# 2024 - 2025 Major Map

## Construction Engineering, BSE

School/College: Ira A. Fulton Schools of Engineering
ESCONBSE

| Term 1 0 - 16 Credit Hours Critical course signified by | Hours | Minimum Grade | Notes |
|---|---|---|---|
| CHM 114: General Chemistry for Engineers (SCIT OR SQ) OR CHM 116: General Chemistry II (SCIT OR SQ) | 4 | | • ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students<br>• If ENG 105 is taken, a 3 credit hour applicable elective must also be taken prior to graduation. See advisor.<br>• Prep for success using the First-Year Student Guide.<br>• Join a Fulton community.<br>• Explore engineering and technical professions. |
| FSE 100: Introduction to Engineering | 2 | C | |
| MAT 265: Calculus for Engineers I (MATH OR MA) | 3 | C | |
| ASU 101-CON: The ASU Experience | 1 | | |
| ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition | 3 | C | |
| Humanities, Arts and Design (HUAD) | 3 | | |
| Minimum 2.00 GPA ASU Cumulative. | | | |
| Term hours subtotal: | 16 | | |

| Term 2 16 - 31 Credit Hours Critical course signified by | Hours | Minimum Grade | Notes |
|---|---|---|---|
| MAT 242: Elementary Linear Algebra | 2 | C | • Create a Handshake profile.<br>• Get involved with EPICS, the Generator Labs, and the Fulton Start-Up Center. |
| MAT 266: Calculus for Engineers II (MATH OR MA) | 3 | C | |
| PHY 121: University Physics I: Mechanics (SCIT OR SQ) | 3 | C | |
| PHY 122: University Physics Laboratory I (SCIT OR SQ) | 1 | C | |
| CON 101: Construction and Culture: a Built Environment (HUAD OR HU & H) | 3 | | |
| ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition | 3 | C | |
| Complete ENG 101 OR ENG 105 OR ENG 107 course(s). | | | |
| Minimum 2.00 GPA ASU Cumulative. | | | |
| Term hours subtotal: | 15 | | |

| Term 3 31 - 47 Credit Hours Critical course signified by | Hours | Minimum Grade | Notes |
|---|---|---|---|
| CNE 210: Engineering Mechanics I: Statics | 3 | C | • Prep for success using the Sophomore Guide. |
| CNE 243: Heavy Construction Equipment, Methods and Materials | 3 | | |
| MAT 267: Calculus for Engineers III (MATH OR MA) | 3 | C | |
| MAT 275: Modern Differential Equations (MATH OR MA) | 3 | C | |
| PHY 131: University Physics II: Electricity and Magnetism (SCIT OR SQ) | 3 | C | |
| PHY 132: University Physics Laboratory II (SCIT OR SQ) | 1 | C | |
| Minimum 2.00 GPA ASU Cumulative. | | | |

| | | | |
|---|---|---|---|
| Complete Mathematics (MATH) requirement. | | | |
| | Term hours subtotal: | 16 | |

| Term 4 47 - 62 Credit Hours Critical course signified by | Hours | Minimum Grade | Notes |
|---|---|---|---|
| CNE 212: Engineering Mechanics II: Dynamics | 3 | C | • Pursue an undergraduate research experience.<br>• Apply for internships.<br>• Attend career fairs and events. |
| CNE 213: Introduction to Deformable Solids | 3 | C | |
| CNE 271: Construction Safety | 3 | C | |
| ECN 211: Macroeconomic Principles (SOBE OR SB) OR ECN 212: Microeconomic Principles (SOBE OR SB) | 3 | | |
| BIO 181: General Biology I (SCIT OR SQ) OR BIO 182: General Biology II (SCIT OR SG) OR BME 111: Engineering Perspectives on Biological Systems OR GLG 101: Introduction to Geology I (Physical) (SCIT OR SQ) | 3-4 | | |
| Term hours subtotal: | 15-16 | | |

| Summer 4 62 - 63 Credit Hours | Hours | Minimum Grade | Notes |
|---|---|---|---|
| CNE 296: Summer Field Internship | 1 | C | |
| Term hours subtotal: | 1 | | |

| Term 5 63 - 78 Credit Hours Necessary course signified by | Hours | Minimum Grade | Notes |
|---|---|---|---|
| CNE 321: Structural Analysis and Design | 3 | | • If students take MAE 241 they will need to make up 1 credit hour in a Civil, Construction, math or science course.<br>• Plan for success using the Junior Guide.<br>• Network at student organization competitions or professional societies. |
| CNE 351: Geotechnical Engineering | 3 | | |
| CNE 353: Civil Engineering Materials | 3 | | |
| IEE 380: Probability and Statistics for Engineering Problem Solving (QTRS OR CS) | 3 | | |
| Upper Division GCSI Track Course | 3 | | |
| Term hours subtotal: | 15 | | |

| Term 6 78 - 93 Credit Hours Necessary course signified by | Hours | Minimum Grade | Notes |
|---|---|---|---|
| CNE 453: Construction Technology | 3 | | • Research and prepare for graduate school.<br>• Apply for an engineering 4+1 program.<br>• Develop a professional profile online. |
| CNE 383: Construction Estimating OR CON 486: Infrastructure Construction Estimating | 3 | | |
| CNE 400: Earth Systems Engineering and Management (SUST OR (L or HU) & H) | 3 | | |
| Governance and Civic Engagement (CIVI) | 3 | | |
| American Institutions (AMIT) | 3 | | |
| Term hours subtotal: | 15 | | |

| Summer 6 93 - 94 Credit Hours | Hours | Minimum Grade | Notes |
|---|---|---|---|
| CNE 484: Internship | 1 | | |
| Term hours subtotal: | 1 | | |

| Term 7 94 - 106 Credit Hours Necessary course signified by | Hours | Minimum Grade | Notes |
|---|---|---|---|
| CNE 487: Integrated Civil, Construction, and Environmental Engineering Design I (L) | 2 | | • Design Elective requirements: complete a total of 2 design electives.<br>• Plan for success using the Senior Guide.<br>• Use Handshake to apply for full-time positions. |
| CNE 495: Construction Planning and Scheduling (CS) | 3 | | |
| EEE 202: Circuits I OR MAE 241: Introduction to Thermodynamics | 4-3 | | |
| Upper Division Design Elective | 3 | | |
| Term hours subtotal: | 12-11 | | |

| Term 8 106 - 120 Credit Hours Necessary course signified by ★ | Hours | Minimum Grade | Notes |
|---|---|---|---|
| ★ CNE 488: Integrated Civil, Construction, and Environmental Engineering Design II (L) | 2 | | • Design Elective requirements: complete a total of 2 design electives. |
| CNE 455: Construction Project Management | 3 | | |
| CNE 496: Construction Contract Administration (L) | 3 | | |
| Upper Division Design Elective | 3 | | |
| Upper Division Technical Elective | 3 | | |
| Term hours subtotal: | 14 | | |

Hide Course List(s)/Track Group(s)

| Design Elective |
|---|
| CEE 420: Steel Structures |
| CEE 421: Concrete Structures |
| CEE 452: Foundations |

| Technical Elective |
|---|
| CEE 372: Transportation Engineering |
| CEE 412: Pavement Analysis and Design |
| CEE 420: Steel Structures |
| CEE 421: Concrete Structures |
| CEE 432: Developing Software for Engineering Applications |
| CEE 440: Hydrology |
| CEE 441: Water Resources Engineering |
| CEE 452: Foundations |
| CEE 462: Unit Operations in Environmental Engineering |
| CEE 466: Urban Water System Design |
| CEE 467: Environmental Microbiology |
| CEE 474: Transportation Systems Planning |
| CEE 475: Highway Geometric Design |
| CEE 481: Civil Engineering Project Management |
| CEE 483: Highway Materials, Construction, and Quality |
| CEE 493: Honors Thesis (L) |
| CEE 494: Concrete Canoe Design |
| CEE 494: Steel Bridge Design |
| CON 296: Summer Field Internship |
| CON 310: Testing of Materials for Construction |
| CON 345: Mechanical Systems |
| CON 448: Sustainable Construction |
| CON 454: Trenchless Construction Methods |
| CON 493: Honors Thesis (L) |

| Upper Division Global Communities, Societies and Individuals (GCSI) Track Course |
|---|
| GCU 323: Geography of Latin America (GCSI OR SB & G) |
| GCU 325: Geography of Europe (GCSI OR SB & G) |
| GCU 328: Geography of Middle East and North Africa (GCSI OR SB & G) |
| GCU 350: The Geography of World Crises (GCSI OR SB & G) |
| GCU 351: Population Geography (GCSI OR SB & G) |
| HST 302: Ancient Law and Society |
| HST 302: History of Money |
| HST 302: History of the Olympic Movement |
| HST 302: Jews, Christians & Muslims in the Medieval World |
| HST 302: War and Political Thought |
| HST 303: China,Japan & East Asia in World History |
| HST 303: Empires in Asia |
| HST 303: Modern Korean History through Film |
| HST 304: Crime and Punishment in Early Modern Europe |
| HST 304: Stalin to Putin |

FSE 301: Entrepreneurship and Value Creation

- **Total Hours:** 120
- **Upper Division Hours:** 45 minimum
- University Undergraduate Graduation Requirements

**Notes:**
Mathematics Placement Assessment score determines placement in first mathematics course.

General Studies designations listed next to courses on the major map were valid for the 2024 - 2025 academic year. Please refer to the course catalog for current General Studies designations at time of class registration. General Studies credit is applied according to the designation the course carries at the time the class is taken.