

ASSOCIATE OF SCIENCE IN ENGINEERING STUDIES (AS)

Program Overview

The Associate of Science in Engineering Studies (AS) degrees is a 2-year undergraduate transfer degree program designed largely for the completion of the general education requirements and related lower division studies typically pursued during the first two years of a four-year baccalaureate degree program. Most of the coursework in this transfer AS degree programs encompasses CSU's Core Curriculum requirements, which include some preparatory or introductory coursework for particular upper division majors. However, these transfer associate degrees do not include in-depth studies in a particular major, as in-depth studies in a major field are typically pursued at the upper division level (last two years) of a four-year degree program.

Career Opportunities

The Associate of Science (AS) degrees is a 2-year undergraduate transfer degree program designed largely for the completion of the general education requirements and related lower division studies typically pursued during the first two years of a four-year baccalaureate degree program.

Program of Study

Code	Title	Credit Hours
Core IMPACTS Area : Institutional Priorities ¹		4-5
COMM 1110	Public Speaking	3
ITDS 1779	Scholarship Across the Disciplines	2
LEAD 1705	Introduction to Servant Leadership	2
PERS 1506	Perspectives 1-hour	1
PERS 1507	Perspectives 2-hour	2
Foreign Language Course Options		
ARAB, CHIN, FREN, GERM, GREK, ITAL, JAPN, KREN, LATIN, PORT, SPAN - 1001, 1002, 2001, 2002		
SWAH 1001	Elementary Swahili I	
SWAH 1002	Elementary Swahili II	
Core IMPACTS Area : Mathematics & Quantitative Skills ¹		3-7
DATA 1501	Introduction to Data Science	3
MATH 1001	Quantitative Skills and Reasoning	3
MATH 1101	Introduction to Mathematical Modeling	3
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
MATH 1125	Applied Calculus	3
MATH 1131	Calculus with Analytic Geometry I	4
MATH 1132	Calculus with Analytic Geometry II	4
MATH 1165	Computer-Assisted Problem Solving	3
MATH 1401	Introduction to Statistics	3
MATH 1501	Calculus I	4
MATH 2125	Introduction to Discrete Mathematics	3
STAT 1401	Elementary Statistics	3
Core IMPACTS Area : Political Science and U.S. History		6
HIST 2111	U. S. History to 1865	3

or HIST 2112	U. S. History since 1865	
POLS 1101	American Government	3
Core IMPACTS Area : Arts, Humanities, and Ethics		6
Select one Fine Arts course		3
ARTH 1100	Art Appreciation	
ARTH 2125	Introduction to the History of Art I– Prehistoric through Gothic	
ARTH 2126	Introduction to the History of Art II– Renaissance through Modern	
MUSC 1100	Music Appreciation	
THEA 1100	Theatre Appreciation	
ITDS 1145	Comparative Arts ²	
Select one Humanities course		3
ENGL 2111	World Literature I	
ENGL 2112	World Literature II	
ITDS 1774	Introduction to Digital Humanities	
PHIL 2010	Introduction to Philosophy	
ITDS 1145	Comparative Arts ²	
Core IMPACTS Area : Communicating in Writing		6
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
Core IMPACTS Area : Technology, Mathematics, and Sciences ¹		7-11
ANTH 1145	Human Origins	3
ASTR 1105	Descriptive Astronomy: The Solar System	3
ASTR 1106	Descriptive Astronomy: Stars and Galaxies	3
ASTR 1305	Descriptive Astronomy Lab	1
ATSC 1112	Understanding the Weather	3
ATSC 1112L	Understanding the Weather Lab	1
BIOL 1125	Contemporary Issues in Biology Non-Lab	3
BIOL 1215K	Introductory Biology	4
BIOL 1225K	Contemporary Issues in Biology with Lab	4
CHEM 1151 & 1151L	Survey of Chemistry I and Survey of Chemistry I Lab	4
CHEM 1152 & 1152L	Survey of Chemistry II and Survey of Chemistry II Lab	4
CHEM 1211 & 1211L	Principles of Chemistry I and Principles of Chemistry I Lab	4
CHEM 1212 & 1212L	Principles of Chemistry II and Principles of Chemistry II Lab	4
CPSC 1105	Introduction to Computing Principles and Technology	3
CPSC 1301K	Computer Science I	4
ENVS 1105	Environmental Studies	3
ENVS 1105L	Environmental Studies Laboratory	1
ENVS 1205K	Sustainability and the Environment	4
GEOG 2215	Introduction to the Geographic Information Systems	3
GEOL 1110	Natural Disasters: Our Hazardous Environment	3
GEOL 1121	Introductory Geoscience I: Physical Geology	3
GEOL 1121L	Introductory Geoscience I: Physical Geology Lab	1
GEOL 1122	Introductory Geo-sciences II: Historical Geology	3
GEOL 1322	Introductory Geo-sciences II: Historical Geology Lab	1
GEOL 2225	The Fossil Record	4

PHYS 1111 & PHYS 1311	Introductory Physics I and Introductory Physics I Lab	4
PHYS 1112 & PHYS 1312	Introductory Physics II and Introductory Physics II Lab	4
PHYS 1125	Physics of Color and Sound	3
PHYS 1325	Physics of Color and Sound Lab	1
PHYS 2211 & PHYS 2311	Principles of Physics I and Principles of Physics I Lab	4
PHYS 2212 & PHYS 2312	Principles of Physics II and Principles of Physics II Lab	4
Core IMPACTS Area : Social Sciences		6
Select one Behavioral Science course		
ECON 2105	Principles of Macroeconomics	
ECON 2106	Principles of Microeconomics	
PHIL 2030	Moral Philosophy	
PSYC 1101	Introduction to General Psychology	
SOCI 1101	Introduction to Sociology	
Select one World Cultures course		3
ANTH 1107	Discovering Archaeology	
ANTH 1105	Cultural Anthropology	
ANTH 2105	Ancient World Civilizations	
ANTH 2136	Language and Culture	
ENGL 2136	Language and Culture	
GEOG 1101	World Regional Geography	
HIST 1111	World History to 1500	
HIST 1112	World History since 1500	
ITDS 1155	The Western Intellectual Tradition	
ITDS 1156	Understanding Non-Western Cultures	

Core IMPACTS Total Hours **42**

Health and Wellness **3**

KINS 1106	Lifetime Wellness	2
	or PHED 1205 Concepts of Fitness	

Select one PEDS course (<https://catalog.columbusstate.edu/course-descriptions/peds/#peds>)

¹ The hours applied in the Institutional Priorities; Mathematics & Quantitative Skills; and Technology, Mathematics, and Sciences areas must add to 18 credit hours.

² ITDS 1145 Comparative Arts, though listed under both Fine Arts and Humanities, may be taken only once.

Major Requirements

Code	Title	Credit Hours
Core Requirements		
Complete the core requirements for this program		45
Core Total		45
Field of Study Requirements		
ENGR 1255	Introduction to Engineering and Ethics	3
ENGR 2221	Computing for Engineers 1	3
ENGR 2255	Engineering Graphics and Computer Aided Design	3
Select 1 credit from the following (Area A):		1
MATH 1131	Calculus with Analytic Geometry I	

Select 1 credit from the following (Area D):		1
MATH 1132	Calculus with Analytic Geometry II	
Select at least two of the following:		7
ENGR 2115	Statics	
ENGR 2117	Circuits and Electronics	
ENGR 2125	Dynamics of Rigid Bodies	
ENGR 2165	Thermodynamics	
ENGR 2206	Digital Logic	
PHYS 2212	Principles of Physics II	
PHYS 2312	Principles of Physics II Lab	
Field of Study Requirements Total		18
Total Credit Hours		63

Program Map

Program Map with Mathematics Placement MATH 1111 College Algebra

Course	Title	Credit Hours
First Year		
Fall		
ENGL 1101	English Composition I (minimum grade of C)	3
MATH 1111	College Algebra (minimum grade of C) ¹	3
MATH 0999C	Support for College Algebra C ¹	1
	or MATH 0999B or MATH 0999A	
Area B1	COMM 1110 Public Speaking or foreign language 1001, 1002, 2001, 2002	3
ENGR 2255	Engineering Graphics and Computer Aided Design (minimum grade of C)	3
ENGR 1255	Introduction to Engineering and Ethics (minimum grade of C)	3
Area B2	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
Credit Hours		17
Spring		
ENGL 1102	English Composition II (minimum grade of C)	3
MATH 1113	Pre-Calculus (minimum grade of C) ²	4
AREA C	Fine Arts	3
CHEM 1211	Principles of Chemistry I (minimum grade of C)	3
CHEM 1211L	Principles of Chemistry I Lab (minimum grade of C)	1
AREA E	World Culture	3
KINS 1106	Lifetime Wellness	2
	or PHED 1205 or Concepts of Fitness	
Credit Hours		19
Second Year		
Fall		
MATH 1131	Calculus with Analytic Geometry I (minimum grade of C)	4

HIST 2111 or HIST 2112	U. S. History to 1865 or U. S. History since 1865	3
AREA C	Humanities	3
ENGR 2221	Computing for Engineers 1	3
CHEM 1212	Principles of Chemistry II (minimum grade of C)	3
CHEM 1212L	Principles of Chemistry II Lab (minimum grade of C)	1
Credit Hours		17
Spring		
MATH 1132	Calculus with Analytic Geometry II (minimum grade of C)	4
POLS 1101	American Government	3
ECON 2105 or ECON 2106	Principles of Macroeconomics ³ or Principles of Microeconomics	3
PHYS 2211	Principles of Physics I (minimum grade of C)	3
PHYS 2311	Principles of Physics I Lab (minimum grade of C)	1
AREA F	ENGR Course (minimum grade of C)	3
PEDS Physical Ed. course		1
Credit Hours		18
Total Credit Hours		71

¹ MATH 1111 is a prerequisite for MATH 1113 Pre-Calculus. Some students enrolled in MATH 1111 might also need to enroll, concurrently, with College Algebra support classes MATH 0999A, MATH 0999B, or MATH 0999C, depending on the amount of support needed. Given the math starting point, 8 more credits (over the usual 63) are required for this degree: MATH 1111 (3 credits), MATH support class (1 credit), and MATH 1113 (4 credits).

² Prerequisite for MATH 1131 Calculus with Analytic Geometry I.

³ Highly recommended out of list of Behavioral Science courses.

Program Map with Mathematics Placement MATH 1113 Pre-Calculus

Course	Title	Credit Hours
First Year		
Fall		
ENGL 1101	English Composition I (minimum grade of C)	3
MATH 1113	Pre-Calculus (minimum grade of C) ¹	4
ENGR 2255	Engineering Graphics and Computer Aided Design (minimum grade of C)	3
ENGR 1255	Introduction to Engineering and Ethics (minimum grade of C)	3
KINS 1106 or PHED 1205	Lifetime Wellness or Concepts of Fitness	2
Area B2	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
Credit Hours		16

Spring		
ENGL 1102	English Composition II (minimum grade of C)	3
MATH 1131	Calculus with Analytic Geometry I (minimum grade of C)	4
AREA C	Fine Arts	3
CHEM 1211	Principles of Chemistry I (minimum grade of C)	3
CHEM 1211L	Principles of Chemistry I Lab (minimum grade of C)	1
AREA E	World Culture	3
Credit Hours		17

Second Year		
Fall		
MATH 1132	Calculus with Analytic Geometry II (minimum grade of C)	4
HIST 2111 or HIST 2112	U. S. History to 1865 or U. S. History since 1865	3
ENGR 2221	Computing for Engineers 1 (minimum grade of C)	3
Select one of the following:		3
ECON 2105	Principles of Macroeconomics ²	
ECON 2106	Principles of Microeconomics ²	
PEDS Course		1
POLS 1101	American Government	3
Credit Hours		17

Spring		
AREA F	ENGR Course (see list) (minimum grade of C)	3
PHYS 2211	Principles of Physics I (minimum grade of C)	3
PHYS 2311	Principles of Physics I Lab (minimum grade of C)	1
CHEM 1212	Principles of Chemistry II (minimum grade of C)	3
CHEM 1212L	Principles of Chemistry II Lab (minimum grade of C)	1
AREA C	Humanities	3
Area B1	COMM 1110 Public Speaking or foreign language 1001, 1002, 2001, 2002	3
Credit Hours		17
Total Credit Hours		67

¹ Prerequisite course to MATH 1131 Calculus with Analytic Geometry I. 4 more credits are added to this degree because of the MATH 1113 prerequisite class for MATH 1131.

² Highly recommended out of list of Behavioral Science courses.

Program Map with Mathematics Placement MATH 1131 Calculus with Analytic Geometry I

REPP Transfer Students

Course	Title	Credit Hours
First Year		
Fall		
ENGL 1101	English Composition I (minimum grade of C)	3
MATH 1131	Calculus with Analytic Geometry I (minimum grade of C)	4
ENGR 1255	Introduction to Engineering and Ethics (minimum grade of C)	3
Area B1	COMM 1110 Public Speaking or foreign language 1001, 1002, 2001, 2002	3
ENGR 2255	Engineering Graphics and Computer Aided Design (minimum grade of C)	3
Area B2	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
Credit Hours		17
Spring		
ENGL 1102	English Composition II (minimum grade of C)	3
MATH 1132	Calculus with Analytic Geometry II (minimum grade of C)	4
CHEM 1211L	Principles of Chemistry I Lab (minimum grade of C)	1
CHEM 1211	Principles of Chemistry I (minimum grade of C)	3
PHYS 2211	Principles of Physics I (minimum grade of C)	3
PHYS 2311	Principles of Physics I Lab (minimum grade of C)	1
Credit Hours		15
Second Year		
Fall		
ENGR 2221	Computing for Engineers 1 (minimum grade of C)	3
PHYS 2212	Principles of Physics II (minimum grade of C) ¹	3
PHYS 2312	Principles of Physics II Lab (minimum grade of C) ¹	1
POLS 1101	American Government	3
KINS 1106 or PHED 1205	Lifetime Wellness or Concepts of Fitness	2
ENGR 2115	Statics (minimum grade of C) ¹	3
PEDS	Physical Education course	1
Credit Hours		16
Spring		
AREA C	Humanities	3
Select one of the following:		3
ECON 2105	Principles of Macroeconomics ²	

ECON 2106	Principles of Microeconomics ²	
AREA E	World Culture	3
AREA C	Fine Arts	3
HIST 2111 or HIST 2112	U. S. History to 1865 or U. S. History since 1865	3
Credit Hours		15
Total Credit Hours		63

¹ Or other classes listed in Area F.

² Highly recommended out of list of Behavioral Science courses.

If you plan to transfer to Georgia Tech or REPP Institutes, here is a summary of transfer requirements beyond the AS degree requirements:

- MATH: MATH 2115 Introduction to Linear Algebra, MATH 2135 Calculus with Analytic Geometry 3, MATH 3107 Differential Equations (must be finished at CSU) before transferring. These courses are not part of the AS degree.
- PHYS 2212 Principles of Physics II/PHYS 2312 Principles of Physics II Lab (Area F option) must be taken if not taken for AS.
- CHEM 1211 Principles of Chemistry I and CHEM 1212 Principles of Chemistry II with labs (Area D options) must be taken if not taken for AS.
- ENGR courses: ENGR 2115 Statics, ENGR 2125 Dynamics of Rigid Bodies, ENGR 2165 Thermodynamics must be taken at CSU prior to transferring.

Students who plan to major in Electrical Engineering or Mechanical Engineering may take #, ENGR 2117 Circuits and Electronics, ENGR 2206 Digital Logic, ENGR 2217 Robotics Engineering Design, ENGR 3235 Circuit Analytics, and ENGR 3236 Introduction to Signal Processing at CSU.

See your advisor about admission criteria to the REPP Institutes or refer to the the E&SS website under Engineering Studies. Your GPA scores in Math & Sciences will affect how easy or hard it will be to be accepted into the Georgia Tech program. In addition, Extra Curriculum activities you have done at CSU may help to transfer to Tech. Please also refer to the Sample Schedules for different Engineering Majors under the E&SS Web Site in Engineering Studies Section.

Admission Requirements

There are no program specific admission requirements.

Additional Program Requirements

There are no program specific academic regulations.