

During or before your fourth year, you will choose an area of technical emphasis. These emphases are 1) Building Environmental Systems, 2) Building Structural Systems, and 3) Building Construction Management. The following are electives for your chosen area of emphasis with the (\*) courses highly recommended for undergraduates. When you are ready to enroll in elective courses, be sure to obtain an updated list from the ARCE program office and to discuss your options fully with your advisor.

### BUILDING ENVIRONMENTAL SYSTEMS

Dept./No.	Course Title	Credit-Hours
ME 612 or C&PE 521	Heat Transfer	3* Engineering Science (ES)
ARCE 663	Energy Management	3* (ED)
ARCE 664	Fire Protection Engineering	3* (ED)
ARCE 665	Solar Energy Systems Design	3* (ED)
ARCE 675	Sound and Vibration Control	3* (ED)
ARCE 760	Automatic Controls	3* (ED)
ARCE 764	Advanced Thermal Analysis of Buildings	3* (ED)
ARCH 520	Architectural Acoustics	3* (ED)
ARCH 521	Electro-Acoustic Systems	3* (ED)

### BUILDING STRUCTURAL SYSTEMS

Dept./No.	Course Title	Credit-Hours
CE 487	Soil Mechanics	4* (3 ES, 1 ED)
CE 588	Foundation Engineering	3* (ED)
CE 763	Advanced Concrete Design I	3 (ED)
CE 764	Advanced Concrete Design II	3 (ED)
CE 765	Advanced Steel Design I	3 (ED)
CE 766	Advanced Steel Design II	3 (ED)

### BUILDING CONSTRUCTION MANAGEMENT

Dept./No.	Course Title	Credit-Hours
CE 240	Surveying	3* (ES)
CMGT 609	International construction Management	3 (ED)
CMGT 700	Construction Project Management	3 (ED)
CMGT 701	Construction Planning & Scheduling	3 (ED)

CMGT 702	Construction Equipment & Methods	3 (ED)
CMGT 703	Construction Quality, Productivity, and Safety	3 (ED)
CMGT 704	Construction Estimating & Bidding	3 (ED)
CMGT 705	Construction Contracts, Bonds, & Insurance	3 (ED)
CMGT 790	Construction Seminar	3 (ED)

### **BASIC SCIENCE ELECTIVE**

The BS ARCE curriculum includes a three credit-hour basic science ("N" in each semester's Timetable of Courses) elective course. There are many "N" courses available, and examples are shown below. The (\*) courses are popular and/or highly recommended.

#### **BASIC SCIENCE ELECTIVE COURSES**

<b>Dept./No.</b>	<b>Course Title</b>	<b>Credit-Hours</b>
ANTH 104	Fundamentals of Physical Anthropology	4
ASTR 191	Contemporary Astronomy	3
ATMO 105	Introductory Meteorology	5*
ATMO 220	Unusual Weather	3
BIOL 100	Principles of Biology	3
BIOL 420	Seminar	1-3
CHEM 188	Foundations of Chemistry II	5
EVRN/GEOG 148	Principles of Environmental Studies	3*
GEOG 104	Principles of Physical Geography	3
GEOL 101	Introduction to Geology	3*
GEOL 105	History of the Earth	3*
PHSX 313	General Physics III	4
PHSX 351	Elementary Optics & Modern Physics	3*
SPLH 663	Principles of Hearing Science	3

Students pursuing the Structural and Construction emphases should take geology courses. Those students interested in the [Environmental Systems](#) area should consider ATMO 105 or EVRN 148.

### HUMANITIES ELECTIVE

The BS ARCE curriculum requires a three credit-hour humanities ("H" or "WH") elective. Some popular courses have been:

#### HUMANITIES ELECTIVE COURSES

Dept./No.	Course Title	Credit-Hours
ANTH 110/310	Introduction to Archaeology	4
ENGL 209	Introduction to Fiction	3
GEOG 111	Maps and Mapping	4
HIST 101	Introduction to History	3
HIST 137	History of Modern Science	3*
HIST 340	History of World War II	3
MHST 336	Masterworks of Music	3
PHIL 140	Introduction to Philosophy	3

### SOCIAL SCIENCE ELECTIVE

The BS ARCE curriculum requires three credit-hours of social sciences ("S" courses). Some popular and also highly recommended courses (\*) have been:

#### SOCIAL SCIENCE ELECTIVE COURSES

Dept./No.	Course Title	Credit-Hours
ANTH 100	General Anthropology	4*
ECON 104	Introductory Economics	4*
ECON 142	Principles of Microeconomics	3*
ECON 144	Principles of Macroeconomics	3*
GEOG 100	World Regional Geography	3
GEOG 102	Principles of Human Geography	3
HDFL 140	Introduction to Principles of Behavior	3
LING/ANTH 106	Introduction to Linguistics	3
POLS 110	Introduction to U.S. Politics	3
PSYC 104	General Psychology	3*
SOC 104	Elements of Sociology	3*

### PROFESSIONAL SKILLS ELECTIVE

The BS ARCE curriculum includes three credit-hours of non-ARCE or CE electives intended to enhance the breadth of your professional development. You must choose your professional skills elective from the following approved list with the (\*) courses being highly recommended.

#### PROFESSIONAL SKILLS ELECTIVE COURSES

<b>Dept./No.</b>	<b>Course Title</b>	<b>Credit-Hours</b>
ARCH 300	Architectural Design IV	6
ARCH 618	Architectural Photography	3
ARCH 629	Listening to Architecture	3
ACCT 200	Financial Accounting I	4
COMS 130 or 150	Communication	3*
ENGL 362	Technical or Business Writing	3*
ENGR 515	Toastmasters	1
ME 508	Numerical Analysis	3*
MEMT 670	Acoustics of Music	3
TH&F 224	Lighting Production	2
Foreign Language	(not in the student's native language)	3
ROTC lecture courses	student must be commissioned upon graduation	3