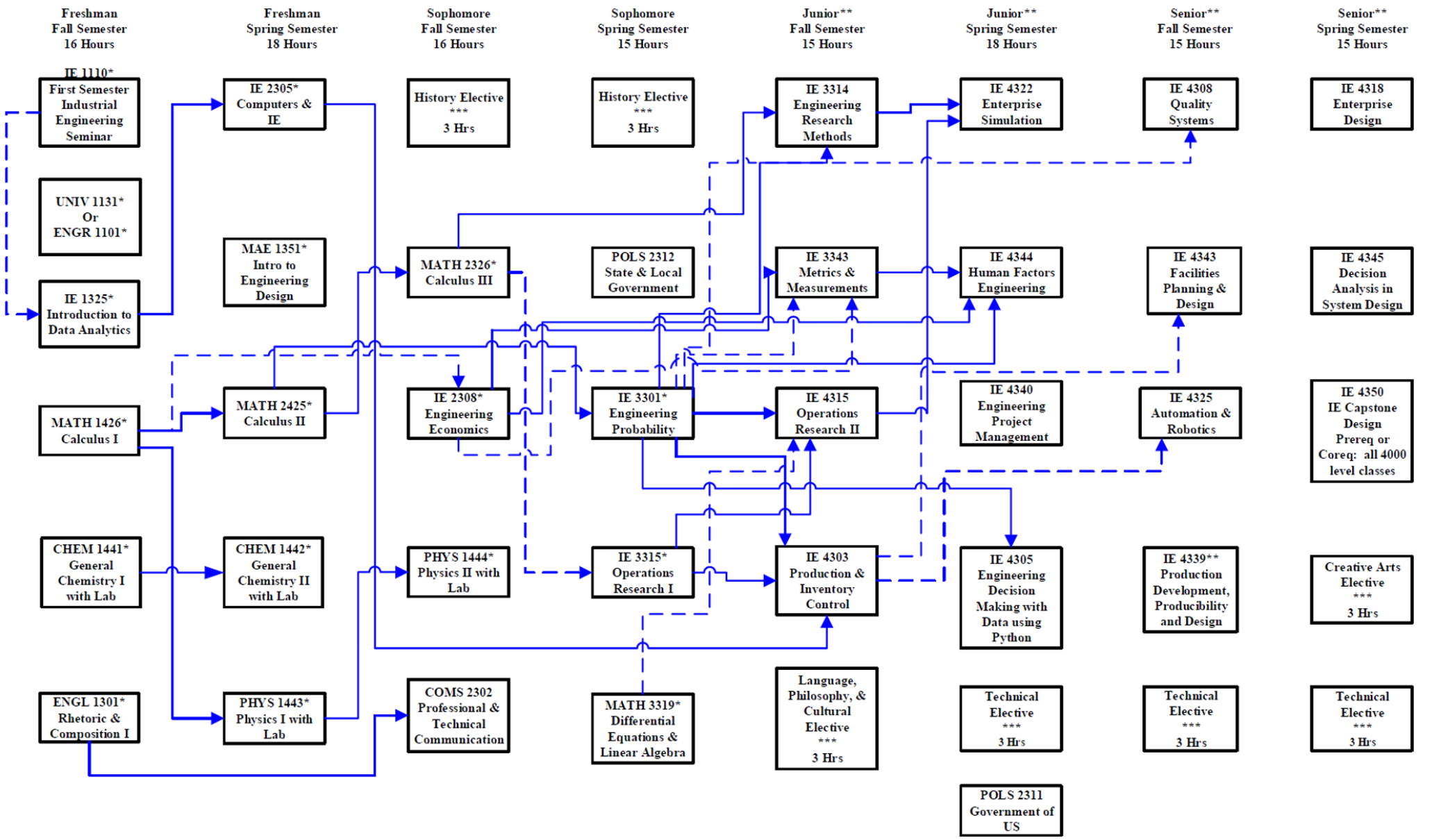
Industrial Engineering Curriculum Flow Chart, 2021



* Must complete theses courses with grade of C or better and a minimum GPA of 2.25 to take professional courses.
** Engineering Professional Program acceptance required for all IE classes listed in Junior and Senior years.
*** Must be approved.

Foreign Language Deficiency:
- ☐ 2 Years in HS
- ☐ Other (6 credit hours)

Bachelor of Science in Industrial Engineering

Degree Plan Requirements **Fall 2021 Catalog**

UNIVERSITY OF TEXAS ARLINGTON | COLLEGE OF ENGINEERING

Student Name: _____ UTA ID#: _____

General Education/Core Curriculum

	Course	Hours Earned	Hours
	US History*		3
	US History*		3
	POLS 2311		3
	POLS 2312		3
	Creative Arts*		3
	Language, Philosophy and Culture*		3
	ENGL 1301		3
	COMS 2302		3
	TOTAL General Education/Core		24

Mathematics

	Course	Hours Earned	Hours
	MATH 1426 Calculus I		4
	MATH 2425 Calculus II		4
	MATH 2326 Calculus III		3
	MATH 3319		3
	TOTAL Mathematics		14

Science

	Course	Hours Earned	Hours
	CHEM 1441		4
	CHEM 1442		4
	PHYS 1443 Technical Physics 1		4
	PHYS 1444 Technical Physics 2		4
	TOTAL Science		16

COE Foreign Language

__ Earned in High School,

__ Earned in College, or

__ Exempt

__ Exempt (ESL)

Engineering

	Course	Hours Earned	Hours
	ENGR 1101 or UNIV 1131		1
	MAE 1351		3
	TOTAL Engineering		4

Major: Industrial Engineering

	Course	Hours Earned	Hours
	IE 1110		1
	IE 1325		3
	IE 2305		3
	IE 2308		3
	IE 3301		3
	IE 3314**		3
	IE 3315**		3
	IE 3343**		3
	IE 4303**		3
	IE 4305**		3
	IE 4308**		3
	IE 4315**		3
	IE 4318**		3
	IE 4322**		3
	IE 4325**		3
	IE 4339**		3
	IE 4340**		3
	IE 4343**		3
	IE 4344**		3
	IE 4345**		3
	IE 4350**		3
	Technical Electives**		9
	TOTAL Industrial Engineering		128

* refer to the UTA catalog (https://catalog.uta.edu/degreerequirements/generalcorerequirements/)

**Professional Level Courses

BS in Industrial Engineering Course Pre/Co-requisite Requirements 2021-2022

- This document lists all courses required for a BS degree in Industrial Engineering along with any required pre-requisites and co-requisites.
- For Texas Common Course Number (TCCN), visit https://www.uta.edu/admissions/apply/transfer/transfer-guides. Scroll down the page to view "Current Transfer Guides." Prior to registering, confirm with your UTA advisor any courses you plan to take outside of UTA.
- This document lists three categories of course requirements: 1. General Education; 2. Pre-professional; and 3. Professional.
- To be eligible to enroll in College of Engineering (COE) pre-professional and/or professional level courses, must be in "good standing" with the College

1. General Education

U.S. History

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
Any U.S. History course from the UTA approved list	None	ENGL 1301 (HIST 1301/2)	None
Any U.S. History course from the UTA approved list	None	ENGL 1301 (HIST 1301/2)	None

Political Science

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
POLS 2311 – Government of the United States	None	None	None
POLS 2312 – State and Local Government	None	None	None

Social/Behavioral Science

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
IE 2308 – Economics for Engineers	MATH 1426 or concurrent enrollment	None	None

Creative Arts

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
Any Creative Arts course from the UTA approved list	Varies	None	None

Language, Philosophy, Culture

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
Any Language, Philosophy, Culture course from the UTA approved list	Varies	None	None

Communication

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
ENGL 1301 – Rhetoric and Composition 1	None	None	None
COMS 2302 – Professional and Technical Communication	30 or more hours earned; ENGL 1301 and either ENGR 1300 or ENGL 1302.	None	None

Mathematics

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
MATH 1426 – Calculus 1	MATH 1421 or MPT scores	None	None
MATH 2425 – Calculus 2	MATH 1426	None	None
MATH 2326 – Calculus 3	MATH 2425	None	None
MATH 3319 – Differential Equations & Linear Algebra	MATH 2326 or concurrent enrollment	None	None

Science

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
CHEM 1441 – General Chemistry I	MATH 1302 or MATH 1303 or MATH 1322 or MATH 1323 or MATH 1402 or MATH 1421 or MATH 1426 or MPT Algebra Score=/> 17	None	CHEM 1465 + Approved Science Elective
CHEM 1442 – General Chemistry II	CHEM 1441 or equivalent with a grade of C or better or (CHEM 1341 with a grade C or better)	None	CHEM 1465 + Approved Science Elective
PHYS 1443 – Physics 1 with Lab	MATH 1426	None	None
PHYS 1444 – Physics 2 with Lab	PHYS 1443	MATH 2425	None

Engineering

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
Transfer Students: ENGR 1101 – Entrance to Engineering or Freshmen: UNIV 1131 – Student Success	None	None	None

2. Industrial Engineering Pre-Professional Engineering Courses

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
MAE 1351 – Introduction to Engineering Design	C or better in MATH 1421 (or concurrent enrollment) or MATH 1426 (or concurrent enrollment) or HONR-SC 1426 (or concurrent enrollment)	None	None
IE 1110 – 1st semester IE seminar	None	None	None
IE 1325- Introduction to Data Analysis	IE 1110 or concurrent enrollment		
IE 2305 – Computer Applications in Industrial Engineering	IE 1325	None	None
IE 2308 – Economics for Engineers	MATH 1426 or concurrent enrollment	None	None
IE 3301 – Engineering Probability	MATH 2425	None	None
IE 3315 – Operations Research I	MATH 2326 or concurrent enrollment	None	None

3. Industrial Engineering Professional Courses (MUST BE IN THE PROFESSIONAL IE PROGRAM)

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
IE 3314 – Engineering Research Methods	IE 3301 and MATH 2326	None	None
IE 3343 – Metrics and Measurement	MATH 2326, IE 2308 or concurrent enrollment, and IE 3301 or concurrent enrollment	None	None
IE 4305 – Engineering Decision Making with Data using Python	IE 3301	None	None

Course Required	Prerequisites	Corequisites*	UTA Alternative Course Options
IE 4303 – Production and Inventory Control	IE 2305, IE 3301 and IE 3315	None	None
IE 4308 – Quality Systems	IE 3301 or concurrent enrollment	None	None
IE 4315 – Operations Research II	IE 3301, IE 3315, and MATH 3319 or concurrent enrollment	None	None
IE 4318 – Enterprise Design	None	None	None
IE 4322 – Enterprise Simulation	IE 3314 and IE 4315	None	None
IE 4325 – Automation and Robotics I	IE 4303 or concurrent enrollment	None	None
IE 4339 – Product Development, Producibility and Entrepreneurship	None	None	None
IE 4340 – Engineering Project Management	None	None	None
IE 4343 – Facilities Planning and Design	IE 4303 or concurrent enrollment	None	None
IE 4344 – Human Factors Engineering	IE 3301, IE 2308, and IE 3343	None	None
IE 4345 – Decision Analysis in System Design	None	None	None
IE 4350 – Industrial Engineering Capstone Design	All required 4000 level IE courses or concurrent enrollment	None	None
Technical Elective 1	Varies	Varies	None
Technical Elective 2	Varies	Varies	None
Technical Elective 3	Varies	Varies	None

*In order for a course to be considered a co-requisite, both courses must be registered for at UTA. **UTA Alternative Course Options: CHEM 1441 + CHEM 1442 in place of CHEM 1465.