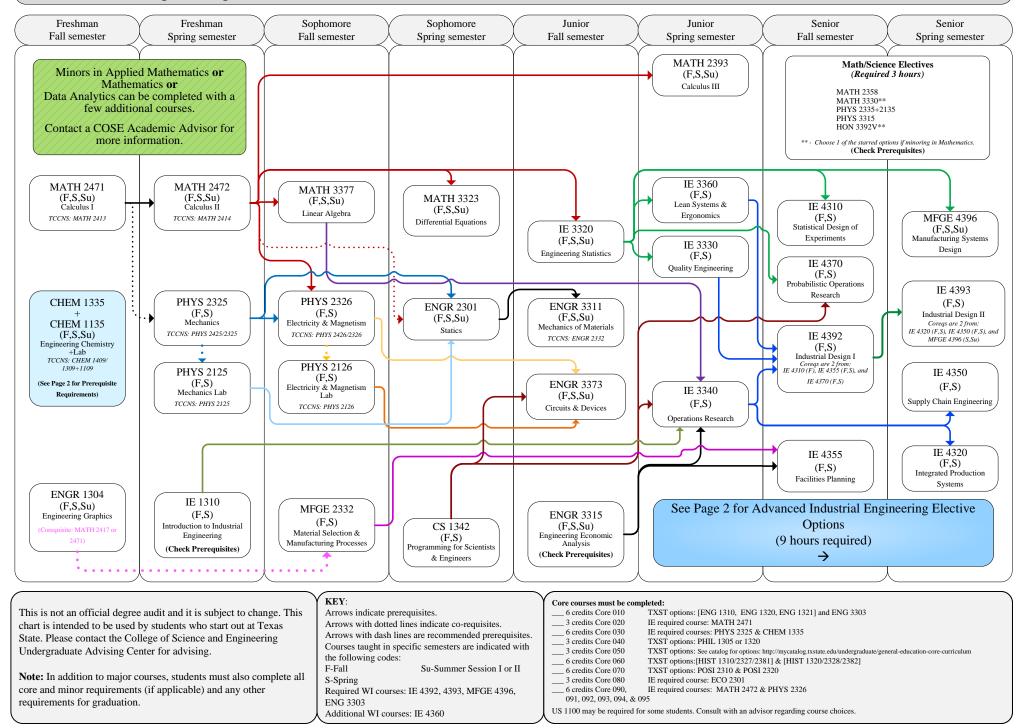
BS – Industrial Engineering

(SC-BS/IE)

2025 Catalog year: College of Science and Engineering



Advanced Industrial Engineering Electives

(Choose 9 hours from the following)

Data Engineering & Operations Research

- EE 3326 Numerical & Scientific Data Analysis Using Python
- EE 4331* Introduction to Machine Learning for Engineering Applications
- IE 3305 Intro to Data Analysis
- IE 4340* Non-Linear Optimization
- IE 4342* Advanced Linear & Integer Programming
- IE 4399D Heuristic Optimization
 - * Choose 1 of the starred options if minoring in Data Analytics. (Check Prerequisites)

Cooperative Education & Undergraduate Research

(Maximum of 3 hours)

- ENGR 3190 Cooperative Education
- ENGR 3290 Advanced Cooperative Education
- ENGR 4299 Engineering Undergraduate Research
- ENGR 4395 Independent Studies in Engineering

(Check Prerequisites)

To earn a minor in Data Analytics, the following courses must be completed:

- ANLY 2300
- EE 4331 or IE 4340 or IE 4342 must be chosen as an Advanced Industrial Engineering Elective option and to fulfill the algorithms/data mining requirement.
- Required IE major courses will fulfill the remaining minor requirements: 1. IE 3320 (statistics),
 - 2. CS 1342 (computer/programming),
 - 3. IE 3330 & IE 3340 (prescribed electives; IE 4310 & IE 4370 will also meet this requirement).

To earn a minor in Mathematics, students must choose one of the following course options:

- MATH 3330
- HON 3392V

An Applied Mathematics minor can be earned without taking any additional coursework.

Contact a COSE Academic Advisor for more information.

Manufacturing Engineering

- MFGE 4367 Polymer Properties & Processing
- MFGE 4318 Additive Manufacturing
- EE 4392 Micro Electronics Manufacturing

Professional Certification Electives

- IE 4399G Special Topics in Project Management
- IE 4335 Lean Six Sigma Methodologies

Systems Engineering

IE 4381 – Introduction to Systems Engineering

Human Factors

IE 4360 – Human Factors Design

Resilient and Sustainable Operations

IE 4330 – Reliability Engineering

Other

EE 4357 – Power Systems

(Check Prerequisites)

CHEM 1335

Prerequisite Requirements:

Must complete 1 of the following mathematics prerequisites:

- MATH 1315 or MATH 1317 or MATH 1319 or MATH 1329 or MATH 2321 or MATH 2417 or MATH 2471 - any with a grade of "C" or better
- ACT Mathematics score of 24 or better
- New ACT Mathematics score of 25 or better
- SAT Mathematics score of 550 or better
- Accuplacer College Mathematics score of 86 or better
- Compass College Algebra score of 46 or better
- Next-Generation Advanced Algebra and Functions Test of 263 or better

AND

Must complete 1 of the following to demonstrate Chemistry Readiness:

- Completion of Chemistry Readiness Exam with a score of 80 or better
- CHEM 1320 grade of "C" or better