MECHANICAL ENGINEERING - BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

The mechanical engineering program prepares students for a wide range of professional engineering careers in such areas as: research and development; design; facilities operation and maintenance; management; and production. Graduates of the program will be prepared to apply engineering sciences, mathematics, computational methods, modern experimental methods, and effective communication skills to problems of interest in industry as well as government or scholarly topics. Employment opportunities for graduates are extensive. These opportunities include: energy and utility; manufacturing; automotive; aerospace; defense and space; research and development; and many others. The emphasis in the curriculum is on engineering sciences (solid mechanics, thermal sciences, fluid mechanics and materials science); mathematics; engineering analysis; engineering design; general sciences; and communication balanced with general education topics and electives. Graduates of the program will also be prepared for graduate studies (subject to grade-point and standardized test qualifications). Students will be prepared to take the fundamentals of engineering examination (and are encouraged to do so) as a step towards professional registration.

Requirements (122 Credits)

In addition to the NMSU and College of Engineering requirements for graduation, a student must obtain a minimum grade of C- in all math, science and engineering courses applied toward their B.S in ME and/or AE minor.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 122 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
State of New Mexico Common Core		
Area I: Communications		
English Composition - Level 1		
ENGL 1110G	Composition I	4
English Composition - Level 2 [1]		*3*
Oral Communication [1]		*3*
Area II: Mathematics		
MATH 1511G	Calculus and Analytic Geometry I [2]	4
Area III/IV: Laboratory Sciences and Social Behavioral Sciences		*11*
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
	Area IV: Social/Behavioral Sciences Course (3 credits) [1]	
Area V: Humanities [1]		*3*
Area VI: Creative and Fine Arts [1]		*3*
General Education Elective		
MATH 1521G	Calculus and Analytic Geometry II	4
Viewing A Wider World		**6**
Viewing a Wider World course (differs from below and is not in the College of AS) [3]		
Select one Viewing A Wider World course from the following:		
MATH 4110V	Great Theorems in Mathematics	
PHYS 303V	Energy and Society in the New Millennium	
PHYS 305V	The Search for Water in the Solar System	
Departmental/College Requirements		
Mechanical Engineering		
ENGR 110	Introduction to Engineering Design	3
M E 210	Electronics and System Engineering	3
ENGR 217	Manufacturing Processes	3
ENGR 217 L	Manufacturing Processes Lab	1
M E 228	Engineering Analysis I	3
ENGR 233	Engineering Mechanics I	3
ENGR 234	Engineering Mechanics II	3
M E 240	Thermodynamics	3
M E 261	Numerical Methods	3
M E 326	Mechanical Design	3
M E 328	Engineering Analysis II	3
M E 338	Fluid Mechanics	3
M E 340	Applied Thermodynamics	3
M E 341	Heat Transfer	3
M E 345	Experimental Methods I	3
M E 349	MAE Career Seminar	1
M E 425	Design of Machine Elements	3
M E 445	Experimental Methods II	3
Select one Mechanics Elective from the following:		3
M E 331	Intermediate Strength of Materials	
M E 332	Vibrations	
M E 333	Intermediate Dynamics	
Mechanical engineering senior electives (Approved M E 400 level and/or A E 400 level courses only)		6
Non-Departmental Requirements		
Mathematics		
MATH 2530G	Calculus III	3
Natural Science		
PHYS 1320G	Calculus -Based Physics II	3
Engineering		
ENGR 190	Introduction to Engineering Mathematics	4
C E 301	Mechanics of Materials	3
CHME 361	Engineering Materials	3
ENGR 401	Engineering Capstone I	3
ENGR 402	Engineering Capstone II	3
Second Language: (not required)		
Electives to bring the total credits to 122		**0**
Total Credits		**122**

[1] See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section in the catalog for a full list of courses.

[2] MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G first.

3   See Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-
    education-viewing-wider-world/#viewingawiderworldtext) section in the
    catalog for a full list of courses.