DEAR STUDENTS AND PARENTS:

On behalf of our faculty, staff, and students, we welcome you to the MSU College of Engineering. We hope your visit will find you agreeing that Spartan Engineers are “built better.”

To prepare our students for a global and rapidly changing workplace, we provide degree programs that emphasize qualities sought by employers and graduate schools:

- A solid technical foundation through classroom education
- Experience-based learning through co-ops, internships, and undergraduate research
- A global perspective through study abroad
- Communication, teamwork and hands-on design skills cultivated from the very beginning through the academic programs, professional development, and personal connections of the first-year engineering CoRe Experience.
- A grounding in social understanding through involvement in the CoRe community, that includes service learning and community outreach opportunities.

More than 1,700 first-year engineering students are part of MSU’s CoRe Experience. CoRe immerses you in a living-learning environment where you will work in teams with other engineering students, get exposed to engineering careers, and network with professional engineers and employers.

CoRe classes let you dive into engineering design through hands-on projects developing creative solutions to real-world challenges. You have access to engineering-dedicated computer and design labs, and a whole network of support, including tutors, advisers, peer mentors, faculty and staff members dedicated to your success.

CoRe helps you build life-enriching connections with fellow students, faculty members, advisers, and industry representatives through social programs and activities that help build the whole engineer.

We hope you enjoy your day interacting with our faculty, staff and students. We invite you to return for a family visit to learn even more about opportunities in the MSU College of Engineering.

Go Green!

Leo Kempel
Dean
College of Engineering

Drew Kim
Assistant to the Dean
Recruitment, Scholarships, & K-12 Outreach
We are excited to host you in the College of Engineering to show you what Michigan State University has to offer. Preview Day is designed to help you explore your engineering degree options and learn about the programs available at MSU.

Today’s event will be conference style. Most sessions will be offered twice, so you have an opportunity to visit the programs in which you are most interested. **Please read through the descriptions on the following pages and choose the sessions you would like to attend.** If the session you choose first is full, move to your next choice, then come back for the second session. Each session will last 50 minutes.

A resource fair will follow the sessions, providing information on admissions, financial aid, and a number of other campus resources. You will also have opportunities to speak with representatives from each academic unit within the College of Engineering.

Tours of the MSU CoRe Experience, the Mechanical Engineering Manufacturing Teaching Lab, CAD/CAM, and Design Project Labs will also be offered. Check the program for meeting locations.

**SCHEDULE OVERVIEW**

October 12, 2019 • 8:30 AM - 1:00 PM

8:30 AM .................................................................................................................. Arrival

9:00 - 9:20 AM ................................................................................................. Welcome Session

1281 Anthony Hall

**CHOOSE ONE PROGRAM TO ATTEND IN EACH SESSION**

9:30 - 10:20 AM ................................................. Session 1

10:30 - 11:20 AM ......................................................... Session 2

11:30 AM - 1:00 PM ......................................................... Mechanical Engineering Tour

**ME Manufacturing Teaching Lab**

**CAD/CAM & Design Projects Labs**

11:30 AM - 1:00 PM ......................................................... Resource Fair

11:30 AM - 1:00 PM ......................................................... CoRe Tours of South Neighborhood

*(meet at Engineering Circle Drive, location is shown on pg 10)*
The Resource Fair will be on the First Floor, near Sparty’s, following the morning sessions. Representatives from campus resources will be available to answer your questions and discuss their programs and services. Be sure to stop by and visit with them!

Representatives will be available from:

• Engineering Academic Advisers
• Admissions
  • Incoming Freshmen
  • Transfer Students
• Campus Living Services/Residence Life (On-Campus Housing)
• CANVAS (Connected and Autonomous Networked Vehicles for Active Safety)
• Corporate Partners (Employers)
• Diversity Programs Office (DPO)
• Division of Engineering Computing Services (DECS)
• Engineering CoRe Experience (First-Year Engineering Experience)
• Honors College
• Office of Financial Aid
• Residence Education and Housing Services
• Student Organizations
• Study Abroad
• The Center for Spartan Engineering (Career Services)
• VEX & VEX IQ Robotics
• Women in Engineering (WIE) Program
MECHANICAL ENGINEERING LAB TOURS

Tours of the Mechanical Engineering Manufacturing Teaching Lab, CAD/CAM and Design Project Labs will be available after the second session. Presentations will begin every half hour (11:30 a.m., noon and 12:30 p.m.)

ME Design & Explore Computer Aided Design Technology (CAD)
1307 Engineering Building
As a future engineer, you will learn how to design, model and build complex mechanical components and structures using CAD software. Stop in to see the latest technology in advanced manufacturing and 3D printing, and learn how to you can be part of the excitement!

Manufacturing Teaching Lab & Computer Aided Manufacturing (CAM)
1240 & 1252 Engineering  (Please note: closed-toe shoes are required.)
Design, Build, and Test are at the heart of mechanical engineering. Check out our state-of-the-art teaching lab and tools available for the use of students, faculty, and staff. You may also watch a live presentation of the Computer Numerical Control (CNC) machine, operated through a computer interface.

MSU ENGINEERING CoRe EXPERIENCE

Walking tours of the CoRe Experience in South Neighborhood start every 15 minutes beginning at 11:30 a.m. Meet in the Engineering Circle Drive on the west side of the Engineering Building facing Red Cedar Road.

Come join us for a tour to see dedicated Engineering spaces in South Neighborhood! This tour includes the Project Lab, the Hive (Careers Center), some of our sponsored floors, and a residential room. CoRe will also be represented at the Resource Fair with information on the learning objectives and activities associated with academic and co-curricular programs taking place in the South Neighborhood.
APPLIED ENGINEERING SCIENCES (AES)
1230 Engineering - Session 1 & 2 (9:30 & 10:30 a.m.)
The Applied Engineering Sciences major is a unique interdisciplinary major that combines three academic components: 1) the foundation of traditional engineering programs (calculus, physics, chemistry, computing, and engineering science courses such as statics, thermodynamics and circuits), 2) systems-based coursework in the major, and 3) coursework in a concentration area outside the College of Engineering. Available concentrations are Supply Chain Management, Technical Sales, Packaging, Business Law, Computer Science, and Media and Information. In this session, you have the opportunity to meet our faculty and students, and learn about opportunities in AES.

BIOSYSTEMS ENGINEERING (BAE)
116 Farrall Hall - Session 1 & 2 (9:30 & 10:30 a.m.)
Biosystems engineers integrate engineering and biology to improve our world. Biosystems engineers protect our natural environment as ecosystem engineers, protect human health as food engineers and biomedical engineers, and promote sustainable energy as bioenergy engineers. In this three-part session, you will: (1) visit with current students about undergraduate research; (2) participate in a panel of biosystems engineering faculty and students, learn about the curriculum, internships, design projects, and careers; and (3) tour laboratories in the areas of biosensors, food safety, ecosystems engineering, and bioenergy.

CHEMICAL ENGINEERING & MATERIALS SCIENCE (CHEMS)
1145 Engineering - Session 1 & 2 (9:30 & 10:30 a.m.)
The Department of Chemical Engineering and Materials Science (CHEMS) combines two exciting engineering disciplines in one department! Chemical Engineering explores the processing of materials and the production or utilization of energy through chemical reactions. Materials Science and Engineering studies material properties, and applies fundamental knowledge of physics and chemistry to developing new materials for applications ranging from energy and transportation to communications and medicine. Chemical engineers and materials scientists are employed in wide areas of industry, government, and academia. Come get introduced to CHEMS, and ask faculty members and current undergraduate students about our two programs. Presentations will focus on the curricula and opportunities for our students and graduates. Remember, everything is made of something!

CIVIL AND ENVIRONMENTAL ENGINEERING (CEE)
2243 Engineering - Session 1 & 2 (9:30 & 10:30 a.m.)
Civil and environmental engineers are responsible for designing, constructing, and maintaining the infrastructure that support our lives. This infrastructure includes roads and bridges on which we drive, buildings in which we live and work, water treatment plants that ensure we have safe drinking water, and wastewater treatment plants that protect our streams, lakes, and rivers. In this session you will learn about the undergraduate curriculum along with research, extracurricular activities, and internship opportunities supported by the department. The Department of Civil and Environmental Engineering invites you to visit with students and faculty from the department.

Steel bridge and concrete canoe displays will be set up in the 1200 Engineering Hall wing.
COMPUTER SCIENCE & ENGINEERING (CSE)
1279 Anthony Hall - Session 1 & 2 (9:30 & 10:30 a.m.)

Computers and computing touch nearly every aspect of our lives, and their impact will only continue to grow. Computer scientists face diverse challenges to create technological advances and solutions to society’s critical problems. Computer Science graduates are employed in essentially all areas of industry, government, and education. The Department of Computer Science and Engineering invites you to visit with students and faculty from the department. Come hear about the exciting opportunities in computer science and engineering! You will also tour the state-of-the-art labs within the department.

ELECTRICAL AND COMPUTER ENGINEERING (ECE)
2250 Engineering - Session 1 & 2 (9:30 & 10:30 a.m.)

Electrical and computer engineers are game changers at the core of the rapidly evolving technologies that save lives, preserve our environment, increase our safety, provide wireless connectivity, and entertainment. Electrical engineers apply the physics of electric and magnetic phenomena to develop innovative solutions for medical, transportation, defense, mobility, electronics, and communications industries. Computer engineers develop new computer technologies - both hardware and software - that are vital to the success of many industries. In addition, ECEs have revolutionized society via the creation of companies such as Amazon, Uber, and Bose. Come learn about the undergraduate curriculum, cutting-edge research activities, capstone design projects, entrepreneurship, and other opportunities in the ECE department.

MECHANICAL ENGINEERING (ME)
1345 Engineering Auditorium - Session 1 & 2 (9:30 & 10:30 a.m.)

Mechanical engineers design, build, analyze, and test devices ranging from the largest power plants to the micro-electronic accelerometers in video-game controllers. Graduates are employed in fields such as aerospace, automotive, biomedical, electronics, energy generation, manufacturing, naval architecture, refrigeration, and robotics. ME at MSU emphasizes development of an outstanding technical foundation, an understanding of the global impact of engineering, and the tools for lifelong learning. The senior year culminates with an industry-sponsored, team-oriented design project synthesizing much of what has been learned throughout the undergraduate experience. Come hear about ME at MSU from professors and students, and learn how you can tailor your program with options in biomedical engineering, engineering mechanics, manufacturing, and global engineering.

EXPLORATORY ENGINEERING
2400 Engineering - Session 1 & 2 (9:30 & 10:30 a.m.)

This information session is designed for students interested in learning about the engineering profession who have not yet decided upon a major. It will provide an overview of the 11 engineering degree programs offered at MSU and how MSU prepares its graduates to be competitive in the global marketplace. Learn how Spartan Engineers are built better!

TRANSFER STUDENTS
1234 Engineering - ONLY AVAILABLE FOR SESSION 2 (10:30 a.m.)

Learn what it takes to transfer from another institution into Michigan State University and the College of Engineering.
OVERVIEW:
Engineering Building • Anthony Hall • Farrall Hall

FARRALL HALL:
BIOSYSTEMS ENGINEERING SESSIONS:
9:30 & 10:30 a.m. Room 116
ANTHONY HALL:

WELCOME SESSION: 9 a.m. Room 1281
COMPUTER SCIENCE & ENGINEERING SESSIONS: 9:30 & 10:30 a.m. Room 1279

Room 1279: Computer Science and Engineering
Session 1 - 9:30 a.m.
Session 2 - 10:30 a.m.

Room 1281: Welcome Session
9 a.m.
ME Session

ENGINEERING BUILDING - FIRST FLOOR:

EGR Lobby-
CoRe tours start
here beginning at
11:30 a.m.
VARIOUS DEPARTMENT SESSIONS: 9:30 & 10:30 a.m.
RESOURCE FAIR: 11:30 a.m. - 1:00 p.m.
LAB TOURS: 11:30 a.m., noon & 12:30 p.m.
CoRe EXPERIENCE TOURS: 11:30 a.m. - 1:00 p.m.
Exploratory Engineering Session

ENGINEERING BUILDING - SECOND FLOOR:
SUMMER CAMPS 2020

HIGH SCHOOL ENGINEERING INSTITUTE

WHO
High school women and men grade 10 - recent graduates in Fall 2020

WHEN
Residential program. Session 1: June 21-25; Session 2: July 5-9; Session 3: July 12-16, 2020

SPARTAN ENGINEERING & ROBOTICS FOR TEENS

WHO
Girls and boys entering grades 7-9 in Fall 2020

WHEN
Commuter program. July 13-17, 2020

MAKING A GAME OF IT
Learn programming skills, including building video games

WHO
High school women and men grade 11 - recent graduates in Fall 2020

WHEN
Residential program. June 21-26, 2020

RENEWABLE ENERGY SYSTEMS

WHO
Young men and women entering grades 10 and 11 in Fall 2020. Restricted to invitees by DAPCEP (www.dapcep.org)

WHEN
Residential program. Session 1: July 13-17; Session 2: July 20-24, 2020

SPARTAN LEGO® ROBOTICS

WHO
Girls and boys entering grades 3-6 in Fall 2020

WHEN
Commuter program. Session 1: June 15-19; Session 2: June 22-26; Session 3: July 6-10, 2020

ENGINEERING RESEARCH EXPERIENCE FOR TEACHERS (RET)

WHO
Partner school district teachers of middle and high school STEM courses

WHEN
Commuter program. June 22 - July 31, 2020

SPARTAN INNOVATION & CREATIVITY DAY @ DESIGN DAY

WHO
Middle & high school students and special sessions for teachers (see Design Day Teachers’ Workshop information)

WHEN
December 6, 2019; April 24, 2020

FALL 2019 & SPRING 2020 EVENTS

SPARTAN ENGINEERING PREVIEW DAY

WHO
High school juniors, seniors, transfer/prospective students, and their families; school groups and teachers

WHEN
Fall 2020
Visit www.egr.msu.edu/future-engineer for updates

VEX ROBOTICS STATE CHAMPIONSHIP AT MSU

WHO
High School VEX Robotics Teams

WHEN
February 23, 2020

DESIGN DAY TEACHERS WORKSHOP

WHO
Teachers of middle and high school science, technology, engineering and math (STEM) courses.

WHEN
December 6, 2019; April 24, 2020

CHECK OUR WEBSITE FOR UPDATES & FUTURE CAMPS!

LEARN MORE AND REGISTER AT: www.egr.msu.edu/future-engineer