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*The Manufacturing Engineering Department will provide a quality engineering education to prepare students for the practice of engineering. A strong laboratory component in the curriculum, with opportunities for industrial internships and research experiences will provide engineering skills that enhance the understanding of the applications of engineering sciences and the realization of the importance of lifelong learning. A strong emphasis on verbal and written communications will be stressed.*

**A – GENERAL EDUCATION CORE – 42 HOURS**

*Students must fulfill the General Education Core requirements. The courses listed below satisfy both degree requirements and General Education core requirements.*

**Required**

**020 – Mathematics – 3 hours**

MATH 2413 Calculus I (or MATH 2487 Honors) three-hour lecture

**030 – Life and Physical Science – 6 hours**

PHYS 2425 Physics for Scientists and Engineers I three-hour lecture

PHYS 2426 Physics for Scientists and Engineers II three-hour lecture

**040 – Language, Philosophy, and Culture – 3 hours**

*Choose one:*

PHIL 1310 Ethics, Happiness, and the Good Life (Must be Engineering/Computer Science section)

PHIL 2326 Ethics, Technology, and Society

**090 – Integrative and Experiential Learning – 6 hours**

PHYS 2425 Physics for Scientists and Engineers I one-hour lab

PHYS 2426 Physics for Scientists and Engineers II one-hour lab

CSCI 1380 Computer Science

*Choose corresponding lab from Support Courses:*

CHEM 1107 Chemistry for Engineers Lab

CHEM 1111 General Chemistry I Lab

**B – MAJOR REQUIREMENTS – 64 HOURS (54 advanced)**

**1 – Manufacturing Engineering Core – 49 hours (39 advanced)**

MANE 1101 Introduction to Manufacturing Engineering

MANE 1204 Manufacturing Engineering Graphics

MANE 2332 Engineering Statistics

MANE 2403 Engineering Mechanics

MANE 3164 Manufacturing Processes Lab

MANE 3364 Manufacturing Processes

MANE 3300 Computer-Aided Design

MANE 3302 Computer-Aided Manufacturing

MANE 3337 Engineering Economics

MANE 3340 Fundamentals of Industrial Engineering

MANE 3351 Manufacturing Engineering Analysis

MANE 3437 Thermal and Fluid Sciences

MANE 4173 Production Design and Mass Customization

MANE 4311 Quality Control

MANE 4365 Tool Design

MANE 4331 Manufacturing Planning and Control

MANE 4340 Operations Research

MANE 4352 Manufacturing Simulation

**2 – Senior Design – 6 hours (6 advanced)**

MANE 4361 Senior Design I

MANE 4362 Senior Design II

**3 – Technical Electives – 9 hours (9 advanced)**

*Choose any advanced MANE course.*

**C – SUPPORT COURSES – 25 HOURS (6 advanced)**

*Choose one:*

CHEM 1307 Chemistry for Engineers  
CHEM 1311 General Chemistry I  
ELEE 2317 Electrical and Electronic Systems  
MATH 2413 Calculus I (or MATH 2487 Honors) one-hour lecture  
MATH 2414 Calculus II (or MATH 2488 Honors)  
MATH 2415 Calculus III  
MATH 3341 Differential Equations  
MECE 2140 Engineering Materials Lab  
MECE 2340 Engineering Materials  
MECE 3321 Mechanics of Solids

**TOTAL CREDIT HOURS FOR GRADUATION – 131 HOURS**

**TOTAL ADVANCED HOURS – 60 HOURS**

**ADMISSION, PROGRESSION, AND GRADUATION REQUIREMENTS, if applicable:**

**Graduation requirements**

In addition to the graduation requirements listed in the UTRGV 2015-2017 Undergraduate Catalog, demonstration of proficiency in a language other than English is required at the undergraduate level equivalent to a minimum of six credit hours. Proficiency can be demonstrated by a college credit exam, a placement test approved through the UTRGV Department of Writing and Language Studies, and/or up to six credit hours of college-level language coursework.