# **University of North Georgia**

# **Dual Degree - Physics and Engineering**

Name: ID#: Catalog: Grad. Semester:

**Institutional Priority (7 hrs.)** 

Hrs. Grd. Sem

Major Courses (13-21 hrs.)

Other Requirements (3 hrs.)

\*Required if transferring to Georgia Tech.

Clemson University

University of Georgia

advisor regarding transferring.

Georgia Southern University

Kennesaw State University

Students must meet Admissions requirements for Engineering programs, and are not guaranteed

admission to a program. Please speak with your

**Engineering Programs:** 

Georgia Tech

Comments:

CHEM 1211/L & 1212/L can be taken to fulfill Area D requirements.

Electives (to bring total hours to at least 90hrs.)

Sem.

Hrs. Grd.

Modern Lang.\*

2. Global

\*Modern language courses at the 1001 and 1002 level are 4 credit hours.

## Mathematics & Quantitative Skills\* (3 hrs.)

1. Math\*\*\*

\*Complete by 30 hours.

\*\*Physics students must take MATH 1113 or MATH 1450.

#### Political Science and U.S. History (3 hrs.)

1. Citizenship

### Arts, Humanities, and Ethics (6 hrs.)

- 1. Lit. or Lang.
- 2. Fine Arts/Phil.

# Communicating in Writing\* (6 hrs.)

- 1. English 1101
- 2. English 1102

\*A grade of C or higher is required.

\*Complete by 30 hours.

### Technology, Mathematics, & Sciences (11 hrs.)

- 1. Lab Science
- 2. Lab Science
- 3. Math & Tech.

### Social Sciences (6 hrs.)

- 1. Behavioral Sci.
- 2. Social Science

#### Field of Study (18 hrs.)

- 1.
- 2.
- 3
- 4. 5.

**US History** 

**GA History** 

**US** Constitution

**Graduation Requirements:** 

**GA Constitution** 

39 Hours at 3/4000 Level

30 Residency Hours

Minimum 2.0 Institutional & Cumulative GPA

Minimum 60 Core Hours & 120 Semester Hours

21 Hours at the 3000/4000 Level in Major

Signatures (original only)

Date

Military Science - Cadets Only

Course

Hrs. Chk.

Course

Hrs. Chk.

Hrs. Grd

Student:

Advisor:

**PME Requirement for Contracting Cadets** 

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# **UNIVERSITY OF NORTH GEORGIA CORE IMPACTS**

Courses may have prerequisites or registration restrictions.
Review course descriptions in the Academic Catalog before registering.
Courses may appear in multiple areas, but cannot be applied to more than one area.

	TITUTIONAL PRIORITY (7 HOURS)	
MODERN LANGUAGE (3	-4 HOURS). CHOOSE ONE:	
	ge at the 1001, 1002, 2001, or 2002 Level	3-4
. ,	CHOOSE ONE OR TWO:	
ANTH 1102	Introduction to Anthropology	3
CGLO 1503	Contemporary Global Topics	3
COMM 1503	Intercultural Communication	3
DVRS 1503	Studies in Diversity Issues	3
ENGL 2111	World Literature I	3
ENGL 2112	World Literature II	3
ENGL 2160	Multicultural American Literature	3
ENST 2030	Environmental Studies & Sustainability	3
GEOG 1101	Introduction to Human Geography	3
GEOG 1102	World History I	3
HIST 1111	World History I	3
HIST 1112	World History II	3
HIST 2860/RELG 2860 INED 2902/2903	History of World Religions	3 2-3
PHIL 2200	Special Topics in International Perspectives	3
POLS 1153	Ethics from a Global Perspective  Global Citzenship	3
POLS 1153 POLS 2301	Introduction to Comparative Politics	3
POLS 2301 POLS 2401	Global Issues	3
	Introduction to Social Problems	-
SOCI 1160 MATHEMA	TICS & QUANTITATIVE SKILLS (3 HOURS)	3
MATHEMATICS (3 HOUR	<u> </u>	
MATH 1001	Quantitative Skills & Reasoning	3
MATH 1101	Mathematical Models	3
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	(3
MATH 1450 (1501)	Calculus I (1 hour can be used elsewhere)	4
, ,	1111 or higher required for Nursing majors.	
CITIZENSHIP (3 HOURS	L SCIENCE AND U.S. HISTORY (3 HOURS)  D. CHOOSE ONE:	
HIST 2111	U.S. History I	3
HIST 2112		
	U.S. History II	3
POLS 1101	U.S. History II  American Government	-
	•	3
ARTS	American Government	3
ARTS	American Government HUMANITIES, & ETHICS (6 HOURS)	3
ARTS LITERATURE OR LANG Any Non-English Languag	American Government  HUMANITIES, & ETHICS (6 HOURS)  HUMANITIES (1 HOURS) CHOOSE ONE:	3
ARTS LITERATURE OR LANGI Any Non-English Languag ENGL 2111	American Government  HUMANITIES, & ETHICS (6 HOURS)  JAGE (3 HOURS) CHOOSE ONE:  ge at the 2001 or 2002 Level	3 3
ARTS LITERATURE OR LANGI Any Non-English Languag ENGL 2111 ENGL 2112	American Government  American Government  HUMANITIES, & ETHICS (6 HOURS)  HAGE (3 HOURS) CHOOSE ONE:  Be at the 2001 or 2002 Level  World Literature I	3 3 3
ARTS LITERATURE OR LANG Any Non-English Languag ENGL 2111 ENGL 2112 ENGL 2115	American Government  b, HUMANITIES, & ETHICS (6 HOURS)  UAGE (3 HOURS) CHOOSE ONE:  ge at the 2001 or 2002 Level  World Literature I  World Literature II	3 3 3 3
ARTS LITERATURE OR LANG Any Non-English Languag ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121	American Government  HUMANITIES, & ETHICS (6 HOURS)  JAGE (3 HOURS) CHOOSE ONE:  Je at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature	3 3 3 3 3
ARTS LITERATURE OR LANG Any Non-English Languag ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2121	American Government  HUMANITIES, & ETHICS (6 HOURS)  JAGE (3 HOURS) CHOOSE ONE:  Je at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature I	3 3 3 3 3 3
ARTS LITERATURE OR LANG Any Non-English Languag ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2121 ENGL 2122 ENGL 2131	American Government  HUMANITIES, & ETHICS (6 HOURS)  JAGE (3 HOURS) CHOOSE ONE:  Je at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  British Literature II	3 3 3 3 3 3 3
ARTS LITERATURE OR LANG Any Non-English Languag ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2131	American Government  HUMANITIES, & ETHICS (6 HOURS)  HOURS  HOURS	3 3 3 3 3 3 3 3
ARTS LITERATURE OR LANGI Any Non-English Languag ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2132 ENGL 2143	American Government  HUMANITIES, & ETHICS (6 HOURS)  HOURS  HOURS	3 3 3 3 3 3 3 3 3
ARTS LITERATURE OR LANGI Any Non-English Languag ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2132 ENGL 2143 ENGL 2145	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  The at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  African American Literature	3 3 3 3 3 3 3 3 3 3
ARTS LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2132 ENGL 2143 ENGL 2145 ENGL 2150/MDST 2150	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  The at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  Anderican Literature II  Anderican Literature II  African American Literature  Native American Literature	3 3 3 3 3 3 3 3 3 3 3 3
ARTS LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2143 ENGL 2143 ENGL 2145 ENGL 2150/MDST 2150 ENGL 2160	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  Le at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film	3 3 3 3 3 3 3 3 3 3 3 3 3
ARTS LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2143 ENGL 2143 ENGL 2145 ENGL 2150/MDST 2150 ENGL 2160 ENGL 2165	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  Le at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
ARTS  LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2143 ENGL 2145 ENGL 2145 ENGL 2160 ENGL 2165 Note: A "C" or better in E	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  Le at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
ARTS LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2121 ENGL 2121 ENGL 2131 ENGL 2132 ENGL 2143 ENGL 2143 ENGL 2145 ENGL 2150/MDST 2150 ENGL 2160 ENGL 2165 Note: A "C" or better in E	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  Le at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  American Literature II  Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature  NGL 1102 is a prerequisite for ENGL 21XX and MDST 21	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
ARTS  LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2143 ENGL 2143 ENGL 2145 ENGL 2160 ENGL 2160 ENGL 2160 ENGL 2165 Note: A "C" or better in E FINE ARTS OR PHILOSO ART(S) 1100	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  Le at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature  NGL 1102 is a prerequisite for ENGL 21XX and MDST 21  DPHY (3 HOURS). CHOOSE ONE:	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 5 5 6
ARTS LITERATURE OR LANGE Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2143 ENGL 2145 ENGL 2145 ENGL 2160 ENGL 2160 ENGL 2165 Note: A "C" or better in E FINE ARTS OR PHILOSO ART (S) 1100 ART 2510	American Government  American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  Be at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature  NGL 1102 is a prerequisite for ENGL 21XX and MDST 21  DPHY (3 HOURS). CHOOSE ONE:  Art Appreciation	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
ARTS LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2121 ENGL 2121 ENGL 2131 ENGL 2132 ENGL 2133 ENGL 2143 ENGL 2145 ENGL 2145 ENGL 2160 ENGL 2160 ENGL 2160 ENGL 2165 Note: A "C" or better in E FINE ARTS OR PHILOSO ART (S) 1100 ART 2510 ART 2520	American Government  American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  Be at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature  NGL 1102 is a prerequisite for ENGL 21XX and MDST 21  DPHY (3 HOURS). CHOOSE ONE:  Art Appreciation  Introduction to Art History I	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
ARTS LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2121 ENGL 2121 ENGL 2131 ENGL 2132 ENGL 2134 ENGL 2143 ENGL 2145 ENGL 2150/MDST 2150 ENGL 2160 ENGL 2160 ENGL 2165 Note: A "C" or better in E FINE ARTS OR PHILOSO ART (S) 1100 ART 2510 ART 2520 COMM 1110	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  The at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature  NGL 1102 is a prerequisite for ENGL 21XX and MDST 21  DPHY (3 HOURS). CHOOSE ONE:  Art Appreciation  Introduction to Art History II	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
ARTS  LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2121 ENGL 2121 ENGL 2131 ENGL 2132 ENGL 2134 ENGL 2143 ENGL 2145 ENGL 2145 ENGL 2160 ENGL 2160 ENGL 2160 ENGL 2160 ENGL 2160 ENGL 2160 ART 2510 ART 2510 ART 2520 COMM 1110 COMM 2050	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  The at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature  NGL 1102 is a prerequisite for ENGL 21XX and MDST 21  CPHY (3 HOURS). CHOOSE ONE:  Art Appreciation  Introduction to Art History II  Public Speaking	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 50.
ARTS  LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2143 ENGL 2145 ENGL 2145 ENGL 2160 ENGL 2160 ENGL 2160 ENGL 2160 ENGL 2160 ART 2510 ART 2510 ART 2520 COMM 1110 COMM 2050 MDST 1110	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  The at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature  NGL 1102 is a prerequisite for ENGL 21XX and MDST 21  COPHY (3 HOURS). CHOOSE ONE:  Art Appreciation  Introduction to Art History II  Public Speaking  Media, Culture, and Society	3 3 3 3 3 3 3 3 3 3 3 3 3 50.
Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2143 ENGL 2145 ENGL 2145 ENGL 2150/MDST 2150 ENGL 2165 Note: A "C" or better in E	American Government  HUMANITIES, & ETHICS (6 HOURS)  AGE (3 HOURS) CHOOSE ONE:  ge at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature  NGL 1102 is a prerequisite for ENGL 21XX and MDST 21  DPHY (3 HOURS). CHOOSE ONE:  Art Appreciation  Introduction to Art History II  Public Speaking  Media, Culture, and Society  Film Appreciation	3 3 3 3 3 3 3 3 3 3 3 3 3 50.
ARTS  LITERATURE OR LANGI Any Non-English Language ENGL 2111 ENGL 2112 ENGL 2115 ENGL 2121 ENGL 2122 ENGL 2131 ENGL 2132 ENGL 2143 ENGL 2145 ENGL 2145 ENGL 2160 ENGL 2166 Note: A "C" or better in E FINE ARTS OR PHILOSO ART (S) 1100 ART 2510 ART 2520 COMM 1110 COMM 2050 MDST 1110 MUSC 1100	American Government  HUMANITIES, & ETHICS (6 HOURS)  JAGE (3 HOURS) CHOOSE ONE:  Je at the 2001 or 2002 Level  World Literature I  World Literature II  Gender and Literature  British Literature II  American Literature II  American Literature II  African American Literature  Native American Literature  Literature and Film  Multicultural American Literature  Survey of Latina/o U.S. Literature  NATO 1102 is a prerequisite for ENGL 21XX and MDST 21  DPHY (3 HOURS). CHOOSE ONE:  Art Appreciation  Introduction to Art History II  Public Speaking  Media, Culture, and Society  Film Appreciation  Music Appreciation  Music Appreciation	3 3 3 3 3 3 3 3 3 3 3 3 50.

Theatre Appreciation

THEA 1100

WRITING (6 HOURS).	TAILE BOTTI.	_
ENGL 1101	English Composition I	
ENGL 1102	English Composition II	
Note: A "C" o	or better is required in both ENGL 1101 & ENGL 1102.	
TECHNOL	DGY, MATHEMATICS, & SCIENCES (11 HOURS)	
NURSING MAJORS (8	HOURS). A CHEMISTRY SEQUENCE IS REQUIRED:	
STEM MAJORS (8 HC	URS). CHOOSE TWO, IN A SEQUENCE:	
ASTR 1010/L	Astronomy of the Solar System and Lab	Т
ASTR 1020/L	Stellar and Galactic Astronomy and Lab	Ť
BIOL 1101K/1011K	Biology: A Human Perspective/Intro. to Biology I and Lab	Ť
BIOL 1102K	Introduction to Ecology and Lab	+
		÷
BIOL 1107K	Principles of Biology I and Lab	+
BIOL 1108K	Principles of Biology II and Lab	1
BIOL 1101K/1011K	Biology: A Human Perspective/Intro. to Biology I and Lab	I
BIOL 1260K	Environmental Sciences and Lab	⊥
CHEM 1151/L (1151K)	Survey of Chemistry I and Lab	Т
CHEM 1152/L (1152K)	Survey of Chemistry II and Lab	Ť
CHEM 1211/L (1211K)	Principles of Chemistry I and Lab	Ť
	Principles of Chemistry I and Lab	+
		÷
ENVS 2111K	Physical Environmental Science and Lab	+
ENVS 2112K	Environmental Management & Sustainability and Lab	4
GEOG 1111K	Introduction to Physical Geography and Lab	1
GEOG 1112/L	Introduction to Weather & Climate and Lab	_
GEOL 1121K	Physical Geology and Lab	Т
GEOL 1122K	Historical Geography and Lab	Ť
PHYS 1111/L (1111K)	Introductory Physics I and Lab	Ť
PHYS 1112/L (1112K)		+
		÷
PHYS 2211/L (2211K)	Principles of Physics I and Lab	+
PHYS 2212/L (2212K)	Principles of Physics II and Lab	_
	TECHNOLOGY (3 HOURS). CHOOSE ONE:	_
MATH 1113	Pre-Calculus	+
MATH 1401	Elementary Statistics	+
MATH 1450 (1501) MATH 2040	Calculus I (1 hour can be used elsewhere)  Brief Calculus	+
MATH 2460	Calculus II (1 hour can be used elsewhere)	+
MATH 2510	Introduction to Discrete Mathematics	+
CSCI 1250	Information Technologies (non-science majors)	+
CSCI 1301 (1301K)	Computer Science I	†
CSCI 1371	Computing for Scientists and Engineers**	†
DATA 1501	Introduction to Data Science (non-science majors)	Ť
GISC 2011/L	Geographic Information Science and Lab	Ť
*Designed for studer	nts majoring in Physics or Dual Degreel Engineering Progran	ns
	SOCIAL SCIENCES (6 HOURS)	
BEHAVIORAL SCIEN	CE (3 HOURS). CHOOSE ONE:	_
ANTH 1102	Introduction to Anthropology	1
ECON 2105	Principles of Macroeconomics	1
PSYC 1101	Introduction to Psychology	1
SOCI 1101	Introduction to Sociology	
SOCIAL SCIENCE (3	HOURS). CHOOSE ONE:	_
ENST 2030	Environmental Studies & Sustainability	
GEOG 1101	Introduction to Human Geography	
GEOG 1102	World Regional Geography	
HIST 1111	World History I	
HIST 1112	World History II	
HIST 2111	U.S. History I	ſ
HIST 2112	U.S. History II	ſ
POLS 1101	American Government	T
POLS 2301	Introduction to Comparative Politics	T
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