BS in Mechanical Engineering (394950) MAP Sheet
Engineering, Mechanical Engineering
For students entering the degree program during the 2022-2023 curricular year.
This is a limited-enrollment program requiring departmental approval. Please contact the College of Engineering Advisement Center or see the Department of Mechanical Engineering website at: http://me.byu.edu/apply for information regarding requirements for admission to this major.

University Core and Graduation Requirements

University Core Requirements:

Requirements Classes Hours Classes
Religion Cornerstones
Teachings and Doctrine of The Book of Mormon 12.0 REL A 275
Jesus Christ and the Everlasting Gospel 12.0 REL A 250
Foundations of the Restoration 12.0 REL C 225
The Eternal Family 12.0 REL C 200
The Individual and Society
American Heritage 1-2 3-6.0 from approved list
Global and Cultural Awareness 13.0 ME EN 231*
Skills
First Year Writing 13.0 from approved list
Advanced Written and Oral Communications 13.0 WRTG 316*
Quantitative Reasoning 13.0 MATH 112*
Languages of Learning (Math or Language) 14.0 MATH 113*
Arts, Letters, and Sciences
Civilization 113.0 from approved list
Arts 13.0 from approved list

Open Electives 3-4.0 from approved list

FOR UNIVERSITY CORE QUESTIONS CONTACT THE COLLEGE ADVISEMENT CENTER — FOR PROGRAM QUESTIONS SEE THE ME DEPARTMENT ADVISOR.

*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (16 hours overlap).

Graduation Requirements:
Minimum residence hours required 30.0
Minimum hours needed to graduate 120.0

Suggested Sequence of Courses
Freshman Year
1st Semester
First-Year Writing Elective 3.0
BIO 1003.0
PHSCS 1213.0
MATH 1124.0
ME EN 1910.5
Religion Cornerstone Elective 2.0
Total Hours 15.5

2nd Semester
CHEM 1054.0
MATH 1134.0
ME EN 1013.0
American Heritage Elective3.0
Religion Cornerstone Elective2.0
Total Hours16.0
Sophomore Year
3rd Semester
CE EN 2033.0
CE EN 2043.0
ME 2313.0
PHSCS 1233.0
MATH 3024.0
Religion Cornerstone Elective2.0
Total Hours18.0
4th Semester
EC EN 3013.0
ME EN 2503.0
ME EN 2723.0
ME EN 2733.0
MATH 3034.0
Total Hours16.0
Junior Year
5th Semester
STAT 2013.0
ME EN 3213.0
ME EN 3303.0
ME EN 3353.0
ME EN 3823.0
Religion Cornerstone Elective2.0
Total Hours17.0
6th Semester
WRTG 3163.0
ME EN 3123.0
ME EN 3623.0
ME EN 3723.0
Civilization 1 Elective3.0
Religion Elective2.0
Total Hours17.0
Senior Year
7th Semester
ME EN 3403.0
ME EN 4753.0
Technical Elective3.0
Technical Elective3.0
Civilization 2/Letters Electives3.0
Religion Elective2.0
Total Hours17.0
8th Semester
**ME EN 476.0**
Technical Elective 3.0
Technical Elective 3.0
Arts Elective 3.0
Religion Elective 2.0
Total Hours 14.0

Note: Students are encouraged to complete between 15–17 credit hours each semester or 30–34 credit hours each year, which could include spring and/or summer terms. Taking fewer credits increases the cost and the number of semesters to graduate.

BS in Mechanical Engineering (394950) 2022-2023 Program Requirements (101.5 Credit Hours)

Licensure: This program meets the educational requirements designed to lead to an occupationally required professional license or certificate in the state of Utah. Students pursuing occupations requiring a license or certificate in a state other than Utah should contact the appropriate BYU academic advisement center as well as the licensing agency in the state where they intend to work to seek information and guidance regarding licensure and certification requirements.

On gaining acceptance into the professional program, students must maintain a minimum university cumulative grade point average of 2.0. No more than 6 credit hours or two courses of grades below C- in required program courses (including pre-professional and professional courses) may be applied toward graduation.

A professional program course may not be retaken more than once.

At least 30 of the 51.5 credit hours of Mechanical Engineering (ME EN) courses must be earned at BYU.

**requirement 1** Complete 1 course
BIO 100 - Principles of Biology 3.0
CELL 120 - Science of Biology 3.0
MMBIO 221 - General Microbiology 3.0
MMBIO 240 - Molecular Biology 3.0

**requirement 2** Complete 3 courses
CHEM 105 - General College Chemistry 1 with Lab (Integrated) 4.0
*PHSCS 121 - Introduction to Newtonian Mechanics 3.0
PHSCS 123 - Introduction to Waves, Optics, and Thermodynamics 3.0

**requirement 3** Complete 1 option
Mathematics core sequences:
- option 3.1 Complete 4 courses
  *MATH 112 - Calculus 1 4.0
  *MATH 113 - Calculus 2 4.0
  MATH 302 - Mathematics for Engineering 1 4.0
  MATH 303 - Mathematics for Engineering 2 4.0

- option 3.2 Complete 2 groups
  group 3.2.1 Complete 4 courses
  *MATH 112 - Calculus 1 4.0
  *MATH 113 - Calculus 2 4.0
  MATH 314 - Calculus of Several Variables 3.0
  MATH 334 - Ordinary Differential Equations 3.0

  group 3.2.2 Complete 1 course
  MATH 213 - Elementary Linear Algebra 2.0
  MATH 313 - (Not currently offered)

**requirement 4** Complete 5 courses
Preprofessional engineering courses:
CCE 203 - Engineering Mechanics--Mechanics of Materials 3.0
CE 204 - Engineering Mechanics--Dynamics 3.0
EC EN 301 - Elements of Electrical Engineering 3.0
ME EN 101 - Static Systems in Mechanical Engineering 3.0
ME EN 191 - New Student Seminar 0.5

requirement 5 Complete 13 courses

Professional mechanical engineering core:
ME EN 250 - Science of Engineering Materials 3.0
ME EN 272 - Engineering Graphics--Principles and Applications 3.0
ME EN 273 - Introduction to Scientific Computing and Computer-Aided Engineering 3.0
ME EN 312 - Fluid Mechanics 3.0
ME EN 321 - Thermodynamics 3.0
ME EN 330 - Design of Mechatronic Systems 3.0
ME EN 335 - Dynamic System Modeling and Analysis 3.0
ME EN 340 - Heat Transfer 3.0
ME EN 362 - Engineering Measurements 3.0
ME EN 372 - Mechanical System Design Fundamentals 3.0
ME EN 382 - Manufacturing Processes 3.0
ME EN 475 - Integrated Product and Process Design 1 3.0
ME EN 476 - Product Development 2 - Capstone 3.0

requirement 6 Complete 2 courses

Supporting courses:
STAT 201 - Statistics for Engineers and Scientists 3.0
*WRTG 316 - Technical Communication 3.0

requirement 7 Complete 1 course
ENG T 231 - (Not currently offered)

*ME EN 231 - Leadership in a Global Context 3.0

requirement 8 Complete 12.0 hours from the following option(s)

Complete 12.0 hours from the following options:
The purpose of these courses is to strengthen the engineering education of the student by a) deepening the student's understanding of engineering and/or science fundamentals, b) helping the student learn to apply engineering fundamentals in specific areas of interest, and/or c) helping the student to develop critical skills related to engineering practice.
The technical electives are normally 400-level or higher mechanical engineering courses, but other courses may be used as long as the following requirements are met:
At least two courses (6 credit hours) must be in mechanical engineering
No courses may be below the 300 level.
A maximum of 3 credit hours in ME EN 497R or other project courses may be applied to meet technical elective requirements.
No course used to satisfy other major requirements for graduation may be used as an elective.

option 8.1 Complete up to 12.0 hours from the following course(s)
ME EN 412 - Applications of Fluid Dynamics 3.0
ME EN 415 - Flight Vehicle Design 3.0
ME EN 422 - Applied Thermodynamics 3.0
ME EN 425 - Internal Combustion Engines 3.0
ME EN 426 - Gas Turbine and Jet Engine Design 3.0
ME EN 431 - (Me En-EC En 483) Design of Control Systems 4.0
ME EN 437 - Kinematics 3.0
ME EN 450 - Engineering Materials: Selection for Design 3.0
ME EN 456 - Composite Material Design 3.0
ME EN 461 - (Me En-Phscs) Introduction to Acoustics 3.0
ME EN 472 - Mechanical Systems Design Applications 3.0
ME EN 479 - Singapore International Product Design and Development 3.0v
ME EN 494R - Global Engineering Outreach Projects 3.0v
ME EN 495R - Mentored Learning for Undergraduate Coursework in Mechanical Engineering 6.0v
You may take this course up to 2 times.
ME EN 497R - Mentored Learning for Undergraduate Projects in Mechanical Engineering 3.0v
You may take this course up to 2 times.
ME EN 500 - (MeEn-CEEn) Design and Materials Applications 3.0
ME EN 501 - (MeEn-CEEn) Stress Analysis and Design of Mechanical Structures 3.0
ME EN 504 - (Me En-CE En) Computer Structural Analysis and Optimization 3.0
ME EN 505 - Applied Engineering Math 3.0
ME EN 507 - (Me En-CE En) Linear Finite Element Methods 3.0
ME EN 508 - (Me En-CE En) Structural Vibrations 3.0
ME EN 510 - Compressible Fluid Flow 3.0
ME EN 512 - Intermediate Fluid Dynamics 3.0
ME EN 521 - Intermediate Thermodynamics 3.0
ME EN 522 - Combustion 3.0
ME EN 523 - (Me En-CE En) Aircraft Structures 3.0
ME EN 534 - Dynamics of Mechanical Systems 3.0
ME EN 535 - Mechanical Vibrations 3.0
ME EN 537 - Robotics - Kinematics, Dynamics, and Control 3.0
ME EN 538 - Compliant Mechanisms 3.0
ME EN 540 - Intermediate Heat and Mass Transfer 3.0
ME EN 541 - Computational Fluid Dynamics and Heat Transfer 3.0
ME EN 550 - (Me En-EC En) Microelectromechanical Systems (MEMS) 3.0
ME EN 552 - Neuromechanics of Movement 3.0
ME EN 553 - Mechanical Behavior of Materials 3.0
ME EN 555 - Introduction to Biomechanical Engineering 3.0
ME EN 556 - Materials Modeling: Methods in Atomistic, Mesoscale, and Continuum Simulations 3.0
ME EN 557 - Materials in Extreme Environments 3.0
ME EN 558 - Metallurgy 3.0

BS in Mechanical Engineering (394950) 2022-2023 Program Requirements Cont...
ME EN 561 - (Me En-Phscs) Fundamentals of Acoustics 3.0
ME EN 570 - (Me En-CE En) Computer-Aided Engineering Software Development 3.0
ME EN 572 - Design for Additive Manufacturing 3.0
ME EN 575 - (Me En-CE En) Optimization Techniques in Engineering 3.0
ME EN 576 - Product Design 3.0
ME EN 577 - Uncertainty Quantification 3.0
ME EN 578 - Systems Engineering and CAD Applications 3.0
ME EN 579 - Global Product Development 3.0
ME EN 585 - (Not currently offered)
ME EN 595R - Special Topics in Mechanical Engineering 18.0v
ME EN 595R - Topics in Mechanical Design 18.0v
ME EN 595R - Topics in Materials 18.0v
ME EN 595R - Advanced Dynamics 18.0v
ME EN 633 - (Not currently offered)

option 8.2 Complete up to 6.0 hours from the following course(s)
C S 312 - Algorithm Design and Analysis 3.0
C S 324 - Systems Programming 3.0
C S 329 - Testing, Analysis, and Verification 3.0
C S 330 - Concepts of Programming Languages 3.0
C S 340 - Software Design 3.0
C S 345 - Operating Systems Design 3.0
C S 355 - Interactive Graphics and Image Processing 3.0
C S 356 - Designing the User Experience 3.0
C S 393 - Advanced Algorithms and Problem Solving 3.0
C S 405 - Creating and Managing a Software Business 3.0
C S 412 - Linear Programming and Convex Optimization 3.0
C S 428 - Software Engineering 3.0
C S 431 - Algorithmic Languages and Compilers 3.0
C S 450 - Computer Vision 3.0
C S 452 - Database Modeling Concepts 3.0
C S 453 - Fundamentals of Information Retrieval 3.0
C S 455 - Computer Graphics 3.0
C S 456 - Introduction to User Interface Software 3.0
C S 460 - Computer Communications and Networking 3.0
C S 462 - Large-Scale Distributed System Design 3.0
C S 465 - Computer Security 3.0
C S 470 - Introduction to Artificial Intelligence 3.0
C S 471 - Voice User Interfaces 3.0
C S 472 - Introduction to Machine Learning 3.0
C S 474 - Introduction to Deep Learning 3.0
C S 486 - Verification and Validation 3.0
C S 493R - Computing Competitions 3.0
C S 513 - Robust Control 3.0
CCE 306 - Civil Engineering Materials: Concrete, Masonry, and Asphalt 1.5
CE 304 - Civil Engineering Materials: Metals, Woods, and Composites 1.5
CE 321 - Structural Analysis 3.0
CE 361 - Introduction to Transportation Engineering 3.0
CE 414 - Engineering Applications of GIS 3.0
CE 421 - Structural Steel Design 3.0
CE 424 - Reinforced Concrete Design 3.0
CE 431 - Hydrology 3.0
CE 433 - Hydraulic Engineering 3.0
CE 439 - Water Resources Study Abroad 3.0
CE 442 - Foundation Engineering 3.0
CE 451 - Environmental Engineering Processes 3.0
CE 461 - Geometric Design of Highways 3.0
CE 472 - Civil Engineering Design 3.0
CE 500 - (CE - Me En) Design and Materials Applications 3.0
CE 501 - (CE - MeEn) Stress Analysis and Design of Mechanical Structures 3.0
CE 504 - (CE - Me En) Computer Structural Analysis and Optimization 3.0
CE 505 - Portland Cement Concrete Mixture Design and Analysis 3.0
CE 507 - (CE - Me En) Linear Finite Element Methods 3.0
CE 508 - (CE - Me En) Structural Vibrations 3.0
CE 514 - Geospatial Environmental Engineering 3.0
CE 521 - Advanced Structural Steel Design 3.0
CE 523 - (CE - Me En) Aircraft Structures 3.0
CE 525 - Bridge Structures 3.0
CE 526 - Bridge Preservation 1.5
CE 528 - Masonry Design 3.0
CE 529 - Structural Wood Design 3.0
CE 531 - Principles of Hydrologic Modeling 3.0
CE 533 - Advanced Hydraulic Routing 3.0
CE 534 - Hydroinformatics 3.0
CE 535 - Hydraulic Design of Channels and Control Structures 3.0
CE 540 - Geo-Environmental Engineering 3.0
CE 542 - Deep Foundations and Retaining Systems 3.0
CE 544 - Seepage and Slope Stability Analysis 3.0
CE 545 - Geotechnical Analysis of Earthquake Phenomena 3.0
CE 547 - Groundwater Modeling 3.0
CE 551 - Water Treatment Facilities Design 3.0
CE 555 - Environmental Chemistry 3.0
CE 562 - Traffic Engineering: Characteristics and Operations 3.0
CE 563 - Pavement Design 3.0
CE 565 - Urban Transportation Planning 3.0
CE 566 - Pavement Management 3.0
CE 570 - (CE - Me En) Computer-Aided Engineering Software Development 3.0
CE 575 - (CE - Me En) Optimization Techniques in Engineering 3.0
CELL 305 - Human Physiology 4.0
CH EN 386 - Chemical Reaction Engineering 3.0
CH EN 410 - Principles of Petroleum Engineering 3.0
CH EN 412 - Introductory Nuclear Engineering 3.0
CH EN 433 - Energy Engineering 3.0
CH EN 436 - Process Control and Dynamics 3.0
CH EN 451 - Chemical Engineering Plant Design and Process Synthesis 4.0
CH EN 461 - Chemical Engineering Problem Solving through Experiential Learning 3.0
CH EN 475 - Unit Operations Laboratory 1 2.0
CH EN 476 - Separations 3.0
CH EN 477 - Unit Operations Laboratory 2 2.0
CH EN 479 - Unit Operations Laboratory 2.0
CH EN 481 - Introduction to Semiconductor Processing 2.0
CH EN 495R - Global Engineering Outreach Projects 3.0v
CH EN 499 - Mentored Research and Thesis 3.0
CH EN 512 - Nuclear Reactor Transient Modeling 3.0
CH EN 513 - Molecular Modeling 3.0
CH EN 518 - Biomedical Engineering Principles 3.0
CH EN 519 - Biochemical Engineering 3.0
CH EN 522 - Combustion Processes 3.0
CH EN 528 - Industrial Catalytic Processes 2.0
CH EN 531 - Thermodynamics of Multicomponent Systems 3.0
CH EN 533 - Transport Phenomena 3.0
CH EN 535 - Kinetics and Catalysis 3.0
CH EN 541 - Numerical Methods for Engineers 3.0
CH EN 578 - Polymer Science and Engineering 3.0
CHEM 351M - Organic Chemistry 1 - Majors 3.0
CHEM 351M - Organic Chemistry 1 - Majors 3.0
CHEM 352M - Organic Chemistry 2 - Majors 3.0
CHEM 353 - Organic Chemistry Laboratory--Nonmajors 2.0v
CHEM 354 - Organic Chemistry Laboratory--Majors 2.0v
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<th>Course Title</th>
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<td>BS in Mechanical Engineering (394950)2022-2023 Program Requirements Cont...</td>
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<td>Computer Networks</td>
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<td>Optoelectronic Devices</td>
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<td>Electromagnetic Wave Theory</td>
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<td>Integrated Quantum and Classical Photonics</td>
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<td>Radar and Communication Systems</td>
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<td>Number Theory</td>
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<td>MATH 511</td>
<td>Numerical Methods for Partial Differential Equations</td>
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<td>MATH 521</td>
<td>Methods of Applied Mathematics</td>
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<td>MATH 522</td>
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<td>MATH 525</td>
<td>Network Theory</td>
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MATH 532 - Complex Analysis 3.0
MATH 534 - Introduction to Dynamical Systems 1 3.0
MATH 536 - Applied Discrete Probability 3.0
MATH 540 - Linear Analysis 3.0
MATH 541 - Real Analysis 3.0
MATH 547 - Modeling and Analysis of Partial Differential Equations 3.0
MATH 553 - Foundations of Topology 1 3.0
MATH 554 - Foundations of Topology 2 3.0
MATH 561 - Introduction to Algebraic Geometry 1 3.0
MATH 562 - Introduction to Algebraic Geometry 2 3.0
MATH 565 - Differential Geometry 3.0
MATH 570 - Matrix Analysis 3.0
MATH 571 - Algebra 1 3.0
MATH 572 - Algebra 2 3.0
MATH 586 - Introduction to Algebraic Number Theory 3.0
MATH 587 - Introduction to Analytic Number Theory 3.0
ME EN 553 - Mechanical Behavior of Materials 3.0
MFGEN 331 - Metals Processes 4.0
MFGEN 333 - Industrial Automation 3.0
MFGEN 340 - Quality Systems in Manufacturing 3.0
MFGEN 355 - Plastics Materials and Processing 3.0
MFGEN 381 - Lean Manufacturing & System Design 3.0
MFGEN 431 - Tool Design 3.0
MFGEN 440 - Six Sigma for Manufacturing 3.0
MFGEN 456 - Introduction to Composites 3.0
MFGEN 531 - Advanced Computer-Aided Manufacturing Programming 3.0
MFGEN 532 - Manufacturing Systems 3.0
MFGEN 533 - Manufacturing Information Systems 3.0
MFGEN 574 - Advanced Tool Design 3.0
MFGEN 575 - Packaging Technologies 3.0
MFGEN 580 - Manufacturing Simulation 3.0
MSB 430 - Introduction to International Business 3.0
PHSCS 318 - Introduction to Mathematical Physics 3.0
PHSCS 321 - Mechanics 3.0
PHSCS 330 - Computational Physics Lab 2 1.0
PHSCS 360 - Statistical and Thermal Physics 3.0
PHSCS 416 - Writing in Physics 3.0
PHSCS 427 - Stellar Astrophysics 3.0
PHSCS 428 - Galaxies and Cosmology 3.0
PHSCS 430 - Computational Physics Lab 3 1.0
PHSCS 441 - Electricity and Magnetism 3.0
PHSCS 442 - Electrodynamics 3.0
PHSCS 451 - Quantum Mechanics 3.0
BS in Mechanical Engineering (394950) 2022-2023 Program Requirements Cont...
PHSCS 561 - (Phscs-Me En) Fundamentals of Acoustics 3.0
PHSCS 571 - Lasers and Atoms 3.0
PHSCS 581 - Solid-State Physics 3.0
PHSCS 583 - Physics of Nanostructures, Surfaces, and Interfaces 3.0
PHSCS 585 - Thin-Film Physics 3.0
PHSCS 586 - Transmission Electron Microscopy for Physical Science and Engineering 3.0
PHSCS 587 - Physics of Semiconductor Devices 3.0
PHSCS 588 - Scanning Electron Microscopy (SEM) for Physical Science and Engineering 3.0
STAT 330 - Statistical Modeling 2 3.0
STAT 340 - Probability and Inference 2 3.0
STAT 381 - Statistical Computing 3.0
STAT 426 - (Not currently offered)
STAT 435 - Nonparametric Statistical Methods 3.0
STAT 451 - Applied Bayesian Statistics 3.0
STAT 462 - (Not currently offered)
STAT 466 - Introduction to Reliability 3.0
STAT 469 - Analysis of Correlated Data 3.0
STAT 475 - (Not currently offered)
STAT 482 - Data Science Capstone 1 3.0
STAT 483 - Data Science Capstone 2 3.0
STAT 511 - Statistical Methods for Research 1 3.0
STAT 512 - Statistical Methods for Research 2 3.0
STAT 531 - Experimental Design 3.0
STAT 535 - Linear Models 3.0
STAT 536 - Statistical Learning and Data Mining 3.0
STAT 537 - Mixed Model Methods 3.0
STAT 538 - Survival Analysis 3.0

All courses must be selected from the above lists. If a student wishes to count a course outside these areas as an elective, approval must be granted before the course is taken. Approval is requested by submitting a petition to the department undergraduate committee that lists all of the proposed electives and demonstrates how the proposed exception meets the purposes described above.

THE DISCIPLINE:
Mechanical engineers work with concepts, ideas, and products that are primarily mechanical or energy related. Mechanical engineering is a broad discipline that prepares a person to contribute in a wide range of fields such as aerospace, computer graphics, power generation, machine tools, petroleum, agricultural and construction equipment, medicine, robotics, government, and all types of transportation. A mechanical engineer may work in research, design, analysis, manufacturing, testing, operations, sales, or management. Engineers use critical problem-solving methods and basic principles of mathematics and science to creatively solve problems.

EDUCATIONAL OBJECTIVES:
The objectives of the undergraduate Bachelors of Science program in the Department of Mechanical Engineering at Brigham Young University are to:
1. Teach the fundamental concepts of math, science, and mechanical engineering in order to produce graduates who demonstrate technical excellence and provide service to their profession, community, family, and church.
2. Instill a desire and ability to learn continuously, both through study and faith, to enable graduates to meet the changing demands of their profession and personal life.
3. Provide practical and open-ended engineering experiences in order to develop graduates who think independently and demonstrate leadership and creativity.
4. Engage students in activities to produce graduates who communicate and work effectively and ethically with people of diverse backgrounds.

Program Learning Outcomes:
To assure that these objectives are reached, the department has articulated seven outcomes of the BS program. Each student graduating from this program is expected to have:
1. An ability to identify, formulate and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

3. An ability to communicate effectively with a range of audiences.

4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

CAREER OPPORTUNITIES:
A bachelor of science degree in mechanical engineering provides widely recognized professional training for careers in industry, government, and other areas. Most industrial companies hire some mechanical engineers.

Companies that make mechanical or energy-related products may hire mostly mechanical engineers. As a result, many mechanical engineering positions are available worldwide. Mechanical engineers have job opportunities in companies involved in such areas as aircraft and spacecraft design; manufacturing processes; product safety and reliability; solar energy; electronic equipment packaging and cooling; power plant design; jet, train, truck, and automobile engines; environmental protection; artificial intelligence; robotics; medical and hospital equipment; new material development and applications; and technical writing. Increasing numbers of positions utilize foreign language experience. A graduate in mechanical engineering is prepared for advanced studies in the field as well as in a variety of other disciplines, including law, medicine, and business administration. Perhaps most important to graduates are the problem-solving strategies and thinking processes acquired in the study of mechanical engineering that help one to succeed in any area of endeavor.

UNDERGRADUATE ADMITTANCE REQUIREMENTS:
Any student may choose to major in Mechanical Engineering, and to enroll in any of the preprofessional program courses, meeting the necessary prerequisites. Professional Program Acceptance: Students must be accepted into the professional program before they may take the professional Me En core courses. To apply, students must receive a grade in the courses outlined below. They must also be in good academic standing. Admissions decisions are made by equally weighting the GPA from these courses. (See policies below regarding AP courses and transfer courses.)

- The first physics course taken at BYU from the sequence: PHSCS 121, PHSCS 123, Ec En 301
- The first math course taken at BYU from the sequence: MATH 112, 113, 302, 303, 313, 314, 334
- The first mechanics course taken at BYU from the sequence: ME EN 101, CE EN 203, CE EN 204
- ME EN 191 at BYU (PASS Grade required)

AP Courses. These courses can fulfill graduation requirements; however, since there is no grade assigned to AP courses, students must take the next course in the physics, math, or mechanics sequence OR repeat the AP equivalent course for application to the professional program.

Transfer Courses. If students have transferred equivalent courses from an ABET-accredited school, the grades from the transferred courses can be used in calculating the Application GPA. Alternatively, transfer students may retake the BYU equivalent course. Non-ABET-accredited courses can fulfill graduation requirements; but cannot be used to calculate the Application GPA. Students must either (a) take the BYU equivalent course or (b) take the next course in the physics, math, or mechanics sequence.

Acceptance Criteria. 240 students are granted acceptance to the professional program each year based on the Application GPA. Students may apply for admission more than once, however, each course may be retaken only ONE time (includes withdraws). When a course is retaken, the higher grade will be used to calculate the Application GPA. Please see our website: https://www.me.byu.edu/apply, for further information and recent admission data.
ACADEMIC STANDARDS AND CONTINUANCE:
On gaining acceptance into the ME professional program, students must maintain a minimum university cumulative GPA of 2.0. No more than 6 credit hours or two courses of passing grades below C– in required program courses (including preprofessional and professional courses) may be applied toward graduation. A professional program course may not be retaken more than once. At least 30 of the 51.5 credit hours of Mechanical Engineering courses (ME EN) must be earned at BYU.

MAP DISCLAIMER
While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

DEPARTMENT INFORMATION
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Email: mecheng@byu.edu

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