



BS in MANUFACTURING ENGINEERING TECHNOLOGY (396541) MAP Sheet

School of Technology

For students entering the degree program during the 2016–2017 curricular year.

UNIVERSITY CORE AND GRADUATION REQUIREMENTS				PROGRAM REQUIREMENTS (81 total hours)		
UNIVERSITY CORE REQUIREMENTS				Students must have a minimum of 124 total hours to graduate with this major.		
<u>Requirements</u>	<u>#Classes</u>	<u>Hours</u>	<u>Classes</u>	Complete the following manufacturing core courses:		
Religion Cornerstones				Mfg 130	Modern Manufacturing	3.0
Teachings and Doctrine, Book of Mormon	1	2.0	Rel A 275	Mfg 220	Material Removal	3.0
Jesus Christ & the Everlasting Gospel	1	2.0	Rel A 250	Mfg 230	Computer-Aided Manufacturing	3.0
Foundations of the Restoration	1	2.0	Rel C 225	Mfg 291	Manufacturing Leadership	1.0
The Eternal Family	1	2.0	Rel C 200	Mfg 331	Metals Processes	4.0
The Individual and Society				Mfg 340	Quality Systems in Manufacturing	3.0
Citizenship				Mfg 355	Plastics Materials and Processing	3.0
American Heritage	1–2	3–6.0	from approved list	Mfg 431	Tool Design	3.0
Global & Cultural Awareness	1	3.0	Eng T 231*	Mfg 434	Introduction to Mfg. Automation	3.0
Skills				Mfg 480	Process Planning and Systems Design	3.0
Effective Communication				Mfg 491A	Professional Seminar	0.5
First-Year Writing	1	3.0	from approved list	Mfg 491B	Professional Seminar	0.5
Adv Written & Oral Communication	1	3.0	Engl 316*	Complete 3 hours of the following:		
Quantitative Reasoning	0–1	0–4.0	Math 112* or ACT	Mfg 399R	Academic Internship: Mfg. Practicum	6.0V
Languages of Learning (Math or Language)	1	4.0	Math 112*	Complete the following supporting courses:		
Arts, Letters, and Sciences				CE En 103	Engineering Mechanics—Statics	3.0
Civilization 1 and 2				CE En 203	Engineering Mechanics—Materials	3.0
Arts	1	3.0	ArtHC 202 or Hum 202 or Tech 202 recommended	Chem 105*	General College Chemistry	4.0
Letters	1	3.0	from approved list	C S 142	Intro to Computer Programming	3.0
Scientific Principles & Reasoning				Engl 316*	Technical Communication	3.0
Biological Science	1–2	3–5.0	from approved list	Eng T 231*	Foundation of Global Leadership	3.0
Physical Science	2	7.0	Chem 105* and Phscs 105* or 121*	IT 318	Electronics, Computers, & Mfg	3.0
Social Science	1	3.0	Eng T 231*	Math 313	Elementary Linear Algebra	3.0
Core Enrichment: Electives				Me En 250	Science of Engineering Materials	3.0
Religion Electives	3	6.0	from approved list	Me En 272	Engineering Graphics—Princ/Applicatns	3.0
Open Electives	Variable	Variable	personal choice	Stat 201	Statistics for Engineers & Scientists	3.0
GRADUATION REQUIREMENTS:				Tech 312	Innovation	1.0
Minimum residence hours required		30.0		STUDENT ADVISING: We strongly encourage students to visit with the School of Technology advisor (250 SNLB) at least every year, and preferably every semester, to ensure that they are making appropriate progress in the program and taking courses in the appropriate sequence.		
Minimum hours needed to graduate		120.0				

FOR UNIVERSITY CORE QUESTIONS CONTACT THE ADVISEMENT CENTER ◆ FOR PROGRAM QUESTIONS ADVISOR IN 250 SNLB

*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (17 hours overlap)

**BS in MANUFACTURING ENGINEERING TECHNOLOGY (396541)
2016–2017**

Suggested Sequence of Courses:

FRESHMAN YEAR

<u>1st Semester</u>	
Mfg 130	3.0
Math 112 (FWSpSu)	4.0
Phscs 121	3.0
First-Year Writing or A Hgt	3.0
Religion Cornerstone course	2.0
Total Hours	15.0

2nd Semester

First-Year Writing or A Hgt	3.0
Eng T 231	3.0
CE En 103 (FWSu)	3.0
Me En 272	3.0
Religion Cornerstone course	2.0
Total Hours	14.0

SOPHOMORE YEAR

<u>3rd Semester</u>	
CE En 203 (FWSu)	3.0
Chem 105 (FWSpSu)	4.0
Bio 100	3.0
Mfg 220 (FSp)	3.0
Tech 312	1.0
Religion Cornerstone course	2.0
Total Hours	16.0

4th Semester

Engl 316	3.0
MeEn 250 (FW)	3.0
Mfg 230	3.0
Mfg 291	1.0
Religion Cornerstone course	2.0
Stat 201	3.0
Total Hours	15.0

JUNIOR YEAR

<u>5th Semester</u>	
Civilization 1	3.0
Mfg 331	4.0
Math 313	3.0
Religion elective	2.0
CS 124	3.0
Total Hours	15.0

6th Semester

IT 318	3.0
Mfg 340 (WSp)	3.0
Mfg 355	3.0
Mfg 491A	0.5
Civilization 2/ Arts or Letters elective	3.0
Religion elective	2.0
Total Hours	14.5

Spring/Summer Term

Mfg 399	3.0
Total Hours	3.0

SENIOR YEAR

<u>7th Semester</u>	
Mfg 431	3.0
Mfg 480	3.0
Me En 475	3.0
Arts or Letters	3.0
Religion elective	2.0
Elective	3.0
Total Hours	17.0

8th Semester

Mfg 434	3.0
Mfg 491B	0.5
Me En 476	3.0
Electives	8.5
Total Hours	15.0

THE DISCIPLINE:

Manufacturing is an exciting and rewarding discipline that has significant impact on a society's standard of living and economic independence. At BYU the manufacturing program is specifically oriented toward creating leaders in the industry.

Students in manufacturing learn creative and analytical skills that will enable them to quickly diagnose and solve manufacturing problems with insight from both engineering and management perspectives. They also develop interpersonal and communication skills that will prepare them to work as part of an engineering team and effectively interact with vendors, management, and production personnel. In addition, they receive hands-on training in modern lab facilities and learn to use computers to design, analyze, implement, and control manufacturing operations.

Manufacturing professionals are knowledgeable and skilled in the management, methods, technologies, equipment, and tooling needed to produce affordable products of high quality. They are able to effectively coordinate the procurement, installation, and start-up of production equipment as well as improve the productivity of existing operations. They are also able to coordinate manufacturing and supply-chain operation in a global setting.

The manufacturing engineering technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone (410) 347-7700. The program provides students with the option of a minor in business management. Students may take their electives in other areas of specialization as well. Graduates may further their technical and managerial skills by pursuing either a master of science in technology or a master of business administration.

RESEARCH OPPORTUNITIES: Students can work on a variety of industry-sponsored and related projects, often working directly with manufacturing engineers in industry. MET classes sometimes integrate these projects into the course work, but other industrial projects can be done outside of class, usually for pay. The excellent equipment and facilities in the department provide the resources where industry projects can be effectively accomplished.

INTERNSHIPS: Professional training in actual companies is required and the advisor in the department can help students who desire to complete an internship. Both domestic and international internship opportunities are available for credit (and usually some pay). Many internships lead to permanent employment with the sponsoring company. Internships also offers a great chance for students to understand how their education is actually applied and to investigate further career directions and potential focus areas in their education.

PROFESSIONAL AND HONOR SOCIETIES: The department sponsors strong student chapters of national societies associated with manufacturing and materials including the Society of Manufacturing Engineers (SME) and the Society of the Advancement of Materials and Process Engineering (SAMPE). MET Students may also participate in the national engineering technology honor society, Tau Alpha Pi and other honor societies.

FINANCING: Many MET students can receive financial aid from department-sponsored scholarships or part time employment. The employment can be as teaching/lab assistants, apprentice engineers working on an industry-sponsored project, or research assistants under the direction of a faculty member.

CAREERS: Career opportunities in manufacturing are plentiful and rewarding. Typical entry-level job titles include manufacturing engineer, quality manager, process engineer, tool engineer, product engineer, quality engineer, production supervisor, and account manager (technical sales). New graduates are typically hired into technical positions but have the opportunity to quickly move into management. The job outlook for manufacturing graduates is bright and should continue to be strong in the future. When one considers that everything that does not exist as part of nature is the product of some form of manufacturing, it is easy to see that manufacturing is an integral part of society and generates an ever-growing workforce. Progressive companies worldwide seek qualified individuals who can provide leadership in improving the quality and productivity of their manufacturing operations.

*Your faculty advisor can assist you in choosing electives to meet your total hour requirement.

Note: Students are encouraged to complete an average of 15–16 credit hours each semester or 30–31 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.

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