Additional Info

- Almost all MANE classes are offered just once a year, so it is important to take the courses in the order you are advised by the Manufacturing Engineering undergraduate faculty advisor, or else, you may lose a year.
- The most critical courses are the calculus, physics and chemistry courses, MATH2413, MATH2414, PHYS2425, CHEM1307 and CHEM1107. If you do not take these courses early, you will run out of courses to take because of the prerequisites.
- The second most critical courses are the basic engineering, computer science and math courses, MANE2332, MECE2340, MECE2140, MANE2403 and MATH3341.
- The third most critical courses are the junior level engineering classes MANE3337, MECE3321, MANE3351, and MANE3364.
- You must take CHEM1307 and CHEM1107 Chemistry for Engineers and Lab, OR you must take the combination CHEM1301, CHEM1101, CHEM1302, CHEM1102 (General Chemistry I and II with Labs).
- Technical electives are upper division MANE courses, typically MANE4333 that may be taken in you junior and senior years.
- You may register for MANE3101 research/project/internship classes in three separate to get credit for one technical elective.
- The senior design courses MANE4361 and MANE4362 must be taken in fall-spring sequence.
- It is preferred that the Ethics class PHIL2326 after be taken after the other core courses because performance in this course is better when the student has a higher level of maturity.

Contact Info

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UTRioGrandeValley

BLUE PRINT

MANFUFACTURING ENGINEERING (BSMFGE)
Catalog: 2017-18
COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

Degree Info

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.

ACADEMIC PLAN

FIRST YEAR

Choose 1	Communication (Core)
MATH 2413	Calculus I
CSCI 1380	Computer Science I
CHEM 1307	Chemistry for Engineers
CHEM 1107	Chemistry for Engineers Lab
UNIV 1301	Learning Framework
Choose 1	Communication (Core)
MATH 2414	Calculus II
MANE 1101	Introduction to Manufacturing Engineering
MANE 2332	Engineering Statistics
MANE 1204	Manufacturing Engineering Graphics
Choose 1	Social and Behavioral Sciences (Core)

SECOND YEAR

MANE 3351	Manufacturing Engineering Analysis
PHYS 2425	Physics for Scientists and Engineers I
MANE 4311	Quality Control
MECE 2340	Engineering Materials
MECE 2140	Engineering Materials Laboratory
MANE 3300	Computer-Aided Design
MATH 2415	Calculus III
MANE 4340	Operations Research
PHYS 2426	Physics for Scientists and Engineers II
MANE 3337	Engineering Economics
MANE 3340	Fundamentals of Industrial Engineering

THIRD YEAR

Choose 1	American History (Core)
MANE 2403	Engineering Mechanics
MATH 3341	Differential Equations
ELEE 2317	Electrical and Electronic Systems
MANE 3364	Manufacturing Processes
MANE 3164	Manufacturing Processes Lab
Choose 1	American History (Core)
MECE 3321	Mechanics of Solids
MANE X3XX	Technical Elective I
MANE 3302	Computer-Aided Manufacturing
MANE 4365	Tool Design
Choose 1	Creative Arts (Core)

FOURTH YEAR

Choose 1	Government/Political Science (Core)
MANE 4331	Manufacturing Planning and Control
MANE 4173	Product Design and Mass Customization
MANE 4361	Senior Design I
MANE 43XX	Technical Elective II
MANE 4352	Manufacturing Simulation
Choose 1	Government/Political Science (Core)
MANE 43XX	Technical Elective III
MANE 3437	Thermal and Fluid Sciences
Choose 1	Language, Philosophy & Culture (Core)
MANE 4362	Senior Design II

BLUEPRINT EXPERIENCES

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR AND BEYOND
MILESTONES	☐ UTRGV has a Writing Center and a Learning Center. Make it a point to visit them! ☐ Complete your core English classes (section 010) during your first year. ☐ Complete 30 credit hours every year in order to graduate in 4 years. ☐ Shoot for a GPA of > 3.0. ☐ Take MATH2413 Calculus I, or the highest math prerequisite course you can get into, in your first year.	☐ Shoot for a GPA of > 3.0 ☐ Complete major foundation classes, such as MATH 2314 Calculus II and MANE 2332 Engineering Statistics ☐ Complete 30 credit hours.	☐ Shoot for a GPA of > 3.0. ☐ Complete 30 credit hours. ☐ Have you landed an internship or acquired research experience? This is the year to make it happen.	☐ Shoot for a GPA of > 3.0. ☐ "I have a plan for after graduation." If this describes you, great! If not, visit your Faculty Advisor or Career Center! ☐ Register for your Capstone Senior Design project: MANE4361. ☐ Complete at least 30 credit hours to graduate. ☐ Submit your application(s) for graduate school, an apprenticeship, or for fulltime employment.
ADVICE & SUPPORT	☐ Meet with your academic advisor and bring your orientation folder with you to every session! ☐ Choose a major with confidence- Visit my.UTRGV.edu and check out the Kuder Journey. ☐ Visit a faculty member during their office hours and ask a question about class. ☐ Classes fill up fast. When registration opens, be sure to register on the first day for your group. ☐ Cold or flu getting you down? We have Student Health Services on campus with free office visits.	☐ Want to explore different careers? Check out Kuder Journey! ☐ Come ready with course suggestions and questions when you visit your academic advisor. ☐ Visit the Communication Hauser Lab for help with your speeches. ☐ Trouble making your tuition payment? The Financial Aid Office can help. Payment plans and emergency loans are also available	☐ Seek out research opportunities within your major. ☐ Seek to be an officer in a professional organization such as SME, SAE, SHPE or MAES. ☐ Check DegreeWorks to make sure you are on track for graduation next year. ☐ Apply for internship and/or job shadowing opportunities. Discuss this with your advisor, faculty mentor, or Career Center. ☐ Engage in an independent study project or an academic internship to complement your major, by taking MANE3101.	☐ Consider taking MANE3101 three times to get credit for a 3 hour technical elective. ☐ Discuss future plans with your faculty mentor or advisor that includes employment, finances, and other life goals. ☐ Apply for graduation one semester prior to your anticipated date. Visit the Academic Advising Center to ensure you are on track.
APPLY WHAT YOU LEARN	☐ Look for a service-learning course! For guidance, visit Engaged Scholarship & Learning Office. ☐ Participate in a campus-sponsored community service project. ☐ Ask a student in class to study with you.	☐ To find undergraduate research opportunities, visit the Engaged Scholarship & Learning Office. ☐ Consider attending the LeaderShape Institute or attend the Engaged Scholar Symposium. ☐ Ask your undergraduate advisor about research and project opportunities.	☐ Go show off your research, service-learning or creative works at the Engaged Scholar Symposium! ☐ Sharpen your writing skills! ☐ Become the secretary for your organization.	☐ Continue to present research or creative works at the Engaged Scholar Symposium or at ASEE Gulf Southwest Conference. ☐ Set up an informational interview with an individual (especially an alumnus) currently in the field you aspire to work in.
GLOBAL, CAMPUS & COMMUNITY ENGAGEMENT	☐ Set up your profile on the Engagement Zone through My.UTRGV.edu. ☐ Attend a diversity based campus or community event (e.g. MLK Day of Service). ☐ Join a student organization! Consider looking into Society of Manufacturing Engineers (SME) or visit VLink (utrgv.edu/vlink) for options.	☐ Look at study abroad opportunities! Consider going to Germany or China. ☐ Check out a cultural campus or community event such as HESTEC or FESTIBA. ☐ Join another student organization. Perhaps SAE (Mini Baja or Aero Design) or visit VLink for options. ☐ Check out a campus event that offers free lunch- bring a friend!	☐ Consider serving on a campus life/community committee or become a student leader and make a difference. Visit VLink or speak with your Student Government Association for more information! ☐ Travel the world! Look into study abroad opportunities at Office for International Programs & Partnerships.	☐ Identify employers of interest and seek them out at job fairs, online, at on-campus information sessions, staffing agencies, etc. The Career Center can help. ☐ Before a job interview, schedule a mock interview with the Career Center or speech coaching with the Communication Hauser Lab.
LIFE AFTER GRADUATION	☐ Create a résumé and set up your profile on the Career Connection icon: (My.UTRGV.edu). ☐ Got summer plans? Visit Career Center and ask about places to do some job shadowing. ☐ Research shows that students who work on campus perform better than those who work off campus. Look for a job on the Career Center portal! ☐ Check your UTRGV email for the daily Messenger- locate and attend one student workshop.	☐ Update your resume in Career Connection and have it reviewed. ☐ Visit the Career Center site to find a job fair to attend. At the event, approach a recruiter and discuss internships. ☐ Explain to someone how your academic program aligns with your strengths and interests.	☐ Check out the Manufacturing and Industrial Engineering department website for postings on career/graduate school. ☐ Think about three people you can ask for letters of recommendation (professors, mentors, advisors, supervisors, etc.). Give them at least two weeks' advance notice! ☐ When is the deadline for your graduate school application? Visiting the program admissions webpage. Most do not accept late applicants!	☐ Have you received your acceptance for graduate school or an employment offer? If not, network: talk to faculty, the Career Center, and get on LinkedIn. ☐ Formulate and implement a strategy for life after graduation: attend career fairs, graduate fairs, apply to fellowships, etc. ☐ Update your information with Alumni Relations. Enjoy alumni mixers, events and continued access to Career Center services! ☐ Remember to do your exit loan counseling on studentloans.gov.

CAREERS

- Project, program, or operations management
- Manufacturing systems
- Supply chain management and logistics
- Productivity, methods and process engineering
- Quality measurement and improvement
- Human factors
- Strategic planning
- Management of change
- Financial engineering
- Engineering management
- Six sigma
- Lean

For additional info, visit the Career Center website and check out "What Can I Do With This Major?" www.utrgv.edu/careercenter

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