

Engineering Department

B.S. Engineering, Mechanical Concentration

Mechanical Engineering Concentration

Available as accredited Bachelor of Science in Engineering major (B.S.E degree) with Mechanical Engineering concentration

Perhaps you are inspired by gadgets and devices. How do they work? Could they be lighter, more durable, more energy efficient? Safer for people with particular needs? Transform your interests and gifts into a career with impact in Mechanical Engineering through the knowledge and training you'll gain from Olivet's Department of Engineering.

Mechanical engineers are fascinated by machines, structures and kinematic motion. With an engineering degree, Mechanical Engineering concentration, from Olivet, you will be entering a thriving degree field with applied knowledge related to the design of machines, advanced materials, thermal fluid systems, dynamic systems, vibrations and control systems. Learn how to design and fabricate the next generation of machines and innovations that drive products we use every day — cars, airplanes, factory equipment, medical devices, power generation systems and more.

As an Olivet Engineering student, you can:

- Study vibration analysis, heat transfer, machine synthesis, finite element analysis.
- · Apply your knowledge of mathematics, science and engineering to solve practical problems.
- · Design and conduct experiments, while learning to analyze and interpret data.
- Explore new advances in materials science from professors published in emerging fields.
- · Gain skills in identifying, formulating and solving engineering problems.
- Grasp the importance of professional and ethical responsibility.
- Practice and develop the ability to communicate effectively, both orally and in writing.
- Use the modern engineering tools necessary for a career in engineering.
- Benefit from small class sizes and flexible access to engineering faculty.
- Be part of a technology mission team to directly assist people in developing nations.
- Tap into a large engineering alumni network with opportunities for summer internships.

Our faculty provides close support that is not often available at larger institutions that helps you identify any personal weaknesses, encourages you to strive for excellence, maps out your major program sequence and ensures that you have every chance to succeed.

Careers

As an engineer who works with a focus on mechanical, you will select the appropriate materials for products you design everything from vacuum cleaners to space shuttles. You will work to ensure their structural integrity and operational stability. You will model and analyze dynamic systems; and gain a keen understanding of machine synthesis and kinetics. Possible careers and career fields for Engineering (Mechanical Engineering concentration) include: aerospace, manufacturing, automotive, heating and air conditioning, materials research, sound and vibration, civil, thermal systems, power plants, robotics, automation, and consumer product design. Also, Olivet boasts a long history of our Mechanical Engineering concentration students going on to earn advanced degrees in a wide variety of fields, including Civil, Materials, Mechanical, Aerospace and others.

Olivet's Department of Engineering is within the School of Professional Studies.

For more information visit: www.olivet.edu/academics/mechanical-engineering/





Recommended Course Sequence for Mechanical Engineering Concentration

Freshmen Starting in the Fall Semester

Freshman Year		
Fall Semester - 17 hours	Spring Semester - 18 hours	
3 ENGN 101 - Engineering Design I 4 MATH 147 - Calculus I 3 ENGL 109 - College Writing I 3 THEO 101 - Christian Formation 3 PHED 190 - Wellness 1 GNST 110 - Fr. Seminar: Connections	5 PHYS 201 - General Physics I 4 MATH 148 - Calculus II 3 ENGN 102 - Engineering Design II 3 ENGN 171 - Logic and Computational Eng. 3 FINA 101 - Intro. to Fine Arts	

Sophomore Year	
Fall Semester - 18 hours	Spring Semester - 16 hours
3 ENGN 261 - Statics & Mech. of Materials 3 ENGN 270 – Digital Systems 5 PHYS 202 – General Physics II 4 MATH 361 – Calculus III 3 ECON 110 – Principles of Economics **	4 CHEM 103 – General Chemistry I 3 ENGN 262 – Dynamics 3 ENGN 300 – Electrical Circuit Analysis 3 MATH 357 – Differential Equations 3 BLIT 202 – Christian Scriptures I

Junior Year		
Fall Semester - 18 hours	Spring Semester - 18 hours	
4 ENGN 351 – Material Science 3 ENGN 356 – Computer-Aided Engin. 4 ENGN 380 – Thermodynamics 3 HIST 200 – Western Civilization 4 MATH 241 – Statistics	3 ENGN 335 – Technical Communications 4 ENGN 371 – Automatic Controls 4 ENGN 385 – Heat Transfer 4 BIOL 125 – Biology I 3 BLIT 303 – Christian Scriptures II	

Senior Year		
Fall Semester - 17 hours	Spring Semester - 15 hours	
3 LIT 205 – Studies in Literature 3 ENGN 412 – Machine Synthesis 3 ENGN 420 – Fluid Mechanics 2 ENGN 481 – Senior Design Project I 3 COMM 105 – Fund. of Communication 3 International Culture Course *	4 ENGN 353 – Vibration Analysis 2 ENGN 482 – Senior Design Project II 3 THEO 404 – Christian Faith 3 ENGN 250 – Engineering Economics 3 International Culture Course *	

* International Culture Courses are to be selected from the courses approved in the General Education Requirements. ** PSCI 101, PSCI 223, PSYC 101, or SOCY 120 may substitute for ECON 110.