



Frank H. Dotterweich College of Engineering BACHELOR OF SCIENCE INDUSTRIAL ENGINEERING

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To apply to TAMUK

<http://www.tamuk.edu/admission/>

What is Industrial Engineering?

Industrial engineering is an inter-disciplinary profession that deals with the optimization of complex processes, systems, or organizations by developing, improving and implementing integrated systems of people, money, knowledge, information, equipment, energy and materials.

What do Industrial Engineers do?

Industrial engineers are responsible for optimizing complex systems, eliminating waste from those systems, and making improvements using methods, including statistical analysis, interpersonal communication, optimization, design, planning, operations management, computer simulation and quality control. Typically, industrial engineers are responsible for:

- Scheduling and production – IE can make suggestions on how to better utilize time, resources and people assets.
- Cost containment – IE can develop management control systems that will streamline financial planning and cost analysis.
- Quality control – IE can design the systems to coordinate manufacturing activities and ensure products meet quality standards.
- Standardization – IE can determine how to create standard parts that provide cost savings and assembly line efficiencies.

Outstanding Faculty:

All (100%) of our faculty have PhD degrees. Our faculty bring their industry and research experience to the classroom. Class sizes are small enough to know the professor. Faculty are passionately engaged in teaching and research.

Tuition and Scholarships:

Tuition and fees vary with the number of semester credits taken and is one of the lowest in Texas. Low tuition provides a good value for education compared to other universities. Scholarships are available for qualified students at the institutional, college and department levels. Apply at www.tamuk.edu/scholarships/.

Student Organizations and Accomplishments:

Students build leadership skills while serving as officer or as a team member in one of many local student organizations such as INFORMS, IIE, Engineering Project Management Society. Industrial engineering graduates serve in South Texas and various regions nationally and internationally working for business, industry, education and government. Research laboratories are available for work in renewable energy, simulation and optimization, ergonomics, risk management, robotics and automation, intelligent systems and controls, computer integrated engineering design, and disaster management. Excellent computer facilities are available.

Employment:

Our graduates have excellent employment opportunities. There are many positions open to Industrial Engineers such as: Manufacturing Engineer, Plant Manager, Production Planner, Production Supervisor, Process Engineer, Project Manager, Quality Manager in the fields of manufacturing industry, service industry, Healthcare. Many of our graduates are now working for companies such as AT&T, UPS, John Deere, Corpus Christi Army Depot, Port of Corpus Christi, NASA, Ford, Applied Material, Barclays, and J.P Morgan Chase & Co.

Internships and Co-OP Opportunities:

Co-ops/internships are strongly encouraged. Various companies in manufacturing, logistics, healthcare, and service industries offer internships opportunities for our students. Opportunities are emailed to all eligible students. Contact the Javelina Engineering Success Center for additional resources.

Further Information:

<http://www.tamuk.edu/engineering/index.html>

We invite you to visit the campus, meet our faculty, and tour our labs and research facilities. Please call or email to schedule a visit.



REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

At Texas A&M University-Kingsville

Fall 2019 CURRICULUM

FRESHMAN YEAR

CHEM 1311 General Inorganic Chemistry I..... 3 (<i>prereq: MATH 1314, HS chemistry or CHEM 1481</i>)	ENGL 1302 Rhetoric and Composition (<i>prereq: ENGL 1301</i>) 3
CHEM 1111 General Inorganic Chemistry Lab I (<i>coreq: CHEM 1311</i>)..... 1	HIST 1302 American History II 3
ENGL 1301 Rhetoric and Composition 3	MATH 2414 Calculus II (<i>prereq: MATH 2413</i>) 4
HIST 1301 American History I..... 3	MEEN 1320 Elem Num Method & Eng Prob Solving..... 3
MATH 2413 Calculus I (<i>prereq: MATH 1348</i>) 4	PHYS 2325 University Phys. I..... 3
MEEN 1310 Engineering Graphics I..... 3	(<i>prereq: PHYS 1305/1105 or 1375, coreq: MATH 2413, PHYS 2125</i>)
UNIV 1101 Learning in Global Context I 1	PHYS 2125 University Phys. I Lab (<i>coreq: PHYS 2325</i>)..... 3
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18	18

SOPHOMORE YEAR

IEEN 2310 Applied Methods in Eng. Stat. I (<i>prereq: MATH 2413</i>)..... 3	IEEN 3321 Operation Research Methods in Eng. I (<i>prereq: MATH 2414</i>) 3
MATH 3320 Differential Equations (<i>prereq: MATH 2414</i>)..... 3	IEEN 3325 Eng. Econ. Analysis I 3
PHYS 2326 University Physics II 3	MEEN 2355 Statics and Dynamics 3
(<i>prereq: PHYS 2325/2125, coreq: MATH 2414</i>)	(<i>Prereq: PHYS 2325/2125 and MATH 2414</i>)
PHYS 2126 University Physics II Lab (<i>coreq: PHYS 2326</i>)..... 1	MEEN 3344 Materials Science 3
POLS 2301 Government & Politics of U.S..... 3	(<i>prereq: CHEM 1311/1111, MATH 2413, coreq: PHYS 2326</i>)
*Social/Behavioral Science Elective..... 3	^ Creative arts Elective..... 3
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16	15

JUNIOR YEAR

IEEN 3314 Eng. Methods in Quality Assurance (<i>prereq: IEEN 2310</i>) 3	EEEN 3331 Circuits and Electrmag Devices (<i>PHYS 2326/2126</i>) 3
IEEN 3315 Comp. Based Prod. and Invent. Cont. (<i>prereq: MATH 3320</i>) 3	IEEN 3310 Applied Methods in Eng. Stat. II 3
MATH 3415 Calculus III (<i>prereq: MATH 2414</i>) 4	(<i>prereq: IEEN 2310 and MATH 2414</i>)
MEEN 3347 Thermodynamics 3	IEEN 3341 Human Factors and Ergo. 3
(<i>prereq: MATH 2414, PHYS 2325/2125</i>)	MEEN 3349 Fund. MFG Processes (<i>prereq: MEEN 3344</i>) 3
** Communication Elective (<i>ENGL 2374 or COMS 2374 required</i>)..... 3	POLS 2302 Government and Politics of TX 3
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16	15

SENIOR YEAR

IEEN 4163 Senior Design Project I (<i>prereq: IEEN 3310</i>)..... 1	IEEN 4354 Sys. Safety Eng. 3
IEEN 4316 Facility Design and Plant Layout 3	IEEN 4264 Senior Design Project II (<i>prereq: IEEN 4163</i>)..... 2
IEEN 4328 App. Of Comp. Simulation (<i>prereq: IEEN 3310</i>)..... 3	Engineering Elective 3
IEEN 4332 Principles of Eng. Mgt. 3	Engineering Elective 3
Engineering Elective 3	^ Language, Phil., and Culture 3
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13	14

Engineering electives: CSEN 4367, EEEN 4357, IEEN 4312, IEEN 4321, IEEN 4325, IEEN 4335, IEEN 4336, IEEN 4351, IEEN 4360, MEEN 4341, MEEN 4355, MEEN 4371, MEEN 4372, MEEN 4373 (Other courses must be approved in advance by Student's advisor).

*EVEN 2372 OR ECON 2301 recommended.

**ENGL 2374 or COMS 2374 is required unless otherwise approved by advisor and department chair.

^For courses listed under Core Curriculum "Components" see "General Requirements for Graduation with a Baccalaureate Degree" in an earlier section of this Catalog.