

METALLURGICAL ENGINEERING, BS

It is the objective of the Department of Metallurgical and Materials Engineering undergraduate program to provide an educational experience that develops the fundamental scientific and technical engineering principles to prepare the student for the 21st century. Students receive an integrated learning experience, which includes classroom and laboratory courses that enhance their analytical, experimental, synthesis, and design skills for problem solving, that address their responsibilities to society and the environment. These experiences emphasize the growth of their teamwork, communicative, and leadership skills.

Accreditation

Information can be found on Department website.

Students earning the Bachelor of Science in Metallurgical Engineering (BS) degree must complete all University, College and departmental degree requirements for a total of 127 credits. These include General Education requirements and the following major requirements and ancillary requirements. Additional information, including a semester-by-semester flowchart of degree requirements, can be found on the departmental website. Students completing the Bachelor of Science in Metallurgical Engineering (BS) degree must comply with all College of Engineering academic policies and requirements.

Major and Ancillary Requirements		Hours
Major Courses		
ENGR 101	The World of Engineering	1
ENGR 104	Fundamentals of Engineering	3
ENGR 161	Small-Scale Eng. Graphics	1
AEM 201	Statics	3
AEM 250	Mechanics Of Materials I	3
MTE 252	Metallurg Process Calc	3
MTE 271	Engr Matls: Struc Prop	3
MTE 275	Engineering Materials Lab	3
MTE 316	Fundamentals of Metal Casting	4
MTE 353	Transport	3
MTE 362	Thermodynamics Of Materials	4
MTE 373	Physical Metallurgy	4
MTE 380	Synthesis, Proc & Mfg Matls.	3
MTE 410	Eng Soc Glob Con	3
MTE 441	Chemical Metallurgy	4
MTE 443	Materials Engineering Design I	3
MTE 445	Materials Engineering Design	3
MTE 455	Mech Behavior Of Mtls	4
MTE 481	Analy Methods For Matls	4
MTE Elective		15
BSC 114, CE 262, CE 425, CH 223, CH 231, CHE 412, ECE 320, GEO 210, GY 339, MFE 342, MFE 442, MTE 412, MTE 439, MTE 449, MTE 450, MTE 467, MTE 476, MTE 487, PH 253, PH 331, PH 481, MATH 237, MATH 343, MATH 411, GES 255 or GES 400, ST 260		
Credit Hours Subtotal:		74

Ancillary Courses

CH 101 or	General Chemistry	4
CH 117	Honors General Chemistry	
CH 102 or	General Chemistry	4

CH 118	Honors General Chemistry	
MATH 125 or	Calculus I	4
MATH 145	Honors Calculus I	
MATH 126 or	Calculus II	4
MATH 146	Honors Calculus II	
MATH 227 or	Calculus III	4
MATH 247	Honors Calculus III	
MATH 238	Appld Diff Equations I	3
PH 105 or	General Physics W/Calc I	4
PH 125	Honors Gen Ph W/Calculus	
PH 106 or	General Physics W/Calc II	4
PH 126	Honors Gen Ph W/Calculus II	
Credit Hours Subtotal:		31

General Education Courses

The specific courses each student completes in order to fulfill the University of Alabama's general education requirements will depend upon the particular degree program in which the student is enrolled. To determine how these general education requirements are integrated into your program of study, review your semester-by-semester flowchart and discuss with your academic advisor.

Our graduates are employed in almost every engineering-related industry. Our recent graduates are employed in the aerospace, semiconductor chip, oil and petroleum, automotive, power, and metal casting industries. Our graduates are also employed in government labs.

Types of Jobs Accepted

Our graduates have distinguished themselves in many careers, holding a wide range of managerial, scientific, and engineering positions in industry, government, and education. Our recent graduates have accepted positions at the following: NASA, Intel, Lockheed Martin, Exxon Mobil, Honda Manufacturing, US Steel, Nucor Steel, TVA, Motorola, ThyssenKrupp, Oak Ridge National Lab, and National Institute of Standards and Technology.

Jobs of Experienced Alumni

Our alumni are leaders in the field of metallurgical and materials engineering. The positions they hold at metallurgical/materials engineering companies include president and owner, president and CEO, president and general manager, vice president, COO, senior engineer, technology director, systems engineer manager, senior process engineer, and site manager.

Learn more about opportunities in this field at the Career Center