

# 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

### Program Map

### Program Map with Mathematics

### Placement MATH 1111 College Algebra

Course	Title	Credit Hours
<b>First Year</b>		
<b>Fall</b>		
ENGL 1101	English Composition I (minimum grade of C)	3
MATH 1111	College Algebra (minimum grade of C) <sup>1</sup>	3
MATH 0999C	Support for College Algebra C <sup>1</sup>	1
	or MATH 0999B or MATH 0999A	
Institutional Priorities	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
Institutional Priorities	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
<b>Credit Hours</b>		<b>17</b>
<b>Spring</b>		
ENGL 1102	English Composition II (minimum grade of C)	3
MATH 1113	Pre-Calculus (minimum grade of C) <sup>2</sup>	4
Arts, Humanities, and Ethics	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
Social Sciences	World Culture	3
KINS 1106 or PHED 1205	Lifetime Wellness or Concepts of Fitness	2

**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

Arts, Humanities, and Ethics 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 Principles of Macroeconomics <sup>3</sup> or ECON 2106 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

Field of Studies Requirements ENGR Course (minimum grade of C) 3

Health and Wellness PEDS Physical Ed. course 1

**Credit Hours 18**

**Total Credit Hours 71**

<sup>1</sup> 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).

<sup>2</sup> Prerequisite for MATH 1131 Calculus with Analytic Geometry I.

<sup>3</sup> Highly recommended out of list of Behavioral Science courses.

## Program Map with Mathematics Placement MATH 1113 Pre-Calculus

Course	Title	Credit Hours
<b>First Year</b>		
<b>Fall</b>		
ENGL 1101	English Composition I (minimum grade of C)	3
MATH 1113	Pre-Calculus (minimum grade of C) <sup>1</sup>	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
Institutional Priorities	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
<b>Credit Hours</b>		<b>16</b>
<b>Spring</b>		
ENGL 1102	English Composition II (minimum grade of C)	3
MATH 1131	Calculus with Analytic Geometry I (minimum grade of C)	4
Arts, Humanities, and Ethics	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
Social Sciences	World Culture	3
<b>Credit Hours</b>		<b>17</b>
<b>Second Year</b>		
<b>Fall</b>		
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 <sup>2</sup>	
ECON 2106	Principles of Microeconomics <sup>2</sup>	
Health and Wellness	PEDS Course	1
POLS 1101	American Government	3
<b>Credit Hours</b>		<b>17</b>
<b>Spring</b>		
Field of Study Requirements	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
Arts, Humanities, and Ethics	Humanities	3
Institutional Priorities	COMM 1110 Public Speaking or foreign language 1001, 1002, 2001, 2002	3
<b>Credit Hours</b>		<b>17</b>
<b>Total Credit Hours</b>		<b>67</b>

<sup>1</sup> 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.

<sup>2</sup> 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
<b>First Year</b>		
<b>Fall</b>		
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
Institutional Priorities	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
Institutional Priorities	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
<b>Credit Hours</b>		<b>17</b>
<b>Spring</b>		
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
<b>Credit Hours</b>		<b>15</b>

**Second Year****Fall**

ENGR 2221	Computing for Engineers 1 (minimum grade of C)	3
PHYS 2212	Principles of Physics II (minimum grade of C) <sup>1</sup>	3
PHYS 2312	Principles of Physics II Lab (minimum grade of C) <sup>1</sup>	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) <sup>1</sup>	3
Health and Wellness	PEDS Physical Education course	1
<b>Credit Hours</b>		<b>16</b>

**Spring**

Arts, Humanities, and Ethics	Humanities	3
Select one of the following:		3
ECON 2105	Principles of Macroeconomics <sup>2</sup>	
ECON 2106	Principles of Microeconomics <sup>2</sup>	
Social Sciences	World Culture	3
Arts, Humanities, and Ethics	Fine Arts	3
HIST 2111 or HIST 2112	U. S. History to 1865 or U. S. History since 1865	3
<b>Credit Hours</b>		<b>15</b>
<b>Total Credit Hours</b>		<b>63</b>

<sup>1</sup> Or other classes listed in Field of Study Requirements.<sup>2</sup> 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 (Field of Study Requirements option) must be taken if not taken for AS.
- CHEM 1211 Principles of Chemistry I and CHEM 1212 Principles of Chemistry II with labs (Technology, Mathematics, and Sciences 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.