 credits)  
[GLY 2160](#) – Geology of National Parks  
[HUN 1201](#) – The Science of Nutrition\*  
[MET 1010](#) – Introduction to Meteorology  
[OCB 1000](#) – Introduction to Marine Biology  
[PHY 2049C](#) – General Physics with Calculus II\* (4 credits)  
[PHY 2054C](#) – College Physics II with Algebra and Trigonometry\* (4 credits)  
[MCB 2010C](#) – Microbiology\* (4 credits)

## Career ready? Let's check!

☐ Resume and Cover Letter

☐ Employment Readiness: <https://bit.ly/2Z41XBm>

☐ Practice Interview and Job Shadowing

☐ Internships: <https://valenciacollege.edu/students/internship/>