Associate in Arts Degree

Engineering Pathway

VALENCIACOLLEGE

Catalog 2024 - 2025

Meta-Major: Science, Technology, Engineering, and Mathematics (STEM)
Intended Bachelor's Program: Engineering – Aerospace, Civil, Computer, Construction, Electrical, Environmental, Industrial, Mechanical (UCF)

Planning Your Degree Pathway

This document outlines the courses needed to complete your AA degree (which requires 60 eligible credits) based on your degree pathway. 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 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)

- **MAC 2311*+^**
- **MAC 2312*+^**
- **MAC 2313*+^**
- **MAP 2302*^**
- **PHY 2048C*+^**
- **PHY 2049C*^**
- **CHM 1045C*^**

Additional Degree Requirements

- **Introductory Coursework:** Required courses based on placement tests including developmental education
- **Foreign Language:** Required to have 2 years of one high school foreign language or meet college-level foreign language equivalency
- **Civic Literacy:** Must satisfy with POS 2041, AMH 2010, or AMH 2020 (also satisfies Social Science Core) and Florida Civic Literacy Exam or appropriate scores on AP or CLEP exams
- **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 AA degree

Sample Term-by-Term Plan | Full Time (12+ credits)

See reverse for all General Education course options

Term 1	Credits
SLS 1122 – New Student Experience	3
ENC 1101 – Freshman Composition I*+	3
MAT 1033C – Intermediate Algebra*+	3
Civic Literacy Social Science Core	3

Term 2	Credits
MAC 1105 – College Algebra*+	3
ENC 1102 – Freshman Composition II*+	3
Humanities Core	3
SPC 1608 - Fundamentals of Speech **or** SPC 1017 - Interpersonal Communication	3

Term 3	Credits
MAC 1114 – College Trigonometry*+	3
MAC 1140 – Precalculus Algebra*+	3
Humanities Institutional*+	3

Term 4	Credits
MAC 2311 – Calc w/Analytic Geom. I*+^	4
CHM 1045C – Gen Chem. w/Qual. Analy. I*^	4
Social Science Institutional*+	3

Term 5	Credits
MAC 2312 – Calc. w/Analytic Geom. II*+^	4
PHY 2048C – General Physics w/Calc. I*+^	4

Term 6	Credits
MAC 2313 – Calc. w/Analytic Geom. III*+^	4
PHY 2049C – General Physics w/Calc. II*^	4

Electives and Pathway-Specific Information

The AA degree requires 24 credits of electives. Some electives may have been pre-filled into the term-by-term plan based on your pathway. If you are missing the Foreign Language or Civic Literacy requirements, you may need to use elective space to satisfy these.

- Starting your math sequence higher than MAT 1033C will save time and elective space; test for proper mathlevel placement
- To declare this major at UCF, students must complete MAC 2311, MAC 2312, PHY 2048C and CHM 1045C with a "C" or better
- Additional CPPs and UCF requirements offered at Valencia: COP 2220C, EGN 1007C, EGN 2312, EGN 2322, EGN 2440, EGS 1006C, EGS 2004C, and EGS 2373 – courses are contingent upon the UCF engineering specialization; the Material Science specialization also requires CHM 1046C – see a success coach to create yourindividualized plan for Valencia course work to best prepare for your UCF specialization
- Refer to the **Engineering Advising Guide** for a program-specific student checklist/resources valenciacollege.edu/engineering-guide
- 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 assists with funding for up to 60 eligible credits of your AA degree (36 credits of general education and 24 credits of electives). If your pathway exceeds 60 credits (e.g. transfer courses, prerequisites, or other course work not included in this plan), you may need to plan for alternative methods of payments, which may include out-of-pocket payments. See a Student Success Coach to discuss your options.

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 – 18th and 19th Century Humanities *+
HUM 2250 – 20th and 21st 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)*

Ready for Transfer? Let's check!

- ☐ Meet with a coach to discuss your graduation status
- ☐ Apply to graduate before the start of your final semester
- ☐ Submit an application to your bachelor's program
- ☐ Monitor your Atlas email for updates from the Graduation office