

2022-2023
Academic
Year

Manufacturing Engineering, BS



ABET accredited
 Course offerings subject to change
 Major Credits: 151-155 (GURs not included)

Admissions information - <https://engineeringdesign.wvu.edu/>
 Academic advising available - see contact information below
 Pre-major coursework in grey areas

Fall

Winter

Spring

First Year	MATH 124 (5) Calculus I, <u>FWS</u>	MATH 125 (5) Calculus II, <u>FWS</u>	MATH 224 (5) Multiv. Calc and Geom., <u>FWS</u>
	PHYS 161 (5) Physics w/ Calculus I, <u>FW</u>	PHYS 162 (5) Physics w/ Calculus II, <u>WS</u>	PHYS 163 (5) Physics w/ Calculus III, <u>FS</u>
	ENGR 101 (2) Eng., Design, & Society, <u>FW</u>	ENGR 115 (4) Innovation in Design, <u>WS</u>	CHEM 161 (5) Gen. Chemistry I, <u>FWS</u>

Pre-major courses in **BOLD** are required for major admissions.

Second Year	MATH 204 (4) Elem. Linear Algebra, <u>FWS</u>	APPLY TO MAJOR	MAJOR COURSES BEGIN
	ENGR 170 (4) Intro Material Science, <u>FW</u>	MATH 331 (4) Differential Equations, <u>FWS</u>	MFGE 231 (4) Intro to Manuf. Processes, <u>FS</u>
	ENGR 214 (4) Statics, <u>FW</u>	ENGR 225 (4) Mechanics of Materials, <u>FWS</u>	MFGE 261 (4) Intro to CAD, <u>S</u>
		MATH 345 (4) Engineering Statistics, <u>FWS</u>	MFGE 250 (4) Intro to Automation, <u>S</u>

Third Year	PME 371 (5) Intro to Plastics, <u>FS</u>	MFGE 341 (4) Quality Assurance, <u>FW</u>	PME 342 (4) Design of Experiment, <u>WS</u>
	ENGR 351 (4) Electronics for Engineers, <u>FS</u>	MFGE 333 (4) Design for Manufacture, <u>W</u>	MFGE 381 (4) Manufacturing Process Plan, <u>S</u>
	MFGE 332 (4) Intro to CAM & CNC, <u>FW</u>	MFGE 340 (4) Numerical Methods, <u>W</u>	ENGR 352 (4) Intro Automation & Control, <u>S</u>
			MFGE 365 (4) Machine Design, <u>S</u>

Fourth Year	MFGE 491 (3) Project Research (WP), <u>F</u>	MFGE 492 (3) Project Proposal (WP), <u>W</u>	MFGE 493 (4) Project Implementation, <u>S</u>
	MFGE 463 (4) Design of Tooling, <u>F</u>	MFGE 434 (4) Advanced CAM and CNC*, <u>W</u>	MFGE 462 (4) CAD Using Surfaces*, <u>WS</u>
	MFGE 453 (4) Industrial Robotics, <u>F</u>	MFGE 454 (4) Systems Integration*, <u>W</u>	PME 372 Intro to Composites (4), <u>WS</u>
	Tech Elective	Tech Elective	

Engineering & Design

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ENGD@wwu.edu | 360.650.3380

<http://engineeringdesign.wvu.edu>

Pre-major Advisor:

Lisa Ochs lisa.ochs@wwu.edu

Notes and Excetions

Students must complete General University Requirements in addition to major courses

Students not enrolled in MATH 124 and PHYS 161 fall quarter, may not finish in four years

Math 341 may be substituted for MATH 345

Students must complete at minimum 6 credits of technical electives

*Students must complete one of MFGE 434, 454, or 462. If more than one, then count as tech elective

Manufacturing Engineering, BS



Major Admissions

Students must first be accepted by the university. **The program accepts major applications during winter quarter.** Accepted students start major coursework spring quarter. Transfer students may apply at the same time if pre-requisite coursework is completed or in progress.

Required coursework to apply		Required essay	Admissions statistics
MATH 124	Calculus I	The program requires applicants to submit a 500 words max essay explaining why they want to pursue a degree in Manufacturing Engineering. Applications due: Winter Quarter Applications due the first Friday in February every year. Accepted students start major coursework spring quarter. Applicants are notified of decisions before spring quarter registration begins.	<pre> graph TD A[38-45 applicants] --> B[average 3.1 pre-major GPA (not a cut off)] B --> C[24 accepted] </pre>
MATH 125	Calculus II		
MATH 224	Multivariable Calculus & Geometry I		
MATH 204	Linear Algebra		
CHEM 161	General Chemistry I		
PHYS 161	Physics w/ Calculus I		
PHYS 162	Physics w/ Calculus II		
ENGR 101*	Engineering, Design, and Society		
ENGR 115	Engineering, Innovation, & Design		
ENGR 170	Intro to Materials Science & Engineering		
ENGR 214	Statics		
* waived for transfer students			
Students may be enrolled in no more than 4 of the required courses at time of application.			
Recommended but not required to apply		Transfer students	
ENGR 225	Mechanics of Materials	Transfer students are encouraged to contact the pre-major advisor to discuss course equivalencies and recommended time to transfer.	
MATH 331	Differential Equations		
MATH 345	Engineering Statistics		
PHYS 163	Physics w/ Calculus III		

Technical Electives

Students are required to complete 6-10 credits of technical electives. See website for approved list of courses. Faculty advisors must approve courses not on this list.

Faculty Contact Information

Associate Professor David Gill, gilld2@wwu.edu
 Associate Professor Sura Alqudah, alqudas@wwu.edu
 Professor Jeff Newcomer, newcomj@wwu.edu

Associate Professor Tarek Algeddawy, algeddt@wwu.edu
 Professor Derek Yip-Hoi, [yiphoi@wwu.edu](mailto:yiphoid@wwu.edu)

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