

at a campus-level economics symposium. In addition, all students are to present their work before the collected faculty, students and guests of the economics department. Prerequisites: ECO 310, 311 and eight additional hours of economics numbered 300 or above; senior economics major.

ECO 499. UNDERGRADUATE RESEARCH

1-4 sh

In collaboration with an economics faculty member, students undertake an empirical or theoretical study of a topic in economics. Research projects may include an extensive review of literature, data collection and econometric analysis and public presentation (oral or written) of the study after completion. Prerequisite: approval of faculty mentor and department chair.

Education

Chair, Department of Education: Professor Howard

Professors: Crawford, Dillashaw, Long

Associate Professors: Stasz, Stuart

Assistant Professors: Byrd, Enfield, Knight-McKenna, Mihans, Rohr, Tomasek

The mission of Teacher Education at Elon University is to prepare quality teachers who are knowledgeable, responsible and thoughtful professionals. The conceptual framework, “Thoughtful Practice in a Community of Learners,” reflects the intention to create a learning environment in which teacher candidates inquire and collaborate to develop the knowledge, skills and dispositions for effective professional practice.

Knowledge

1. Demonstrate in-depth knowledge of the subject area(s) for which they seek licensure.
2. Use knowledge of students’ learning process to inform instruction.
3. Demonstrate understanding of pedagogical knowledge relevant to the subject area(s) for which they seek licensure.
4. Choose appropriately from among multiple instructional strategies to promote optimal student learning.
5. Choose appropriately from among a variety of resources, including technology, to promote active student learning.

Inquiry

6. Seek to understand students’ family and community, collaborate with parents and professional colleagues and establish a knowledge building community to inform practice.
7. Inquire, actively and persistently, about student learning through the use of a variety of assessment procedures.
8. Analyze, through reflective practice, the effectiveness of their instruction and make appropriate adaptations to maximize student learning.

Professionalism

9. Establish positive classroom learning environments that support the social and academic growth of students.
10. Hold high expectations for the academic and social growth of all students.
11. Seek opportunities to further personal learning and professional growth.

12. Demonstrate enthusiasm and respect for the profession of teaching.

Elon's education program prepares teachers for careers in the elementary, middle and high school grades. The program emphasizes practical hands-on experience in classrooms as well as educational theory and pedagogy. Yearly field experiences in public school classrooms begin the first year and culminate with a full semester of teaching in the teacher candidate's licensure area.

Elon is widely recognized for the success of its Teacher Education program, which is accredited by the National Council for Accreditation of Teacher Education, and is one of only five private institutions in the state selected to offer the prestigious N.C. Teaching Fellows program.

Elon University offers programs leading to N.C. licensure in elementary education, middle grades education, special education (General Curriculum), special subject areas for grades K-12 and in seven areas at the secondary level.

The student who successfully completes any of the Teacher Education programs at Elon University will be eligible for licensure to teach in North Carolina. The state of North Carolina is party to the Interstate Certification Compact which qualifies Elon University graduates also to be licensed in all states party to this Compact. Currently there are 26 states which have entered into this reciprocity agreement. Any student planning to teach in a state not a part of the Interstate Certification Compact should obtain a copy of the licensure requirements for a public school teacher from the state superintendent of education of the state in which the student plans to teach.

Before being admitted into the Teacher Education program, the student must make application to the program and be recommended by the appropriate major department. The basic testing requirement for admission to Teacher Education is the PRAXIS I (PPST) tests in reading, writing and mathematics with minimum scores as established by the NC State Board of Education.

SAT or ACT scores may be substituted for the PRAXIS I tests as follows:

- Students who score at least 1100 on the SAT (combined verbal and mathematics) or an ACT composite score of 24 are exempt from taking the PRAXIS I examinations.
- If the SAT total is less than 1100 (or less than 24 ACT composite), PRAXIS I exams are required as follows:
- Students who score at least 550 on the math SAT (24 on math ACT) are exempt from the math PRAXIS I. If the math score is less than 550 SAT (24 ACT), students must take the math PRAXIS I exam.
- Students who score at least 550 on the verbal SAT (24 on English ACT) are exempt from both the reading and writing PRAXIS I examinations. If the verbal score is less than 550 SAT (24 ACT), students must take *both* the reading and writing PRAXIS I examinations.

In addition, all students must demonstrate grammar competency and earn a grade of C- or better in ENG 110 and MTH 210 (if required for the major) to be admitted to the teacher education program.

In all cases, approval for admission to the program is subject to the discretion of the Teacher Education Committee, which bases its decision not only on the above factors, but also on satisfactory command of standard English usage (written and oral) and acceptable

dispositions. Students whose dispositions are not acceptable will be interviewed by the department chair and/or a committee of education faculty. Depending on the severity of the problem, a student may be denied admission to the program or admitted with probationary status. In some cases probationary status will require a contract. Students who do not demonstrate acceptable dispositions while in the program may be removed from the program by the Teacher Education Committee. All students who are admitted to the program are required to attend the Teacher Candidate Induction Ceremony.

Application forms for the Teacher Education program are available in the office of the School of Education and must be filed by October 15 or March 15 of the semester immediately prior to the beginning of the student’s junior year. (To be eligible for Education Department Scholarships, spring applications are due by February 1 and students must be fully admitted by March 1.) A student must be unconditionally admitted to the program before being permitted to take education courses beyond the 200 level. Any exceptions to this policy must be approved by the dean of the School of Education.

To be recommended for teacher licensure, a teacher candidate must meet all academic requirements and have a minimum GPA of 2.5. A teacher candidate must also meet the North Carolina minimum score on the Specialty Area Test (minimum scores for these tests vary with content area) and have a recommendation from the school system in which student teaching was completed. They must also demonstrate mastery of technology competencies as required by the North Carolina State Board of Education.

All students who are education majors or who already hold a bachelor’s degree and are seeking only licensure are subject to the decisions and regulations of the N.C. State Board of Education. These decisions and regulations are binding on the student on the date and time specified by the board.

At Elon University, the Teacher Education programs are fully approved by the N.C. State Board of Education. While a student ordinarily may graduate and be licensed under the catalog requirements in effect at the time the student is admitted to the Teacher Education program, the board may mandate changes in standards of approved teacher education programs, requiring students to modify or add to their original degree programs to be eligible for licensure upon completion of graduation requirements. Students should consult their advisor about current program requirements.

A major in Elementary Education consists of the courses necessary to meet the requirements for elementary education (K-6) licensure in the public schools of North Carolina. The following courses are required of all elementary education majors:

FOUNDATIONAL COURSES

BIO	101	Topics in General Biology	3 sh
BIO	102	General Biology Lab	1 sh
SCI	121	Science Without Borders	4 sh
POL	111	American Government	4 sh
HST	123	The U.S. and N.C. since 1865	4 sh
MTH	210	Mathematics for Elementary and Middle Grades Teachers (GS Math requirement or equivalent is a prerequisite)	4 sh
CIS	220	Computers and Teaching	3 sh
PSY	321	Educational Psychology	4 sh
PEH	362	Healthful Living in the Elementary School	2 sh

FNA	369	Fine Arts in the Public Schools	4 sh
EDU	298	Children's Literature	4 sh
EDU	211	School and Society	4 sh
Cultural Perspective Concentration (see page 119)			12 sh
EDU	323	Literacy Development I: Principles and Practices	3 sh
EDU	324	Literacy Development II: Strategies & Instruction for Struggling Readers	3 sh
EDU	346	Classroom Management	2 sh
EDU	451	Teaching Diverse Learners	4 sh
<u>Principles of Learning and Teaching (PLT) I</u>			8 sh
EDU	311	Principles of Learning and Teaching (PLT) I <i>Concentration areas:</i> Language Arts and Social Studies Methods and Materials or	
EDU	312	Principles of Learning and Teaching (PLT) I <i>Concentration areas:</i> Mathematics and Science Methods and Materials and	
<u>Principles of Learning and Teaching (PLT) II</u>			8 sh
EDU	411	Principles of Learning and Teaching (PLT) II <i>Concentration areas:</i> Language Arts and Social Studies Methods and Materials or	
EDU	412	Principles of Learning and Teaching (PLT) II <i>Concentration areas:</i> Mathematics and Science Methods and Materials	
Students who enroll in EDU 311 will enroll in EDU 412 in the following semester.			
Students who enroll in EDU 312 will enroll in EDU 411 in the following semester.			
This will ensure that all four content areas are addressed.			
EDU	481	Supervised Observation and Student Teaching	10 sh
EDU	482	Critical Issues in Education: Capstone Seminar I	2 sh
EDU	483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
<hr/> TOTAL			<hr/> 95 sh

Cultural Perspective Concentrations

Elementary Education majors are encouraged to pursue a minor in one of the following areas:

- African/African-American Studies
- Asian Studies
- Foreign Language
- International Studies
- Italian Studies
- Latin American Studies
- Women's/Gender Studies

When a minor is not possible, Elementary Education majors are required to choose a minimum of 12 credit hours in a concentration with at least four hours at the 300-400 level. Students are strongly encouraged to study abroad for a semester or winter term to meet these requirements. Courses fulfilling the cultural perspective concentration requirement may, as appropriate, also fulfill general studies requirements. Minors in

other areas are also encouraged. In cases where students elect to take a minor in an area other than one of the cultural concentrations, they are strongly encouraged to study abroad and, as possible, take courses in an area of cultural concentration.

Following are the approved cultural perspective concentrations:

- Education for Social Justice
- International Studies
- Italian Studies
- Semester Abroad
- Society and Environment
- Women's/Gender Studies

Education for Social Justice

Students choosing the Education for Social Justice Concentration are encouraged to expand the concentration to complete a minor in one of the following areas:

- African/African-American Studies
- Non-Violence Studies
- International Studies

International Studies

Students choosing the International Studies Concentration should begin their course of study with HST/INT 221 (4 sh) World in the Twentieth Century.

Choose one of the following options:

- Foreign Language Study (8 sh of one modern foreign language)
- Regional Concentration

- Africa
- Asia
- Europe
- Latin America

Students are encouraged to expand the *International Studies Concentration* to complete a minor in one of the following areas:

- African/African-American Studies
- Asian Studies
- Foreign Language
- International Studies
- Latin American Studies

*Global Studies is not an option.

Italian Studies

Students choosing the Italian Studies concentration are encouraged to expand the concentration and complete a minor in Italian Studies.

Semester Abroad

A semester abroad may substitute for the concentration requirements. Check with your advisor for appropriate semester abroad options.

Society and Environment

This concentration is designed for teacher candidates who would like to pursue a more scientific approach to issues of diversity. This concentration is an exceptionally good fit with the elementary science curriculum.

Women's/Gender Studies

Students choosing the Women's/Gender Studies concentration are encouraged to expand the concentration to complete a minor in Women's/Gender Studies.

The courses listed under each concentration provide *examples* of possibilities. Courses in the minor and additional courses may be approved by the department chair in education in consultation with the appropriate department chair or program director. These courses may also count toward general studies requirements.

Education for Social Justice

- ENG 255 Topics in Literature (as thematically appropriate)
- ENG 238 African-American Literature before 1945
- ENG 239 African-American Literature since 1945
- ENG 337 Asian Literature of Social Change
- ENG 359 African-American Novels
- ENG 370 Simple Living
- ENG 372 Literature of Non-Violence
- ENG 373 America and Vietnam (cross-listed with GST 373)
- MUS 343 African-American Composers (cross-listed with GST 343)
- PHL 352 Eastern Philosophy
- PHL 348 Environmental Ethics
- PHL 330 Economic Justice (cross-listed with GST 330)
- HST 133 Civil Rights Movement
- HST 363 African-American History, 1850-Present
- HST 388 History of the Caribbean
- REL 341 Christian Ethics
- REL 345 Theology of Human Liberation
- REL 348 Environmental Ethics
- REL 353 Buddhism
- REL 377 Feminist Ethics
- REL 279 Topics in Eastern Religion
- GEO 310 Development and the Environment in Latin America, Africa, Asia
- GEO 320 Geography of Africa
- GEO 331 Study Abroad: Analyzing Your Experience
- GEO 342 Gender and Environment in South America
- POL 141 International Relations
- POL 324 Civil Liberties
- POL 342 U.S. Foreign Policy
- POL 345 International Terrorism
- POL 367 Politics of Africa
- POL 368 Latin American Politics
- POL 374 Judicial Administration
- POL 377 Politics of Victimization
- POL 441 Peace, War and Conflict Resolution
- PSY 325 Psychology of American Protest Music
- PSY 327 Psychology of Non-Violence
- PSY 357 Criminal Behavior
- SOC 241 Social Issues and Problems
- SOC 245 Non-Violence of the Brave: From Gandhi to King
- SOC 341 Ethnic and Race Relations
- SOC 343 Social and Cultural Change

International Studies

HST/INT 221 (4) World in the Twentieth Century

This course is required in this concentration.

Regional Concentration: Africa

ARH	341	African Art
ENG	255	Topics in Literature (as thematically appropriate)
ENG	338	African Experiences in Literature
FRE	362	Francophone Cultures Outside France
HST	313	Modern Africa
HST	314	History of Southern Africa
GEO	320	Geography of Africa
POL	141	International Relations (cross-listed with INT 141)
POL	367	Politics of Africa
AAA	361	Seminars in African/African American Studies
AAA	491	Independent Study

Regional Concentration: Asian

ENG	255	Topics in Literature (as thematically appropriate)
ENG	337	Asian Literature of Social Change
PHL	352	Eastern Philosophy
PHL	353	Zen and the Culture of Japan
HST	320	China, Japan and the Pacific Century
REL	352	Hinduism
REL	353	Buddhism
POL	141	International Relations (cross-listed with INT 141)
POL	363	Politics of Asia
POL	365	Politics of Eurasia
ENS	310	Environmental Issues of Southeast Asia

Regional Concentration: Europe

ENG	222	British Literature II
ENG	325	Romanticism
ENG	326	Realism and the Later 19th Century
ENG	356	The Novel: British Women Writers
PHL	433	Marx, Darwin and Freud
FRE	332	Survey of Modern French Literature
FRE	361	French Civilization
SPN	333	Spanish Civilization
SPN	351	Studies in Peninsular Literature
SPN	353	Survey in Peninsular Literature
HST	316	The History of Imperial Russia to 1917
HST	317	Russia & the Soviet Union since 1917
HST	324	England within the British Empire
HST	326	History of Ireland
HST	327	History of Scotland
HST	335	Growth of Modern Europe
HST	336	Europe, 1914-1945
HST	337	Europe, 1945 to present
HST	338	Germany, Democracy & Hitler 1914-1945
HST	339	A History of the Holocaust

POL	141	International Relations (cross-listed with INT 141)
POL	364	Politics of Europe
POL	365	Politics of Eurasia
POL	428	Comparative Public Policy

Regional Concentration: Latin America

ENG	255	Topics in Literature (as thematically appropriate)
ENG	335	Latin American Literature and Culture
SPN	334	Latin American Civilization
SPN	352	Survey of Latin American Literature
SPN	354	Studies in Latin American Literature
HST	341	Modern Central American History
HST	350	History of Brazil
HST	351	History of Mexico
HST	353	Colonial Latin America
HST	354	Modern Latin America
GEO	342	Gender and Environment in South America
ENS	365	Natural History, Ecology of Latin America
POL	141	International Relations cross-listed with INT 141)
POL	368	Latin American Politics
SOC	364	Inequality and Development in Latin America

Italian Studies

ARH	343	Renaissance Art History
ENG	321	Classical Literature
ENG	322	Medieval Literature
FNA	265	Fine Arts in Italy (Study Abroad)
GST	214	Contemporary Italy
GST	274	Italy Heritage
HST	131	Special Topics related to Italy
HST	381	History of Ancient Rome
ITL	121	Elementary Italian I
ITL	122	Elementary Italian II
ITL	221	Intermediate Italian I
ITL	222	Intermediate Italian II
ITL	300	Studies in Italy / semester abroad program (when approved by Minor coordinator)
ITL	321	Italian Conversation
ITL	373	History of Italian Cinema (Special Topic)
MUS	471	The Opera (special topics)
PHL	337	Dante's Journey
REL	335	Christianity: Ancient and Medieval

Society and Environment

ENG	339	American Environmental Writers
PHL/REL	348	Environmental Ethics
ECO	335	Economics of Environmental Issues (prereq. ECO 111)
GEO	310	Development and the Environment in Latin America, Africa and Asia
POL	224	Environmental Policy and Law
POL	344	International Environmental Policy

BIO	112/114	Introduction to Population Biology and Lab
BIO	215	Diversity of Life
ENS	111/113	Introduction to Environmental Science and Lab
PHY	110	Energy and the Environment
BIO	335 IS	Field Biology in Belize
BIO	379 IS	Field Biology in the Galapagos
ENS	310	Environmental Issues of Southeast Asia
ENS	365	Natural History, Ecology of Latin America
ENS	372	Environmental Visions – Alternative Futures
BIO	344	Evolution
ENS/GEO	350	Introduction to Geographic Information Systems

Women's/Gender Studies

ENG	255	Topics in Literature (as thematically appropriate)
ENG	333-WG	Women in Literature: Feminist Approaches
ENG	356-WG	The Novel: British Women Writers
ENG	361-WG	Gender Issues in Cinema
PHL	345-WG	Feminist Philosophy
HST	364-WG	History of Women in the U.S.
REL	347-WG	Women and Religion
ECO	270-WG	Economics of Gender
GEO	342	Gender and Environment in South America
POL	241-WG	International Relations
PSY	215-WG	Psychology of Personal Relationships
PSY	315-WG	Psychology of Sex and Gender
SOC	311-WG	The Family
SOC	345-WG	Sociocultural Perspectives on Gender
GST	270-WG	Women, Men and Society
GST	257-WG	Women, Culture and Development
GST	369-WG	Men and Masculinity
GST	269	Women and Leadership
WGS	300	Current Controversies in Feminism
WGS	461-469	Special Topics in Women's Studies/Gender Studies
WGS	481	Internship in Women's Studies/Gender Studies
WGS	491	Independent Study

The Special Education (General Curriculum) is a dual licensure program in which teacher candidates complete the requirements for licensure in Special Education (General Curriculum) and one of the following areas: Elementary Education, Middle Grades Education, English Education, Mathematics Education, Social Studies/History Education, or Science Education (biology concentration).

All Special Education (General Curriculum) students must take the following core courses:

CORE COURSES

EDU	211	School and Society	4 sh
EDU	342	Foundations of Special Education	3 sh
EDU	345	Planning and Managing the Learning Environment in Special Education	4 sh
EDU	435	Assessment Methods and Interpretation in Special Education	4 sh

EDU	444	Language and Literacy in Special Education	4 sh
EDU	445	Teaching/Learning Strategies for Students in Special Education	4 sh
<hr/>			
TOTAL			23 sh
Special Education and Elementary Education			
CORE COURSES			23 sh
FNA	369	Fine Arts in the Public Schools	4 sh
PEH	362	Healthful Living in the Elementary School	2 sh
HST	123	The U.S. and N.C. since 1865	4 sh
POL	111	American Government	4 sh
BIO	101	Topics in General Biology	3 sh
BIO	102	General Biology Lab	1 sh
SCI	121	Science without Borders	4 sh
PSY	321	Educational Psychology	4 sh
MTH	210	Mathematics for Elementary and Middle Grades Teachers (GS Math requirement is a prerequisite)	4 sh
CIS	220	Computers and Teaching	3 sh
Cultural Concentration Courses (<i>see page XXX</i>)			12 sh
EDU	323	Literary Development I: Principles and Practices	3 sh
EDU	298	Children's Literature	4 sh
<u>Principles of Learning and Teaching (PLT) I</u>			8 sh
EDU	311	Principles of Learning and Teaching (PLT) I <i>Concentration areas:</i> Language Arts and Social Studies Methods and Materials or	
EDU	312	Principles of Learning and Teaching (PLT) I <i>Concentration areas:</i> Mathematics and Science Methods and Materials and	
<u>Principles of Learning and Teaching (PLT) II</u>			8 sh
EDU	411	Principles of Learning and Teaching (PLT) II <i>Concentration areas:</i> Language Arts and Social Studies Methods and Materials or	
EDU	412	Principles of Learning and Teaching (PLT) II <i>Concentration areas:</i> Mathematics and Science Methods and Materials	
EDU	481	Student Teaching – Winter Term	4 sh
EDU	481	Student Teaching – Spring Semester	10 sh
EDU	482	Critical Issues in Education: Capstone Seminar I	2 sh
EDU	483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
<hr/>			
TOTAL			109 sh

Special Education and Middle Grades Education

CIS	220	Computers and Teaching	3 sh
PSY	321	Educational Psychology	4 sh
CORE COURSES			23 sh

Middle Grades Concentration – choose one

Communication Skills Concentration

ENG	205	Grammar	4 sh
ENG	224	American Literature II	4 sh
ENG	250	Interpretations of Literature	4 sh
ENG	319	Writing Center Workshop	4 sh
ENG	399	Young Adult Literature	4 sh
EDU	421	Materials and Methods of Teaching Middle Grades and Secondary English	4 sh
One course from the following:			4 sh
ENG	238	African-American Literature before 1945	
ENG	239	African-American Literature since 1945	
ENG	359	African-American Novels	

concentration total 28 sh

OR Social Studies Concentration

ECO	111	Principles of Economics	4 sh
GEO	131	The World's Regions	4 sh
HST	112	Europe and the Mediterranean World since 1660	4 sh
HST	123	U.S. & N.C. Since 1865	4 sh
HST	221	The World in the Twentieth Century	4 sh
POL	111	American Government	4 sh
EDU	425	Materials and Methods of Teaching Middle Grades and Secondary Social Studies	4 sh

concentration total 28 sh

OR Mathematics Concentration

MTH	112	General Statistics	4 sh
MTH	121	Calculus and Analytic Geometry I	4 sh
MTH	221	Calculus and Analytic Geometry II	4 sh
MTH	210	Mathematics for Elementary and Middle Grades Teachers	4 sh
MTH	206	Discrete Structures	4 sh
Additional mathematics course			4 sh
EDU	422	Materials and Methods of Teaching Middle Grades and Secondary Mathematics	4 sh

concentration total 28 sh

OR Science Concentration

BIO	101	Topics in General Biology	3 sh
BIO	102	General Biology Lab	1 sh
SCI	121	Science without Borders	4 sh
CHM	111	General Chemistry I	3 sh
CHM	113	General Chemistry Lab	1 sh

PHY	110	Energy and the Environment	4 sh
PHY	102	Introduction to Astronomy	4 sh
PHY	103	Introduction to Geology	4 sh
EDU	424	Materials and Methods of Teaching Middle Grades and Secondary Science	4 sh
<i>concentration total</i>			<i>28 sh</i>
EDU	441	Foundations of Middle Level Teaching	3 sh
EDU	442	Effective Middle Level Teaching	4 sh
EDU	481	Student Teaching	10 sh
EDU	482	Critical Issues in Education: Capstone Seminar I	2 sh
EDU	483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
TOTAL			79 sh

Special Education and English Education

CIS	220	Computers and Teaching	3 sh
PSY	321	Educational Psychology	4 sh
CORE COURSES			23 sh
Select one course from the following:			4 sh
ENG	221	British Literature I	
ENG	222	British Literature II	
ENG	219	Writing	4 sh
ENG	205	Grammar	4 sh
Eight hours 300-level literature			8 sh
ENG	206	Introduction to TESOL	4 sh
ENG 223, 224, 238, or 239 (American Literature)			4 sh
ENG 331, 335, 337, or 338 (World Literatures)			4 sh
ENG	319	Writing Center Workshop	4 sh
ENG	342	Shakespeare	4 sh
ENG	495	Senior Seminar: Literature	4 sh
EDU	421	Materials and Methods of Teaching Middle Grades and Secondary English	4 sh
EDU	483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
EDU	481	Student Teaching	10 sh
TOTAL			90 sh

Special Education and Mathematics Education

CORE COURSES			23 sh
CSC	130	Computational Programming	4 sh
MTH	121	Calculus and Analytic Geometry I	4 sh
MTH	221	Calculus and Analytic Geometry II	4 sh
MTH	231	Mathematical Reasoning	4 sh
MTH	311	Linear Algebra	4 sh
MTH	312	Abstract Algebra	4 sh

EDUCATION

MTH	321	Calculus and Analytic Geometry III	4 sh
MTH	331	Modern Geometry	4 sh
MTH	341	Probability Theory and Statistics	4 sh
MTH	425	Analysis	4 sh
MTH	361	Seminar I	2 sh
MTH	461	Seminar II	2 sh
PHY	113	Physics w/Calculus	4 sh
PSY	321	Educational Psychology	4 sh
EDU	422	Materials and Methods of Teaching Middle Grades and Secondary Math	4 sh
EDU	483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
EDU	481	Student Teaching	10 sh
TOTAL			91 sh

Special Education and Social Studies Education

CIS	220	Computers and Teaching	3 sh
PSY	321	Educational Psychology	4 sh
CORE COURSES			23 sh
HST	111	Europe and the Mediterranean World to 1660	4 sh
HST	112	Europe and the Mediterranean World since 1660	4 sh
HST	121	United States History through 1865	4 sh
HST	123	U.S. & N.C. Since 1865	4 sh
HST	301	Research Methods	4 sh
One history seminar course			4 sh
Twelve hours HST electives at the 300-400 level chosen from each of the following areas:			12 sh
1) US Minority History (African-Americans, Native Americans and Women in the U.S.)			
2) Europe			
3) Developing World (Africa, Latin America and Asia)			
GEO	131	The World's Regions	4 sh
POL	111	American Government	4 sh
ECO	111	Principles of Economics	4 sh
EDU	425	Materials and Methods of Teaching Middle Grades and Secondary History	4 sh
EDU	481	Student Teaching	10 sh
EDU	483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
TOTAL			94 sh

Special Education and Science Education

CIS	220	Computers and Teaching	3 sh
PSY	321	Educational Psychology	4 sh
CORE COURSES			23 sh

BIO	111	Introductory Cell Biology	3 sh
BIO	112	Introductory Population Biology	3 sh
BIO	113	Cell Biology Lab	1 sh
BIO	114	Population Biology Lab	1 sh
BIO	332	Zoology	4 sh
BIO	341	Botany	4 sh
BIO	422	Molecular/Cellular Biology	4 sh
CHM	111	General Chemistry I	3 sh
CHM	112	General Chemistry II	3 sh
CHM	113	General Chemistry I Lab	1 sh
CHM	114	General Chemistry II Lab	1 sh
CHM	211	Organic Chemistry I	3 sh
CHM	213	Organic Chemistry I Lab	1 sh
		Select one course from:	4 sh
	BIO 318	Comparative Vertebrate Structure and Function	
	BIO 321	Microbiology	
	BIO 325	Human Histology	
	BIO 350	General Ecology	
	BIO 442	Plant Physiology	
		Select one course from:	4 sh
	CHM 212/214	Organic Chemistry II & Lab	
	CHM 205	Inorganic Chemistry	
PHY	102	Astronomy	4 sh
PHY	103	Geology	4 sh
EDU	424	Materials and Methods of Teaching Middle Grades and Secondary English	4 sh
EDU	483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
EDU	481	Student Teaching	10 sh
TOTAL			94 sh

A major in Middle Grades Education consists of the courses necessary to meet the requirements for middle grades (6-9) licensure in the public schools of North Carolina. The following Core Courses are required of all middle grades majors:

CIS	220	Computers and Teaching	3 sh
PSY	321	Educational Psychology	4 sh
EDU	211	School and Society	4 sh
EDU	324	Literacy Development II: Strategies & Instruction for Struggling Readers	3 sh
EDU	346	Classroom Management	2 sh
EDU	441	Foundations of Middle Level Education	3 sh
EDU	442	Effective Middle Level Teaching	4 sh
EDU	451	Teaching Diverse Learners	4 sh
EDU	481	Supervised Observation and Student Teaching	10 sh
EDU	482	Critical Issues in Education: Capstone Seminar I	2 sh

EDU 483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
One subject area concentration		28 sh
TOTAL		69 sh

In addition to the Core Courses, a student majoring in middle grades education must select one subject area concentration from the following:

Communication Skills Concentration

ENG 205	Grammar	4 sh
ENG 224	American Literature II	4 sh
ENG 250	Interpretations of Literature	4 sh
ENG 319	Writing Center Workshop	4 sh
ENG 399	Young Adult Literature	4 sh
EDU 421	Materials and Methods of Teaching Middle Grades and Secondary English	4 sh
One course from the following:		4 sh
ENG 238	African-American Literature before 1945	
ENG 239	African-American Literature since 1945	
ENG 359	African-American Novels	

concentration total 28 sh

Social Studies Concentration

ECO 111	Principles of Economics	4 sh
GEO 131	The World's Regions	4 sh
HST 112	Europe and the Mediterranean World since 1660	4 sh
HST 123	U.S. & N.C. Since 1865	4 sh
HST 221	The World in the Twentieth Century	4 sh
POL 111	American Government	4 sh
EDU 425	Materials and Methods of Teaching Middle Grades and Secondary Social Studies	4 sh

concentration total 28 sh

Mathematics Concentration

MTH 112	General Statistics	4 sh
MTH 121	Calculus and Analytic Geometry I	4 sh
MTH 221	Calculus and Analytic Geometry II	4 sh
MTH 210	Mathematics for Elementary and Middle Grades Teachers	4 sh
MTH 206	Discrete Structures	4 sh
Additional mathematics course		4 sh
EDU 422	Materials and Methods of Teaching Middle Grades and Secondary Mathematics	4 sh

concentration total 28 sh

Science Concentration

BIO 101	Topics in General Biology	3 sh
BIO 102	General Biology Lab	1 sh
SCI 121	Science without Borders	4 sh
CHM 111	General Chemistry I	3 sh
CHM 113	General Chemistry Lab	1 sh

PHY 110	Energy and the Environment	4 sh
PHY 102	Introduction to Astronomy	4 sh
PHY 103	Introduction to Geology	4 sh
EDU 424	Materials and Methods of Teaching Middle Grades and Secondary Science	4 sh
<i>concentration total</i>		<i>28 sh</i>

Students who select only one concentration are required to take an enhanced literacy component consisting of the following courses:

ENG 399	Young Adult Literature
EDU 324	Literacy Development II: Strategies and Instruction for Struggling Readers
SPN 123	Elementary Spanish for Educators

The student planning to teach at the high school level completes a major in a discipline and the necessary Professional Studies courses for teacher licensure at the secondary level (grades 9-12). Secondary education licensure is available in comprehensive science, English, history, mathematics and social studies. Specific requirements for each program are listed with the appropriate department in this catalog. In general, the following Professional Studies courses must be satisfactorily completed:

EDU 211	School and Society	4 sh
EDU 322	Reading in the Content Areas	2 sh
EDU 350	Classroom Management for Secondary Teachers	2 sh
Choose an appropriate methods course:		4 sh
EDU 421	Materials and Methods of Teaching Middle Grades and Secondary English	
EDU 422	Materials and Methods of Teaching Middle Grades and Secondary Mathematics	
EDU 424	Materials and Methods of Teaching Middle Grades and Secondary Science	
EDU 425	Materials and Methods of Teaching Middle Grades and Secondary Social Studies	
EDU 450	Meeting Special Learning Needs of Children	4 sh
EDU 481	Supervised Observation and Student Teaching	10 sh
EDU 483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
CIS 220	Computers and Teaching (Not required for Mathematics Education majors)	3 sh
PSY 321	Educational Psychology	4 sh
TOTAL		35 sh

Programs leading to licensure in Special Subject Areas (K-12) level are available in French, music education, physical education and health, and Spanish. Specific requirements for these programs are listed with the appropriate department in this catalog. In general, the following Professional Studies courses must be satisfactorily completed:

EDU 211	School and Society	4 sh
EDU 322	Reading in the Content Areas	2 sh
EDU 350	Classroom Management for Secondary Teachers	2 sh

One of the following courses:			4 sh
PEH	423	Materials and Methods of Teaching Physical Education	
PEH	427	Materials and Methods of Teaching Health and Safety	
EDU	428	Materials and Methods of Teaching Foreign Languages	
MUS	461	Music Education in the Public Schools	
EDU	450	Meeting Special Learning Needs of Children (Not required for Physical Education majors)	4 sh
EDU	481	Supervised Observation and Student Teaching	10 sh
EDU	483	Thoughtful Analysis of Practice: Capstone Seminar II	2 sh
CIS	220	Computers and Teaching	3 sh
PSY	321	Educational Psychology	4 sh
TOTAL			35 sh

EDU 211. SCHOOL AND SOCIETY 4 sh

This course is designed to introduce students to the cultural, social, historical, legal and philosophical foundations of education. Students examine critical issues that impact education in the 21st century. An integrated field experience enables students to analyze a variety of perspectives on the purposes of education and instructional practices related to classroom management, learning environment and meeting the needs of learners who are diverse in culture, language and ability. Students will develop skills in critical thinking, leadership, observing, interviewing, reading, writing and oral communications. Offered fall, winter and spring.

EDU 298. CHILDREN'S LITERATURE 4 sh

This course is a survey of children's literature, historical and contemporary. Students will read deeply and critically works from the United States and around the world as they develop an awareness of children's books and authors. Students will revisit and revise common stereotypes and misconceptions concerning children's literature to gain a clearer understanding of how effective literature speaks to children, reflects their experience and provides insight into themselves, people and the world. Students will gain an understanding of how children's literature can bring greater sensitivity and an alternative perspective to any course of study. Prerequisite: EDU 211 or by permission of instructor. Offered fall, winter and spring.

**EDU 311. PRINCIPLES OF LEARNING AND TEACHING I:
LANGUAGE ARTS AND SOCIAL STUDIES METHODS AND MATERIALS 8 sh**

Students learn how to investigate, evaluate and select content, methods and materials used in organizing and teaching language arts and social studies in elementary school. They develop appropriate curricula and examine personal beliefs and dispositions. They design and implement differentiated lessons based on state standards and develop technology-enhanced, project-based learning units. They gain a sound pedagogical knowledge base, an understanding of the importance of inquiry and professionalism and have opportunities to participate in a community of learners. A concurrent practicum offers opportunities to apply concepts and skills. Prerequisites: EDU 211, PSY 321, CIS 220. Corequisites: EDU 323 and 346. Admission to Teacher Education Program. To be taken no earlier than junior year. Offered fall and spring.

**EDU 312. PRINCIPLES OF LEARNING AND TEACHING I:
MATHEMATICS AND SCIENCE METHODS AND MATERIALS 8 sh**

Students learn how to investigate, evaluate and select content, methods and materials used in organizing and teaching mathematics and science in the elementary school. They develop appropriate curricula and examine personal beliefs and dispositions. They design and implement differentiated lessons based on state standards and develop technology-enhanced, project-based learning units. They gain a sound pedagogical knowledge base,

an understanding of the importance of inquiry and professionalism and have opportunities to participate in a community of learners. A concurrent practicum offers opportunities to apply concepts and skills. Prerequisites: EDU 211, MTH 210, PSY 321, CIS 220. Corequisites: EDU 323 and 346. Admission to Teacher Education Program. To be taken no earlier than junior year. Offered fall and spring.

- EDU 322. READING IN THE CONTENT AREAS** 2 sh
 The focus of this course is on reading strategies to guide middle school and high school instruction. Prospective teachers apply readability formulas to content area readings and design activities to promote vocabulary development, comprehension, study skills and writing. Prerequisites: EDU 211, PSY 321. Offered fall and spring.
- EDU 323. LITERACY DEVELOPMENT I: PRINCIPLES AND PRACTICES** 3 sh
 This course involves the study of the fundamental processes by which a child learns to read both linear and non-linear communication. Attention is given to readiness factors, vocabulary development, word attack, comprehension skills, assessment, writing and reading, interest in reading, the interrelatedness of all areas of the language arts to the reading process, and the integration of technology into the development of literacy. A variety of methodologies and instructional strategies focusing on providing balanced reading instruction to meet diverse student strengths and needs include language experience, phonics, reading for meaning, literature circles, reading workshop, basal book, electronic book discussions, technology projects and monitoring reading progress. Prerequisites: EDU 211, PSY 321. Admission to the Teacher Education Program. Corequisites: EDU 311 or 312. Offered fall and spring.
- EDU 324. LITERACY DEVELOPMENT II: STRATEGIES & INSTRUCTION FOR STRUGGLING READERS** 3 sh
 The focus of this course is on planning and modifying elementary classroom instruction to address the needs of children who, for a variety of reasons, experience difficulty in acquiring basic literacy skills. Emphasis is placed on using assessment of children's strengths and weaknesses to guide instructional decision making. Students practice administering a variety of diagnostic tools, interpreting the data, and using the information to design and, when warranted, modify instruction. They acquire skills necessary to design explicit, systematic instruction in phonemic awareness, decoding, spelling, reading fluency, vocabulary, reading comprehension and writing. Prerequisites: EDU 211, PSY 321 (for all students), and EDU 323 or EDU 441 (Middle Grades only). Admission to the Teacher Education Program. Corequisite: EDU 411 or 412. Offered fall and spring.
- EDU 342. FOUNDATIONS OF SPECIAL EDUCATION** 3 sh
 This course addresses the evolution of the field of special education, its philosophical and theoretical foundations, legal underpinnings, and current trends and controversies. Emphasis is on acquiring a broad knowledge base regarding the characteristics of students with exceptional learning needs and the process and procedures for providing special education. Consideration is given to how issues of human diversity impact families, cultures and schools and how these issues affect delivery of special education services. Admission to the Teacher Education Program. Offered fall.
- EDU 345. PLANNING AND MANAGING THE LEARNING ENVIRONMENT FOR STUDENTS WITH EXCEPTIONAL LEARNING NEEDS** 4 sh
 This course provides teacher candidates with the competencies and skills to use positive behavioral supports to establish a classroom environment that promotes the academic and social development of students with exceptional learning needs. Candidates will learn to use strategies such as social skills training, functional behavioral assessment, cognitive problem solving and self-regulation of behavior. The needs of families and how to involve families in educational programming for their children are considered. Admission to the Teacher Education Program. Offered spring.

- EDU 346. CLASSROOM MANAGEMENT** 2 sh
 This course uses an inquiry approach to assist elementary and middle grades teacher candidates as they analyze, create and nurture a positive and effective learning community to promote enduring social and academic growth. Prerequisite: EDU 211. Corequisites: EDU 311, 312, 411, 412, 441 or 442. Admission to the Teacher Education Program.
- EDU 350. CLASSROOM MANAGEMENT FOR SECONDARY TEACHERS** 2 sh
 The role of the teacher with regard to managing student behavior will be explored from the cognitive, ecological and behaviorist perspectives. Teacher candidates will be taught to take a proactive stance toward behavior management, thereby decreasing problem behaviors in the classroom. Included in this course are strategies for establishing a classroom in which students feel safe to take academic risks, as well as strategies for effectively addressing problem behaviors and strategies for conflict resolution. Prerequisite: Admission to the Teacher Education Program. Co-requisite: taken concurrently with methods course.
- EDU 401 and EDU 402. PEDAGOGY FOR LATERAL ENTRY I and II** 3 sh each
 Education 401-402 is a yearlong course in which students become familiarized with basic pedagogical principles. Field-based projects give students an opportunity to apply concepts and skills learned in the course, including instructional planning, assessment and classroom management. The focus is on investigating, evaluating and selecting content, methods and materials for elementary age students. Students will develop a sound pedagogical knowledge base, an understanding of the importance of inquiry and professionalism and have an opportunity to participate in a community of learners. They will develop appropriate curricula and examine personal beliefs and dispositions. They will design and implement differentiated lessons based on state standards and develop technology-enhanced, integrated learning units. Topics include instructional philosophies, trends and issues in educations, characteristics of students, classroom management, problem-based learning, peer assisted learning, differentiating instruction, working with English language learners and students from different cultures, working as partners with peers and with parents.
- EDU 411. PRINCIPLES OF LEARNING AND TEACHING II: LANGUAGE ARTS AND SOCIAL STUDIES METHODS AND MATERIALS** 8 sh
 Students learn how to investigate, evaluate and select content, methods and materials used in organizing and teaching language arts and social studies in the elementary school. They develop appropriate curricula and examine personal beliefs and dispositions. Building on knowledge acquired in PLT I, students design and implement integrated technology-enhanced, problem-based learning units, incorporating the elements of Universal Design (UD). National standards provide the context. They gain a more in-depth pedagogical knowledge base, a deeper understanding of the importance of inquiry and professionalism and have additional opportunities to participate in a community of learners. A concurrent practicum offers opportunities to apply concepts and skills. Prerequisite: EDU 312. Corequisites: EDU 324 and 482. Admission to Teacher Education Program. Offered fall and spring.
- EDU 412. PRINCIPLES OF LEARNING AND TEACHING II: MATHEMATICS AND SCIENCES METHODS AND MATERIALS** 8 sh
 Students learn to investigate, evaluate and select content, methods and materials used in organizing and teaching mathematics and science in the elementary school. They develop and implement appropriate curricula and examine personal beliefs and dispositions. Building on knowledge acquired in PLT I, students design and implement integrated technology-enhanced, problem-based learning units, incorporating the elements of Universal Design (UD). National standards provide the context. They gain a more in-depth pedagogical knowledge base, a deeper understanding of the importance of inquiry and professionalism and have additional opportunities to participate in a community of learners. A concurrent practicum offers opportunities to apply concepts and skills. Prerequisite: EDU 311. Corequisites: EDU 324 and 482. Admission to Teacher Education Program. Offered fall and spring.

- EDU 421. MATERIALS AND METHODS OF TEACHING MIDDLE GRADES AND SECONDARY ENGLISH** 4 sh
- In this study of the content and organization of the English curriculum with emphasis on methods and materials used in teaching literature, language skills and composition, students review print and nonprint media, create lesson and unit plans, lead classroom discussions and conduct teaching demonstrations. Public school classroom observation and assistance are required. Prerequisites: EDU 211, PSY 321. Offered fall semester.
- EDU 422. MATERIALS AND METHODS OF TEACHING MIDDLE GRADES AND SECONDARY MATHEMATICS** 4 sh
- Students study the objectives and content of the mathematics curriculum in grades 6-12, including the materials, techniques and methods of evaluation used in teaching mathematics in middle and high school grades. A practicum in the public schools is required. Prerequisites: EDU 211, PSY 321. Offered fall semester.
- EDU 424. MATERIALS AND METHODS OF TEACHING MIDDLE GRADES AND SECONDARY SCIENCE** 4 sh
- Students develop, select and evaluate content, methods and materials used in teaching science at the middle or high school level. Study examines current trends in teaching the natural sciences and addresses safety concerns. Observations and practicum in middle and/or high schools required. Prerequisites: EDU 211, PSY 321. Offered fall semester.
- EDU 425. MATERIALS AND METHODS OF TEACHING MIDDLE GRADES AND SECONDARY SOCIAL STUDIES** 4 sh
- This study of the materials and methods of teaching social studies emphasizes planning, organization, objectives and evaluation. Public school practicum required. Prerequisites: EDU 211, PSY 321. Offered fall semester.
- EDU 428. MATERIALS AND METHODS OF TEACHING FOREIGN LANGUAGES** 4 sh
- This study of the content and organization of the foreign language curriculum in the public schools emphasizes methods and materials used in teaching at all levels (K-12) and covers how teaching the four basic skills and the target culture varies at each level. Students discuss theories of planning, instruction, choice of materials and evaluation, and gain practical experience by participating in a public school classroom. Prerequisites: EDU 211, PSY 321. Offered fall semester.
- EDU 435. ASSESSMENT METHODS AND INTERPRETATION IN SPECIAL EDUCATION** 4 sh
- This course provides teacher candidates with knowledge required to design assessment plans for students with exceptional learning needs. Consideration is given to legal policies and ethical principles in regard to the administration and interpretation of assessment procedures. Candidates learn to evaluate standardized assessment instruments in terms of reliability, validity and adequacy of norm sample and to collaborate with families and other professionals to gather information and share assessment results. Admission to the Teacher Education Program. Offered spring.
- EDU 441. FOUNDATIONS OF MIDDLE LEVEL EDUCATION** 3 sh
- This course provides a foundation for middle level (6-9) education majors with concentrations in math, science, social studies and language arts. The course explores the unique physical, intellectual, social and personal characteristics of the young adolescent (age 10-14) with implication for curriculum development and instruction. Emphasis is on young adolescent learning needs, middle school philosophy and organization, classroom diversity with emphasis on students with limited English proficiency, responsive curriculum design and scholarly research related to issues of diversity, access to learning, and literacy; management of the learning environment; and professional leadership. Prerequisites: Admission to program. Offered fall.

- EDU 442. EFFECTIVE MIDDLE LEVEL TEACHING** 4 sh
 This course is designed for middle grades majors (6-9) with concentration areas in math, science, social studies and language arts. The course builds upon and extends the foundational experiences in EDU 441 through in-depth exploration of theory as related to young adolescent learning; focused inquiry, collaboration and teaching on middle level interdisciplinary teams; service learning instructional design; and scholarly research related to issues of diversity, access to learning, and literacy; management of the learning environment; and professional leadership. Prerequisite: EDU 441. Offered spring.
- EDU 444. LANGUAGE AND LITERACY METHODS IN SPECIAL EDUCATION** 4 sh
 In this course, teacher candidates become familiar with the theory and research base on effective instructional techniques for children with exceptional learning needs. They learn how to apply specific methods that involve explicit, systematic and intensive instruction to help children with learning difficulties acquire foundational skills in reading and language arts. Candidates learn to use curriculum-based assessment as a basis for planning, monitoring and modifying instruction. Admission to the Teacher Education Program. Offered fall.
- EDU 445. TEACHING AND LEARNING STRATEGIES FOR STUDENTS WITH EXCEPTIONAL LEARNING NEEDS** 4 sh
 This course focuses on effective teaching and learning strategies for adolescents with mild to moderate learning needs. The course emphasizes strategies that reflect a cognitive/metacognitive instructional approach to learning. Consideration is given to the use of technology as a tool for learning and to the assessment of strategy effectiveness by monitoring student progress. Teacher candidates learn to consider learning environments, cultural, linguistic and socioeconomic factors in addition to student abilities in their selection and use of strategies. Admission to the Teacher Education Program. Offered fall.
- EDU 450. MEETING SPECIAL LEARNING NEEDS OF CHILDREN** 4 sh
 This course is designed to prepare high school general education teacher candidates to teach exceptional students in the regular education classroom. The course includes readings and discussions of the collaborative skills necessary for general education teachers to work effectively with special education teachers and other professionals involved with the education of exceptional children. The role of the regular education teacher in identifying exceptional students and participating in the special education referral process is explored. A field practicum is required. Prerequisite: Admission to the Teacher Education program. Offered fall and spring.
- EDU 451. TEACHING DIVERSE LEARNERS** 4 sh
 This course is designed to prepare elementary and middle grades teacher candidates to work effectively in inclusive classrooms. The course is comprised of four modules: I. The Ideas in IDEA, which introduces candidates to the historical and legal factors that have contributed to practices governing students with special needs; II. The Differentiation of Instruction, which acquaints candidates with a means for providing flexible and equitable instruction and assessment; III. The Management of Behavior, which encourages candidates to analyze the causes of behavior and provide systems of positive behavioral support; IV. Respectful Collaboration, which promotes linkages with families, colleagues and community agencies to enhance the educational experiences of diverse learners. Elementary and middle grades majors only. Co-requisite: EDU 311, 312, 411 or 412, admission to the Teacher Education Program.
- EDU 481. SUPERVISED OBSERVATION AND STUDENT TEACHING** 10 sh
 Teacher candidates experience the classroom full time for one semester, with periodic conferences with the university supervisor(s) and classroom teacher(s). The student becomes acquainted with the duties and observes the methods and activities of an experienced teacher, with gradual induction into full-time teaching responsibilities. Corequisite:

EDU 480 or EDU 483. Prerequisites: EDU 211 and grade(s) of C or better in appropriate methods course(s). Offered fall and spring.

- EDU 482. CRITICAL ISSUES IN EDUCATION: CAPSTONE SEMINAR I** 2 sh
 This course is an inquiry-based capstone course that explores social, historical, political and philosophical issues that impact K-12 education nationally and internationally. Special emphasis is placed in diversity and equality issues, leadership, community service and ethical advocacy. Students are involved in a diversity service learning project that involves local or international service learning or scholarly inquiry. Prerequisite: Admission to Teacher Education Program. This course is to be taken the semester prior to student teaching. Elementary, Middle Grades and Special Education majors only.
- EDU 483. THOUGHTFUL ANALYSIS OF PRACTICE: CAPSTONE SEMINAR II** 2 sh
 This course is an inquiry-based capstone seminar that is taken concurrently with student teaching. It is designed to strengthen the professional skills of reflection as related to instructional practice, assessment of student learning and analysis of personal philosophy. Emphasis is placed on leadership, ethical advocacy and family-community relationships. Corequisite: EDU 481. Elementary, Middle Grades and Special Education majors only.
- EDU 499. RESEARCH** 1-4 sh
 Students engage in undergraduate research under the direction of an education department faculty member. Maximum of eight semester hours total credit. Prerequisites: eligibility as determined by the undergraduate research guidelines of Elon University and approval by the department.

Elon College Fellows Program

Program Director: Associate Professor N. Harris

Director of Arts and Humanities Fellows: Associate Professor Fels

Director of Mathematics and Natural Sciences Fellows: Associate Professor T. Lee

Director of Social Sciences Fellows: Associate Professor Mould

Elon College Fellows is a four-year program for qualified, selected students who are passionate about the Arts and Sciences. The program is constructed to provide students with both breadth and depth of study within the Arts and Sciences. The breadth is an extended exposure to and immersion in the different “ways of knowing” offered by the three traditional branches of Arts and Sciences. The depth is achieved through a two year research-expression project in the student’s major supervised by a faculty mentor. For more information about Elon’s Fellows Programs, see <http://www.elon.edu/fellows>.

The following courses are required of and restricted to students admitted to the Elon College Fellows Program.

- ECF 111. PATHS OF INQUIRY IN THE ARTS AND SCIENCES** 4 sh
 This course is an exploration of the three branches of the Arts and Sciences. The focus in this team taught class is on exploring the various ways that these branches construct knowledge, learning to ask interesting questions appropriate to the arts and sciences and gaining an appreciation of the powerful applications of these disciplines. Course includes a five day trip to Washington, D.C. Prerequisite: Elon College Fellows status. Required of all first year Elon College Fellows. Offered in winter term.
- ECF 211, 212, 213. ELON COLLEGE FELLOWS SOPHOMORE SEMINAR** 1 sh
 This course exposes students to the disciplines that comprise each branch of the Arts and Sciences. The course is team taught and the focus is on becoming familiar with the kinds of questions that each discipline addresses as well as the tools, resources and paradigms used by each field to seek answers. Fellows enroll in the section that most closely matches

the student's academic major. Prerequisite: Elon College Fellows status. One seminar is required of all sophomore Elon College Fellows. Offered fall.

ECF 311, 312, 313. ELON COLLEGE FELLOWS JUNIOR SEMINAR 2 sh

This course provides an intellectual and collaborative framework within which third-year Elon College Fellows develop a discipline-specific Fellow's project question and proposal. Fellows work outside of class with their individual faculty mentors and present, share and critique ideas in the seminar class. A formal project proposal including literature review, methods and budget is the expected outcome. Fellows enroll in the section that most closely matches the student's academic major. Prerequisite: Elon College Fellows status, junior status and ECF 211, 212 or 213. Corequisite: Students must co-register for at least one hour of departmental 499. Fellows take this course in the fall of the junior year. Offered fall.

Engineering

Director: Associate Professor D'Amato

Assistant Professor: Hargrove-Leak

Engineers have the opportunity to be of profound service to humanity. Engineering means problem solving. Through the application of mathematics and science, an engineer may be solving problems dealing with energy, space exploration, environmental issues, product manufacturing, construction or any number of interesting areas of study. Possible engineering disciplines include aerospace engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, environmental engineering, industrial engineering, materials science engineering, mechanical engineering, nuclear engineering and textile engineering.

The unique dual-degree engineering programs at Elon support students in working toward two degrees: one from Elon and one from an engineering university. Elon currently has affiliations with North Carolina State University, Georgia Tech, Pennsylvania State University, Virginia Tech, Columbia University, Notre Dame University, Washington University in St. Louis, University of South Carolina, and North Carolina A&T State University. The student will complete three years at Elon. These years will include a full array of science, mathematics, computer science and general studies courses along with their discipline-specific courses. Also included will be foundational engineering courses every fall and spring taught by engineering faculty. After finishing these three years at Elon and also satisfying the entry requirements of the affiliate engineering university, the student will transfer to this engineering institution, normally for two more years. Upon completion of these years of study, a student will receive either a B.S. degree from Elon in Engineering Physics, Engineering Mathematics or Bio-Physics/Biomedical Engineering or an A.B. degree in Chemistry/Chemical Engineering, Computer Science/Engineering or Environmental Studies/Environmental Engineering. Students will also receive a B.S. degree from the engineering school in an engineering area of choice. Students must complete Elon's General Studies program requirements, the engineering core and one of the six options listed below.

All dual-degree engineering programs require the following core courses:

CHM	111	General Chemistry I	3 sh
CHM	113	General Chemistry I Lab	1 sh
CHM	112	General Chemistry II	3 sh

CHM	114	General Chemistry II Lab	1 sh
PHY	113	General Physics I with Calculus w/lab	4 sh
PHY	114	General Physics II with Calculus w/lab	4 sh
MTH	121	Calculus and Analytic Geometry I	4 sh
MTH	221	Calculus and Analytic Geometry II	4 sh
MTH	321	Calculus and Analytic Geometry III	4 sh
MTH	421	Differential Equations	4 sh
CSC	130	Computer Science I	4 sh
TOTAL			36 sh

Engineering Foundations

ENR	103	Challenges in Engineering	3 sh
EGR	206	Engineering Mechanics - Statics	3 sh
EGR	208	Engineering Mechanics - Dynamics	3 sh
At least two of the following three courses			8 sh
EGR/PHY	211/212	Circuit Analysis/Lab	
EGR	306	Mechanics of Solids	
EGR/PHY	310	Engineering Thermodynamics	
TOTAL			17 sh

The student will select one of the following six options:

I. Engineering Physics

PHY	213	Introduction to Modern Physics	4 sh
PHY	311	Classical Electrodynamics	4 sh
PHY	397-98	Physics Lab/Seminar	4 sh
Four semester hours of Physics at the 300-400 level (excluding PHY 305)			4 sh
TOTAL			16 sh

II. Engineering Mathematics

MTH	231	Mathematical Reasoning	4 sh
MTH	311	Linear Algebra	4 sh
MTH	312	Abstract Algebra	4 sh
MTH	341	Probability Theory and Statistics	4 sh
MTH	415	Numerical Analysis	4 sh
CSC	230	Computer Science II	4 sh
TOTAL			24 sh

III. Computer Science/Engineering

Select one of the following courses:			4 sh
MTH	206	Discrete Structures or	
MTH	231	Mathematical Reasoning	
CSC	230	Computer Science II	4 sh
CSC	330	Distributed Computing	4 sh
CSC	331	Algorithm Analysis	4 sh

CSC	342	Computer Systems	4 sh
CSC	442	Mobile Computing	4 sh
TOTAL			24 sh

IV. Chemistry/Chemical Engineering

CHM 125		The Chemical Literature	1 sh
CHM 205		Inorganic Chemistry I	4 sh
CHM 211		Organic Chemistry I	3 sh
CHM 213		Organic Chemistry Lab I	1 sh
CHM 212		Organic Chemistry II	3 sh
CHM 214		Organic Chemistry Lab II	1 sh
CHM 311		Quantitative Analysis	4 sh
CHM 332		Physical Chemistry I	4 sh
CHM 461		Senior Seminar	1 sh
TOTAL			22 sh

V. Environmental Studies/Environmental Engineering

POL	224	Environmental Policy and Law	4 sh
REL	348	Environmental Ethics	4 sh
ENS	461	Senior Seminar	4 sh
CHM 211/213		Organic Chemistry I w/Lab	4 sh
BIO 112/114		Intro Population Biology w/Lab	4 sh
ENS	215	Diversity of Life	4 sh
CE	373	Fundamentals of Env. Engineering (at engineering school)	3 sh
ST	370	Probability and Statistics for Engineers (at engineering school)	3 sh
TOTAL			30 sh

VI. Bio-Physics/Biomedical Engineering

BIO 111/113		Introductory Cell Biology	4 sh
BIO 162		Human Physiology	4 sh
BIO 422		Molecular and Cell Biology	4 sh
PHY 213		Introduction to Modern Physics	4 sh
PHY 311		Classical Electrodynamics	4 sh
PHY 397-98		Physics Lab/Seminar	4 sh
TOTAL			24 sh

EGR 103. CHALLENGES IN ENGINEERING**3 sh**

This two-semester course focuses on a team design project that is initiated in fall. In the process of completing the project, this course explores engineering disciplines, practices, graphics, history, education, design processes, ethics and opportunities. The completed team project is presented in the spring. Students must take both semesters. Offered fall and spring. Prerequisites: None

EGR 206. ENGINEERING MECHANICS - STATICS**3 sh**

This course is designed to introduce students to the effects of forces on bodies in static equilibrium and to familiarize them with mathematical techniques for finding reac-

tive forces in bodies, frames, mechanics and trusses. Concepts covered include forces, moments, couples, equilibrium of rigid bodies, centroids, moments of inertia and friction resistance. Prerequisite: PHY 113. Corequisite: MTH 221. Offered fall.

- EGR 208. ENGINEERING MECHANICS - DYNAMICS** 3 sh
Kinematics and kinetics of particles in rectangular, cylindrical and curvilinear coordinate systems; energy and momentum methods for particles; kinetics of systems of particles; kinematics and kinetics of rigid bodies in two and three dimensions; and motion relative to rotating coordinate systems are studied. Prerequisites: EGR 206 and MTH 221. Corequisite: MTH 321. Offered spring.
- EGR 211. CIRCUIT ANALYSIS** 3 sh
This course is an introduction to the theory, analysis and design of electric circuits. Studies include circuit parameters and elements: voltage, current, power, energy, resistance, capacitance, inductance. Also included is the application of Kirchhoff's laws, techniques of circuit analysis, the op-amp, the responses of RL, RC and RLC circuits, an introduction to sinusoidal steady-state analysis, Laplace transforms and Fourier series. Prerequisites: MTH 421 and PHY 114. Corequisite: EGR/PHY 212. Offered in a three semester sequence with EGR 306 and EGR 310 beginning spring 2008.
- EGR 212. CIRCUIT ANALYSIS LAB** 1 sh
This course involves laboratory application of concepts and principles discussed in EGR 211. Corequisite: EGR/PHY 211.
- EGR 306. MECHANICS OF SOLIDS** 4 sh
This course focuses on elementary analysis of deformable solids subjected to force systems. Concepts covered include stress and strain (one, two and three-dimensional stress-strain relationships for the linear elastic solid); statically determinate and indeterminate axial force, torsion and bending members; stress transformations; pressure vessels; and combined loadings. There is also an introduction to column buckling. Prerequisite: EGR 206 and MTH 321. Offered in a three semester sequence with EGR 211 and EGR 310.
- EGR 310. ENGINEERING THERMODYNAMICS** 4 sh
This course introduces the concept of energy and the laws governing the transfers and transformations of energy. Study emphasizes thermodynamic properties and First and Second Law analysis of systems and control volumes. Integration of these concepts into the analysis of basic power cycles is introduced. Prerequisites: MTH 421 and PHY 114. Offered in a three semester sequence with EGR 211 and EGR 306.
- EGR 381. INTERNSHIP IN ENGINEERING** 1-4 sh
The internship provides advanced work experiences in some aspect of engineering. It is offered on an individual basis, under the guidance of the engineering program director, when suitable opportunities can be arranged. It will typically be taken in the summer of the sophomore year. This experience will broaden the practical work experience of the student and enhance his/her classroom abilities. Prerequisite: permission of the department. Offered summer.

English

Chair, Department of English: Professor Boyle

Professors: Angyal, Bland, Braye, Gill, Haskell, Lyday-Lee, Warman

Associate Professors: Anderson, Cassebaum, Gordon, Isaac, Kircher, Myers, Peeples, Perry, Rosinski, Schwind

Assistant Professors: Hairston, Layne, Moore, Pyne, Ramirez, Pope-Ruark

Lecturers: Lee, Patch, Strickland, Trim