

Center for Graduate
Studies

Fall 2023
Distance Courses

August 14, 2023 - December 8, 2023

DEGREES

ENGINEERING SCIENCE

	M.S.	Ph.D.	M.S. Specialization	Ph.D. Dissertation	Course-based only Masters option available
Chemical*	●	●	Surface Engineering	Surface Engineering	●
Civil & Environmental	●				
Computer Science*	●	●			
Electrical	●	●		Cyber Electronic Systems	
Engineering Management*	●				●
Materials*	●	●			●
Mechanical*	●	●	Explosives Engineering; Fluid & Thermal Science; Mechatronics Systems & Robotics; Solid Mechanics	Intelligent Energetic Systems	●
Mineral	●	●	Mineral Exploration; Geotechnical & Geomechanical; Explosives Engineering;		
Petroleum	●	●			
Biology	●				
Chemistry	●	●			
Earth & Environmental*	●	●	Geobiology; Geochemistry; Geology; Geophysics; Hydrology	Geobiology; Geochemistry; Geology; Geophysics; Hydrology	●
Mathematics	●	●	Analysis; Industrial Mathematics; Operational Research & Statistics	Applied & Industrial Mathematics	
Physics	●	●	Instrumentation	Astrophysics; Atmospheric Physics; Instrumentation; Mathematical Physics	
Transdisciplinary Biotechnology		●			
Transdisciplinary Cybersecurity*	●	●			●
Science for Teachers*	●				●
Scientific Communication*	●				

* Programs offering distance/hybrid education courses

GRADUATE CERTIFICATES:

Alternative Licensure - Elementary
Alternative Licensure - Secondary
Technology Leadership

Cybersecurity
Electrical Engineering
Explosives Engineering
Hydrology
Scientific & Professional Communication



Founded in
1889

\$78M

In research
expenditure
2022 - 2023

1200

Undergraduate
students

400

Graduate
students

5 NSF

Career
awardees
in last 3 years

Accredited by the Higher
Learning Commission

Research at NMT

Langmuir Laboratory

The Langmuir Laboratory for Atmospheric Research was built by New Mexico Tech in 1963 and is located at an elevation of 10,630 ft in the Magdalena Mountains.

The Magdalena Ridge Observatory (MRO)

MRO's 2.4-meter telescope is one of the largest in the world that has as its primary mission the characterization of small bodies (both natural and artificial) in the Solar System. MRO discovered the three fastest spinning asteroids in the Solar System and has supported NASA's spacecraft missions.

Petroleum Recovery Research Center (PRRC)

PRRC, being the only research center of its kind in New Mexico, is a scientific research organization dedicated to solving problems related to the oil and gas industry.

The National Cave and Karst Research Institute (NCKRI)

NCKRI was created by Congress to study all aspects of caves and the karst areas in which most of them occur. Projects include cave and karst hydrogeology, geophysics, microbiology, geomicrobiology, environmental management, and planetary geology.

NM Bureau of Geology & Mineral Resources (NMBoG)

Since 1927, the NMBoG has been pursuing geoscience research on the geologic framework of our state. This work includes geologic mapping and assessments of the state's natural resources, as well as research in diverse aspects of the state's geology.

IRIS Portable Array Seismic Studies of the Continental Lithosphere (IRIS PASSCAL)

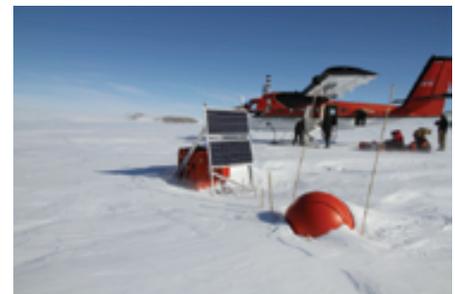
The IRIS PASSCAL Instrument Center at New Mexico Tech supports cutting-edge seismological research into Earth's fundamental geological structure and processes.

Institute for Complex Additive Systems Analysis (ICASA)

ICASA's mission is to contribute innovative and relevant solutions to national security and critical infrastructure protection problems.

Energetic Materials Research and Testing Center (EMRTC)

EMRTC has performed internationally recognized research for over 70 years. Core areas of expertise include detonation theory, explosives chemistry, warhead design, ballistic penetrator and gun system design, explosive formulation development, reactive hydrodynamic calculations, and safety and characterization testing.



Chemical Engineering

Fall 2023 Chemical Engineering Course Offerings:

CH E 5053 - Advanced Separation Processes
CH E 5089 - Conjugated Polymers

M/W/F
T/R

1300 - 1350
0930 - 1045

The Department of Chemical Engineering offers course-work and research thesis with an emphasis on surface engineering and industry focused skills. Opportunities to work in close collaboration with national laboratory scientists and in industry funded projects are available. Diverse research areas include: Catalysis & Reactions Engineering; Nanotechnology; Renewable Energy; Biomedical Engineering; Polymer Science; Molecular and Multi-scale Modeling; and Colloidal Science and Interfacial Phenomena.



Engineering Management

The Graduate Degree Program in Engineering Management at New Mexico Tech is specifically designed for engineers, scientists, and technologists holding a bachelor's degree in their respective fields who seek the knowledge and practical skills required to lead project teams and organizations through today's competitive and fast changing business environment. Our focus is to provide students with a challenging experience that prepares them to develop and articulate a business case for their next engineering or technology design and development project and lead their team and organization to a successful outcome.

Fall 2023 Engineering Management Course Offerings:

EMGT 5001 - Management Science for Engineering Management	T	1700 - 2000
EMGT 5004 - Engineering Statistics	W	1700 - 2000
EMGT 5006 - Managing HR in Tech Organizations	M	1700 - 2000
EMGT 5007 - Technology Entrepreneurship	R	1700 - 2000
EMGT 5089 - Introduction to Space Industry	W	1700 - 2000

Times are Mountain time UTC/GMT -7 hrs Daylight time (add one hour) March 12, 2023 until November 5, 2023

Materials Engineering

Fall 2023 Materials Engineering Course Offerings:

MTLS 5031 - Fundamentals in Manufacturing Processes of Materials	T/R	1230 - 1345
MTLS 5034 - Phase Equilibria in Materials Systems	M/W/F	1000 - 1050

"The Department of Materials & Metallurgical Engineering at New Mexico Tech offers MS, ME and PhD Materials Engineering degrees in research areas that include Metals, Ceramics, Polymers, Soft Matter, Biomaterials, Energetic Materials, Computational Materials Science, and Nano/Quantum Materials.



The Department of Mechanical Engineering offers PhD with Dissertation in Intelligent Energetic Systems and MS (with thesis) and ME (without thesis) degrees in Mechanical Engineering. Master's students can choose a specialization among Solid Mechanics; Mechatronics Systems and Robotics; Fluid and Thermal Sciences; and Explosives Engineering or pursue general Mechanical Engineering Master's degree.

Mechanical Engineering



Fall 2023 Mechanical Engineering Course Offerings:

MENG 5004 - Advanced Mechanics of Materials	T/R	1100 - 1215
MENG 5020 - Fracture Mechanics	T/R	1400 - 1515
MENG 5043 - Control System Design	T/R	1100 - 1215
MENG 5045 - Introduction to Explosives Engineering	T/R	0930 - 1045
MENG 5046 - Detonation Theory	F	1100 - 1350
MENG 5052 - Explosives Technology & Applications	F	0800 - 1030
MENG 5063 - Bioinspiration & Biomimetics	T/R	0930 - 1045
MENG 5075 - Advanced Engineering Mathematics	T/R	0800 - 0915
MENG 5083 - Engineering Mechanics of Composite Structures	T/R	1230 - 1345

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Transdisciplinary Cybersecurity



Addressing many of the greatest challenges to society requires understanding and integrating the methods, theories, techniques, and perspectives of multiple disciplines to develop new approaches to solve complex, real-world challenges. The mission of the Transdisciplinary Cybersecurity graduate programs is to prepare students with a broad understanding of cybersecurity from the foundational documents that have guided the development of the discipline to the ethical, legal, and psychological challenges that cybersecurity professionals face. Students further engage in hands-on cybersecurity risk analysis, data analysis, and policy development. In addition, technical electives provide expertise that students will need to solve real-world challenges in cybersecurity.

Fall 2023 Transdisciplinary Cybersecurity Offerings:

CYBS 5002 - Cybersecurity Ethics and Law	W	1415 - 1645
CYBS 5005 - Data Science for Cybersecurity	T/R	1400 - 1515
CYBS 5014 - Computer Security and Incident Response	M	1800 - 2100
CYBS 5041 - Advanced Cryptography	T/R	1230 - 1345
CYBS 5061 - Foundations of Cybersecurity	T	1530 - 1830
CYBS 5089 - AI and Cybersecurity	T/R	1100 - 1215

Public Engagement and Communication

The MS in Public Engagement in Science, Design and Communication teaches students to research, critically analyze and communicate information and technology to diverse communities.

Fall 2023 Scientific & Professional Communication Offerings:

COMM - 5075 Communication in the Sciences	W	1530 - 1815
PCOM - 5004 Media, Communication and Public Engagement	T/R	1230 - 1345
TCOM - 5089 User Experience and Research Design	T/R	1230 - 1345
POLS - 5070 Policy Sciences	M	1400 - 1645

Hydrology

From its founding in the 1950s, the Hydrology Program in the Earth and Environmental Science (E&ES) department at New Mexico Tech has been working across disciplines to answer water questions that impact society and the world. Our focus is on building scientific understanding of fundamental processes that will shape global water sustainability for years in the future, and training students to apply these insights in their careers.

Fall 2023 Hydrology Course Offerings:

GEOL 4040 - Hydrological Theory and Field Methods	M/W/F	1100 - 1150
HYDR 5007 - Hydrogeochemistry	T/R	1100 - 1215
HYDR 5010 - Quantitative Methods in Hydrology	T/R	1230 - 1345
HYDR 5089 - Environmental Justice	W/F	1200 - 1250

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Contact Information

**Online
and/or
in-person**

**\$2,669 + fees per
semester for 6
credits**

<https://www.nmt.edu/gradstudies/>

Email: graduate@nmt.edu

Tel. +1 575 835 5513



Degree Seeking



Non-Degree Seeking



If you plan to pursue a degree please apply as a degree seeking students. If you are interested in taking courses only or while you are preparing your degree seeking application you may apply initially as a non-degree seeking students.

Click/Scan

Note: If you start as a non-degree seeking students then switch to a degree seeking status there is a maximum of six credits that can be transferred towards a degree program.