

Integrative Studies/Engineering

Bachelor of Science Degree -- Engineering Track (Dual Degree Program)

92-95 semester hours at Clayton State

Overview

The curriculum of the Dual Degree program at Clayton State leading to a Bachelor of Science in Integrative Studies from Clayton State and a Bachelor's Degree in Engineering from Georgia Institute of Technology requires the following for completion degree at Clayton State:

Curriculum Area	Hours Required	Location
Core Curriculum: Areas A-E	42	Clayton State
Major Requirements: Area F	18	Clayton State
Additional Lower Division Requirements	8	Clayton State
Differential Equations Requirement	3	Clayton State
Lower Division Math/Science/CSCI Electives*	0-16	Clayton State
Upper Division Math/Science/CSCI Electives*	8-24	Clayton State
Upper Division Engineering Courses**	25-28	Georgia Tech
Total for BS Integrative Studies at Clayton State	120	

*Must Total at least 24 hours

**A minimum of 55 hours of coursework is required for completion of the engineering degree at Georgia Tech. 25-28 of the upper division hours will transfer back to Clayton State to complete the upper division requirements for the Bachelor's degree at Clayton State.

The total number of hours required to complete the Bachelor's Degree in Engineering depends on the particular engineering discipline in which a student enrolls. The amount of time required to complete the engineering degree is approximately 2 years but could be longer depending on the specific engineering program requirements.

Science Requirements: The 22xx/22xxL Physics sequence is required for every engineering program at Georgia Tech. The additional science requirements should be carefully chosen to satisfy the requirements of the particular engineering discipline at Georgia Tech. See **Transfer Requirements by Engineering Discipline**.

Area A—Essential Skills 9 hours

ENGL 1101	English Composition I	3 hours
ENGL 1102	English Composition II	3 hours

This degree requires completion of Precalculus in Area A. Students who must first take MATH 1111 as an elective can subsequently complete MATH 1112A to complete this requirement.

Choose One:

MATH 1112A**	Trigonometry	3 hours
MATH 1113	Precalculus	3 hours
MATH 1501	Calculus I	3 hours (1 hour counts in Area F)

Area B—Critical Thinking and Communication 4 hours

CRIT 1101	Critical Thinking	3 hours
COMM 1001	Presentational Speaking	1 hour

Area C—Humanities and Fine Arts 6 hours

Area C1—Humanities (or intermediate foreign language) 3 hours *Choose one of the following:*

ENGL 2111	World Literature I	3 hours
ENGL 2112	World Literature II	3 hours
ENGL 2121	British Literature	3 hours
ENGL 2131	American Literature I	3 hours
ENGL 2132	American Literature II	3 hours
PHIL 2201	Intro to World Philosophy	3 hours
PHIL 2601	Ethics	3 hours
Foreign Language 2001		3 hours
Foreign Language 2002		3 hours

Area C2—Fine Arts (or intermediate foreign language) 3 hours *Choose one of the following:*

ART 2301	Art of the Pre-Modern World	3 hours
ART 2302	Art of the Modern World	3 hours
CMS 2100	Introduction to Film	3 hours
MUSC 2101	Music Appreciation	3 hours

MUSC 2301	Introduction to World Music	3 hours
THEA 1100	Theatre Appreciation	3 hours
PHIL 2401	Intro to Aesthetics	3 hours
Foreign Language 2001		3 hours
Foreign Language 2002		3 hours

Area D—Natural Science and Mathematics 11 hours

Area D1. Laboratory Science 8 hours Choose two of the following:

CHEM 1211/1211L	Principles of Chemistry I (with Lab)	4 hours
CHEM 1212/1212L	Principles of Chemistry II (with Lab)	4 hours
PHYS 2211/2211L	Principles of Physics I (with Lab)	4 hours
PHYS 2212/2212L	Principles of Physics II (with Lab)	4 hours

Area D2. Additional Science, Math, or Technology 3 hours Choose one of the following if not taken in another area:

MATH 1501	Calculus I	3 hours (1 hour counts in Area F)
MATH 2502	Calculus II	3 hours (1 hour counts in Area F)

Area E—Social Sciences 12 hours

POLS 1101	American Government	3 hours
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Choose one:

HIST 2111	US History to 1877	3 hours
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HIST 2112	US History Since Reconstruction	3 hours
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Choose one:

PSYC 1101	Intro to General Psychology	3 hours
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SOCI 1101	Intro to Sociology	3 hours
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Choose one:

SOSC 2501	Survey of Social Sciences and Contemporary Issues	3 hours
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HIST 1111	Pre-Modern World History	3 hours
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HIST 1112	Modern World History	3 hours
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Area F—Major Requirements 18 hours

MATH 1501	Calculus I	1 hour
MATH 2502	Calculus II	1 or 4 hours
MATH 2503	Calculus III	4 hours
MATH 2140	Linear Algebra	3 hours
CSCI 1371	Computing for Engineers	3 hours

Choose two if Calculus I is in Area A or one if Precalculus is in Area A

(if not taken in another area):

CHEM 1211	Principles of Chemistry I	3 hours
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CHEM 1212	Principles of Chemistry II	3 hours
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PHYS 2211	Principles of Physics I	3 hours
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PHYS 2212	Principles of Physics II	3 hours
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BIOL 1107	Principles of Biology I	3 hours
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Science Elective(s)		3-6 hours
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Additional Lower Division Requirements 4-8 hours

Choose one: 3 hours

ECON 2105 Principles of Macroeconomics

ECON 2106 Principles of Microeconomics

Science Requirements: 2-6 hours

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Upper Division Mathematics Requirement 3 hours

MATH 3303	Ordinary Differential Equations	3 hours
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Lower Division Electives*: 0-16 hours

Upper Division Electives*: 8-24 hours

* Must Total at least 24 hours

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Sample Elective Choices for BS Integrative Studies:

Chemistry:

CHEM 2411/2411L	Organic Chemistry I	4 hours
CHEM 2412/2412L	Organic Chemistry II	4 hours
CHEM 3811	Analytical Chemistry	3 hours
CHEM 4110	Environmental Chemistry	3 hours
CHEM 4202	Biochemistry I	3 hours
CHEM 4203	Biochemistry II	3 hours
CHEM 4204	Forensic Chemistry	3 hours
Additional Upper Division Elective		3 hours

Mathematics:

MATH 3005	Transition to Higher Mathematics	3 hours
MATH 3003	Applied Mathematical Modeling	3 hours
MATH 3110	Survey of Algebra	3 hours
MATH 3520	Intro to Analysis	3 hours
MATH 3220	Applied Statistics	3 hours
MATH 4303	Partial Differential Equations	3 hours
MATH 4320	Numerical Methods	3 hours
MATH 4231	Modern Geometry	3 hours

Computer Science

CSCI 1301	Computer Science I (If not taken in Area F)	3 hours
CSCI 1302	Computer Science II	3 hours
MATH 2020	Discrete Mathematics	3 hours
CSCI 2302	Data Structures	3 hours
CSCI 2305	Comp Org & Arch	3 hours
CSCI 3305	Operating Systems	3 hours
CSCI 3306	Networking & Security	3 hours
CSCI 3310	Databases	3 hours

Interdisciplinary Biology/Chemistry

BIOL 1107/1107L	Principles of Biology I	4 hours
BIOL 1108/1108L	Principles of Biology II	4 hours
CHEM 2411/2411L	Organic Chemistry I	4 hours
CHEM 2412/2412L	Organic Chemistry II	4 hours
BIOL 3200	Cell Biology	3 hours
BIOL 3380	Evolution & Population Biology	3 hours
BIOL 4201	Genetics	3 hours

Interdisciplinary Math/CS

CSCI 1301	Computer Science I (If not taken in Area F)	3 hours
CSCI 1302	Computer Science II	3 hours
MATH 2020	Discrete Mathematics	3 hours
CSCI 2302	Data Structures	3 hours
MATH 3003	Applied Mathematical Modeling	3 hours
CSCI 3310	Databases	3 hours
MATH 4303	Partial Differential Equations	3 hours
MATH 4320	Numerical Methods	3 hours