2019-2020

Undergraduate Catalog Program Template for Transfer Single Articulation Pathways (TSAP) Programs

Program: Mechanical Engineering

Degree: B.S.M.E.

I. Introduction

a. Department of Civil and Mechanical Engineering

b. Student Learning Outcomes: The graduates from the Mechanical Engineering Program will demonstrate that they have:

   i. The ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

   ii. The ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

   iii. The ability to communicate effectively with a range of audiences.

   iv. The ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

   v. The ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

   vi. The ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

   vii. The ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

c. The mechanical engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

d. TSAP information

II. Program Delivery

a. This program is available on-campus

III. Declaring This Major

a. Declare this major within the Department of Civil and Mechanical Engineering

IV. General Requirements

a. Degree Requirements

b. General Education Requirements* *(some programs require specific courses that also meet general education requirements)*

c. Overlapping Course Content

d. College Graduation Requirements

e. Academic Regulations section of Catalog

V. Program Requirements

a. Must have minimum GPA of 2.0

b. Required courses for admission

i. (5) CHEM 105 General Chemistry I
ii. (3) COMM 101 Fundamentals of Speech
iii. (2) ENGR 116 Geometric Modeling
iv. (3) ENGR 160 Engineering Software Tool II
v. (2) ENGR 190 Intro to Engineering Design
vi. (4) ENGR 251 Electric Circuits I
vii. (3) ENGR 260 Vector Mechanics Statics
viii. (3) ENGR 261 Dynamics
ix. (3) ENGL 111 English Composition I
x. (1) IVYT 101/120 Student Success
xi. (4) MATH 211 Calculus I
xii. (4) MATH 212 Calculus II
xiii. (4) MATH 261 Multivariate Calculus
xiv. (3) MATH 264 Differential Equations
xv. (5) PHYS 220 Mechanics
xvi. (5) PHYS 221 Heat, Electricity, and Optics
xvii. (3) Humanities Elective *
xviii. (3) Social & Behavioral Science Elective *

*Select approved course from Ivy Tech Transfer General Education Core Curriculum. See ITCC advisor for assistance.

c. General Education Requirements: The Indiana Statewide General Education Core is satisfied as part of the TSAP program. The Purdue Fort Wayne General Education Capstone Course (Category C8) is included in your major requirements. A grade of C- or higher is required in each course used to satisfy the Purdue Fort Wayne General Education Requirements.

d. Listing of Major courses and supporting courses required at PFW. All PFW engineering and technical elective courses must have a combined minimum GPA of 2.0

i. (2) CS 22700 Introduction to C Programming
ii. (3) MA35100 Elementary Linear Algebra
iii. (2) ME 16000 Solid Modeling
iv. (2) ME 29300 Measurement & Instrumentation
v. (3) ME 20000 Thermodynamics I
vi. (3) ME 25200 Strength of Materials
vii. (3) ME 30100 Thermodynamics II
viii. (2) ME 30300 Materials Science and Engineering
ix. (1) ME 30400 Mechanics & Materials Lab
x. (3) ME 31800 Fluid Mechanics
xi. (1) ME 31900 Fluid Mechanics Lab
xii. (3) ME 32100 Heat Transfer
xiii. (1) ME 32200 Heat Transfer Lab
xiv. (3) ME 33100 System Dynamics
xv. (3) ME 33300 Automatic Control Systems
xvi. (3) ME 36100 Kinematics & Dynamics of Machinery
xvii. (3) ME 36900 Design of Machine Elements
xviii. (3) ME 48700 Senior Design I
xix. (3) ME 48800 Senior Design II
xx. (12) Mechanical Engineering Electives (4 courses)

xxi. (3) General Education Course

e. Minor in Mathematics and Minor in Physics

f. Special academic regulations specific to the program: The required courses (ENGR, ME, and ECE) and technical elective courses must have a combined minimum GPA of 2.0.

g. Student Responsibilities: You are responsible for satisfying the graduation requirements specified for your selected program. Thus, it is essential that you develop a thorough understanding of the required courses, academic policies, and procedures governing your academic career. All requests for exceptions to specific requirements must be made in writing and may be granted only by written approval from the appropriate chair or dean.

h. Program Transfer credit limitations: 60 credits

i. Total credits for degree: 120 credits