

# MANUFACTURING, MINOR

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The Manufacturing minor is intended to provide our current undergraduates the skills and knowledge for successful careers in manufacturing systems and processes, and their practical applications ranging from manufacturing processes to other industries such as robotics, automotive and aerospace. Students will be exposed to applications of cyber-physical systems, robotics, and automated manufacturing as well as automotive and aerospace industries. Some of the skills required to pursue employment opportunities, which may be imparted through the manufacturing minor, include, but are not limited to, industrial safety practices and procedures; control of manufacturing processes; flexible manufacturing systems; process planning and optimization; robotic and automated manufacturing; and computer-integrated manufacturing/CAD/CAM integration.

Code and Title	Hours	
<b>Required</b>		
GES 255 or GES 400	Engineering Statistics I Engineering Statistics	3
MTE 271	Engr Matls: Struc Prop	3
ME 383	Modern Manufacturg Processes	3
ME 490	Mechanical Engr Design II (or equivalent Capstone Design Experience)	3
<b>Electives</b>		
Take any two of the following courses. Courses outside of this approved list may be taken with proper petition and advisor's approval.		6
AEM 452	Composite Materials	
AEM 455	Nondestructive Evaluation	
AEM 481	Complex Engineering Systems	
CHE 493	Process Dynamics & Control	
EC 110	Principles of Microeconomics (If not already taken as a HI/BS elective)	
EC 112	Honors Prin of Microeconomics	
ME 421	Reliability & Maint. Engr.	
ME 577	Advanced Linear Control	
MTE 416	Fund. of Metal Casting	
MTE 439	Metallurgy Of Welding	
MTE 449	Powder Metallurgy	
MTE 491	Special Problems (requires pre-approval and must be taken for related topics such as Failure of Engineering Materials or Additive Manufacturing)	
<b>Total Hours</b>		<b>18</b>