ARCHITECTURAL ENGINEERING ADVISING AND COURSE SELECTION GUIDE

AREN 2021

First Year

Fall Semester – 13 Semester Credit Hours

ARCH 1301 Introduction to Architecture and Interior Design
ENGL 1301 Rhetoric and Composition I
AREN 1205 Intro to Architectural Engineering
ENGR 1101 Entrance to Engineering for Transfer Students
or UNIV 1131
MATH 1426 Calculus I

Spring Semester – 16 Semester Credit Hours

AREN 2252 Introduction to Construction Drafting
IE 2308 Engineering Economy
MATH 2425 Calculus II
PHYS 1443 General Technical Physics I
Language, Philosophy, and Culture Elective

Second Year

Fall Semester – 16 Semester Credit Hours

ARCH 2341 Design Communications for Engineers
AREN 2311 Statics
HIST 13XX U.S. History Elective
MATH 2326 Calculus III
PHYS 1444 General Technical Physics II

Spring Semester – 16 Semester Credit Hours

ARCH 3357 Design Technologies – BIM for Engineers
AREN 2313 Mechanics of Materials
AREN 2315 Construction Materials & Methods
CHEM 1465 Chemistry for Engineers
COMS 2302 Professional & Technical Communications for Scientists & Engineers

Third Year

Fall Semester – 16 Semester Credit Hours

ARCH 3551 Basic Design for Engineers
AREN 3213 Building Science I
AREN 3341 Structural Analysis
MATH 3319 Differential Equations & Linear Algebra
HIST 13XX U.S. History Elective

Spring Semester – 16 Semester Credit Hours

ARCH 3336 Structural Systems for Buildings
AREN 3311 Construction Engineering
AREN 3331 Mechanical & Electrical Systems
AREN 3343 Soil Mechanics
AREN 3143 Properties & Behavior of Soils
AREN 3347 Reinforced Concrete Design

Fourth Year

Fall Semester – 15 Semester Credit Hours

AREN 4309 Thermodynamics for AREN
AREN 4346 Electrical Systems & Lighting for AREN
AREN 4348 Structural Design in Steel
AREN 4352 Professional Practice
POLS 2311 Government of the United States

Spring Semester – 12 Semester Credit Hours

AREN 43XX ARCH/AREN Senior Elective
AREN 3301 Stochastic Models
AREN 4383 Senior Project
POLS 2312 State and Local Government

COE Foreign Language Requirement: Two years of same foreign language in high school or six semester credit hours of the same foreign language.
General Core Requirements

- Students majoring in Architectural Engineering must take ARCH 1301, which is a Creative Arts elective option. If a student has taken a different course from the university’s approved Creative Arts elective list, it will be counted as part of your core curriculum. However, ARCH 1301 will also need to be completed to satisfy the course requirement for the Architectural Engineering degree plan.

- Students majoring in Architectural Engineering must take IE 2308, which is a Social & Behavioral Sciences elective option. If a student has taken a different course from the university’s approved Social & Behavioral Sciences elective list, it will be counted as part of your core curriculum. However, IE 2308 will also need to be completed to satisfy the course requirement for the Architectural Engineering degree plan.

- The UTA Architectural Engineering Program requires two (six SCH) U.S. History courses. The two courses can be chosen from the following list of courses offered at UTA.
  
  HIST 1301 History of the United States to 1865
  HIST 1302 History of the United States, 1865 to Present
  HIST 1331 Technology and Science in American Society, I
  HIST 1332 Technology and Science in American Society, II

- The UTA Architectural Engineering Program requires one (three SCH) Language, Philosophy & Culture elective. This elective can be chosen from the following list of courses offered at UTA.

  ANTH 2322 Global Cultures
  ARAB 2310 Arabic Culture in the World
  ARAB 2314 Intermediate Arabic II
  ARCH 2300 Masterworks of Western Architecture
  ART 1317 The Art of Non-Western Traditions
  CHIN 2310 Chinese Culture in the World
  CHIN 2314 Intermediate Chinese II
  CLAS 1300 Introduction to Classical Mythology
  ENGL 2303 Topics in Literature
  ENGL 2309 World Literature
  ENGL 2319 British Literature
  ENGL 2329 American Literature
  FREN 2310 French and Francophone Cultures in the World
  FREN 2314 Intermediate French II
  GER 2310 German Culture in the World
  GER 2314 Intermediate German II
  GLOBAL 2301 Introduction to Global Studies
  GREK 2314 Greek Level IV
  HIST 2377 Flight Culture and the Human Experience
  INTS 1310 Introduction to Popular Culture
  KORE 2310 Korean Culture in the World
  KORE 2314 Intermediate Korean II
  LATN 2314 Latin Level IV
  LING 2371 Language in a Multicultural USA
  MAS 2300 Intro to Mexican American Studies
  PHIL 1304 Contemporary Moral Problems
  PHIL 2300 Introduction to Philosophy
  PORT 2314 Intermediate Portuguese II
  RUSS 2310 Russian Culture in the World
  RUSS 2314 Intermediate Russian II
  SOCI 1310 Introduction to Popular Culture (proposed)
  SPAN 2310 Hispanic Culture in the World
  SPAN 2314 Intermediate Spanish II
  WOMS 2310 Intro to Women’s & Gender Studies

Senior Elective

Architectural Engineering majors must select one 3-hour course from the following list of Senior Electives.

- ARCH 4330 Energy Use and Conservation in Architecture
- ARCH 4346 Construction Drawings
- AREN 4307 Construction Sustainability
- AREN 4326 GIS/Hydrologic & Hydraulic Modeling
- AREN 4360 Design of Structural Masonry
- AREN 4365 Structural Wood Design
Architectural Engineering Curriculum & Requisites – 2021

Freshman Year, Fall Semester
13 Semester Credit Hours

Pre-Professional Courses:
UNIV 1131 or ENGR 1101 Entrance to Engineering for Transfer Students
ARCH 1301 Introduction to Architecture and Interior Design
AREN 1205 Introduction to Architectural Engineering
ENGL 1301 Rhetoric and Composition I
MATH 1426 Calculus I

Freshman Year, Spring Semester
16 Semester Credit Hours

Pre-Professional Courses:
AREN 2252 Introduction to Construction Drafting – Prerequisite: MATH 1421
IE 2308 Engineering Economy – Corequisite: MATH 1426
MATH 2425 Calculus II – Prerequisite: MATH 1426
PHYS 1443 General Technical Physics I – Prerequisite: MATH 1426

General Education Courses:
Language, Philosophy, and Culture Elective

Sophomore Year, Fall Semester
16 Semester Credit Hours

Pre-Professional Courses:
ARCH 2341 Design Communications for Engineers
AREN 2311 Statics – Prerequisite: PHYS 1443
MATH 2326 Calculus III – Prerequisite: MATH 2425
PHYS 1444 General Technical Physics II – Prerequisite: PHYS 1443, Corequisite: MATH 2425

General Education Courses:
US History Elective

Sophomore Year, Spring Semester
16 Semester Credit Hours

Pre-Professional Courses:
AREN 2313 Mechanics of Materials – Prerequisites: AREN 2311 & MATH 2425
AREN 2315 Construction Materials & Methods – Prerequisite: AREN 1205
CHEM 1465 Chemistry for Engineers – Corequisite: MATH 1421
COMS 2302 Professional & Technical Communication for Scientists & Engineers – Prerequisites: 30 Semester Credit hours completed and ENGL 1301

Professional Courses:
ARCH 3357 Design Technologies – Building Information Modeling for Architects & Engineers – Prerequisite: AREN 2252
Junior Year, Fall Semester
16 Semester Credit Hours

Professional Courses:
ARCH 3551 Basic Design for Engineers – Prerequisite: ARCH 1301 & ARCH 2341
AREN 3213 Building Science – Prerequisite: CHEM 1465 & PHYS 1444
AREN 3341 Structural Analysis – Prerequisite: AREN 2313
MATH 3319 Differential Equations & Linear Algebra – Corequisite: MATH 2326

General Education Courses:
US History Elective

Junior Year, Spring Semester
16 Semester Credit Hours

Professional Courses:
ARCH 3336 Structural Systems for Buildings
AREN 3311 Construction Engineering – Prerequisite: IE 2308
AREN 3331 Mechanical and Electrical Systems – Prerequisite: PHYS 1444
AREN 3343 Soil Mechanics – Corequisite: AREN 3143, Prerequisite: AREN 2313
AREN 3143 Properties and Behavior of Soils – Corequisite: AREN 3343
AREN 3347 Reinforced Concrete Design – Prerequisite: AREN 3341

Senior Year, Fall Semester
15 Semester Credit Hours

Professional Courses:
AREN 4309 Thermodynamics for Architectural Engineers – Prerequisites: CHEM 1465, MATH 2425, and PHYS 1444
AREN 4346 Electrical Systems & Lighting for Architectural Engineers – Prerequisites: MATH 2425 and PHYS 1444
AREN 4348 Structural Design in Steel – Prerequisite: AREN 3341
AREN 4352 Professional Practice

General Education Courses:
POLS 2311 Government of the US

Senior Year, Spring Semester
12 Semester Credit Hours

Professional Courses:
ARCH/AREN Senior Elective
AREN 3301 Stochastic Models – Prerequisite: MATH 2425
AREN 4383 Senior Elective – Prerequisites: AREN 4348, AREN 4352, and All 3000 level courses except AREN 3301

General Education Courses:
POLS 2312 State and Local Government