

Center for Graduate Studies

Featuring NMT's Research Centers



125+

Years
Making a
Difference

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



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; Statistics & Data Science	Applied & Industrial Mathematics	
Physics	●	●	Instrumentation	Astrophysics; Atmospheric Physics; Instrumentation; Mathematical Physics	
Transdisciplinary Biotechnology		●			
Transdisciplinary Cybersecurity*	●	●			●
Science for Teachers*	●				●
Public Engagement*	●				

* 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*



STATE OF NEW MEXICO

- Great weather
- Beautiful sunsets
- Rich History
- Diverse Culture
- Amazing Outdoors



HOME OF

- Los Alamos National Laboratories
- Sandia National Laboratories
- Kirtland Air Force Base
- Industries such as aerospace, defense, solar energy, and semiconductor manufacturing



100M+
2023-2024
Research
Expenditure

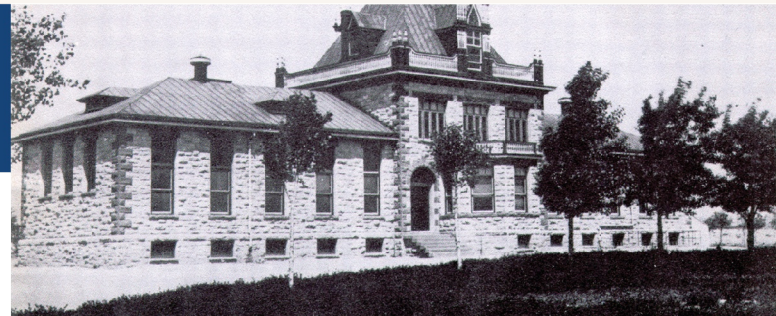
Financial Aid

Majority of full time graduate students at NMT receive financial aid in the form of teaching and/or research assistantships, fellowships, or part-time employment

RICH HISTORY

In 1889, Socorro was a mining boom town, wild, raucous, and, at a population of about 4500, one of the largest towns in New Mexico.

The Territorial Legislature, wanting to boost New Mexico's economy, decided to found a School of Mines to train young mining engineers, and Socorro was the ideal location. The New Mexico School of Mines (NMSM) proudly opened its doors on September 5th, 1893, with one building, two professors, and seven students. Courses offered included chemistry and metallurgy. Some accomplishments since then include:



Dr. E.J. Workman, NMT President (1946-1965), was a physicist and researcher who led the team that designed the proximity fuse.

One of New Mexico Tech's inventions is the nicotine patch resulting in a patent in 1986. Frank Etscorn came up with this idea while conducting research on nausea.





Small School Big Science

Langmuir Laboratory

The Langmuir Laboratory for Atmospheric Research, built by New Mexico Tech in 1963, is located at an elevation of 10,630 ft in the Magdalena Mountains. The facility was constructed to study thunderstorms up close, which form during the summer months over the mountain range. It hosts a suite of cutting-edge lightning sensors, designed and built by researchers and students from NMT, and offers invaluable hands-on experience to students including field work, instrumentation design, and advanced data analysis.

MRO

The Magdalena Ridge Observatory 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. Major science milestones include discovering the three fastest spinning asteroids in the Solar System, acquiring high-precision astrometry of potentially hazardous asteroids and comets, and supporting NASA's spacecraft missions via astrometry and the acquisition of physical data. In addition to these endeavors, the 2.4-meter facility contributes to the instructional program at NM Tech by providing hands-on research experiences for students.

The Magdalena Ridge Observatory Interferometer (MROI) will (R = 0.64 μm) and into the near infrared J, H, and K bands (J = 1.25 μm , H = 1.65 μm , and K = 2.20 μm). These wavelengths were chosen because many important astrophysical processes associated with spectroscopic line emission and hot dust are brightest at these wavelengths. Stars will be one of the main categories of objects the MROI will observe. Stars are key to the evolution of the universe and create all the elements in the periodic table after hydrogen and helium. They are not strictly round and yellow, like our Sun, but exist in many different sizes, shapes, and temperatures. MROI will be able to resolve objects in the sky that have an angular size within the range of 0.3–30 milliarcseconds (mas) (a milliarcsecond is the approximate height of a person standing on the surface of the Moon, as seen from Earth). This high resolution will allow the MROI to resolve closely separated binary stars such as cataclysmic variables (CVs) and some of the inner structures around black holes in external galaxies (what astronomers refer to as AGN – Active Galactic Nuclei).

High Impact

PRRC



The Petroleum Recovery Research Center (PRRC), established by the state legislature in 1977 and 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 PRRC's mission is to develop, through theoretical and practical research, improved oil recovery methods to increase oil and natural gas recovery from New Mexico's and the nation's oil and gas reservoirs and to transfer new technology to the industry and to local independents. In recent years the PRRC has been a leader in carbon sequestration research.

IRIS PASSCAL

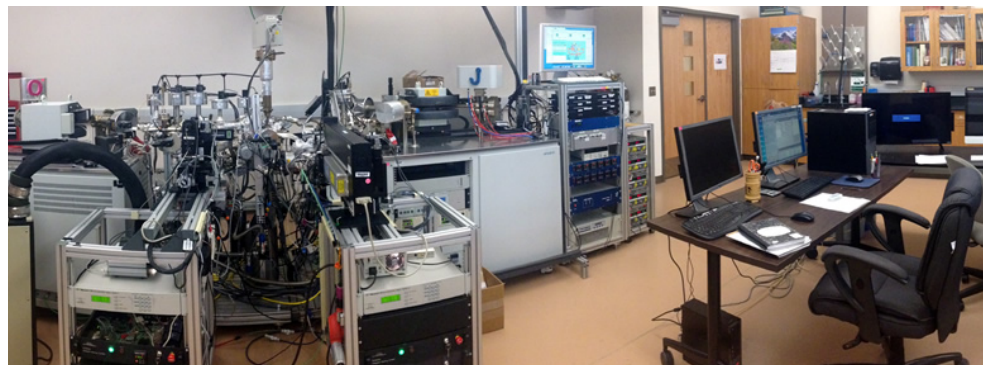
The IRIS Portable Array Seismic Studies of the Continental Lithosphere (PASSCAL) Instrument Center at New Mexico Tech support cutting-edge seismological research into Earth's fundamental geological structure and processes. The facility provides instrumentation and support services for the National Science Foundation, Department of Energy, and otherwise funded seismological experiments around the world.



World Class
Research

NM Bureau of Geology & Mineral Resources

Since 1927, the New Mexico Bureau of Geology and Mineral Resources has been pursuing fundamental geoscience research on the geologic framework of our state. This work has included geologic mapping and assessments of the state's natural resources, as well as research on diverse aspects of the state's geology. Throughout our history we have conducted statewide resource inventories and evaluations of oil & gas, coal, potash, and other minerals. We are also responsible for archiving and providing this information to other researchers, government agencies, industry, educators, and the general public.

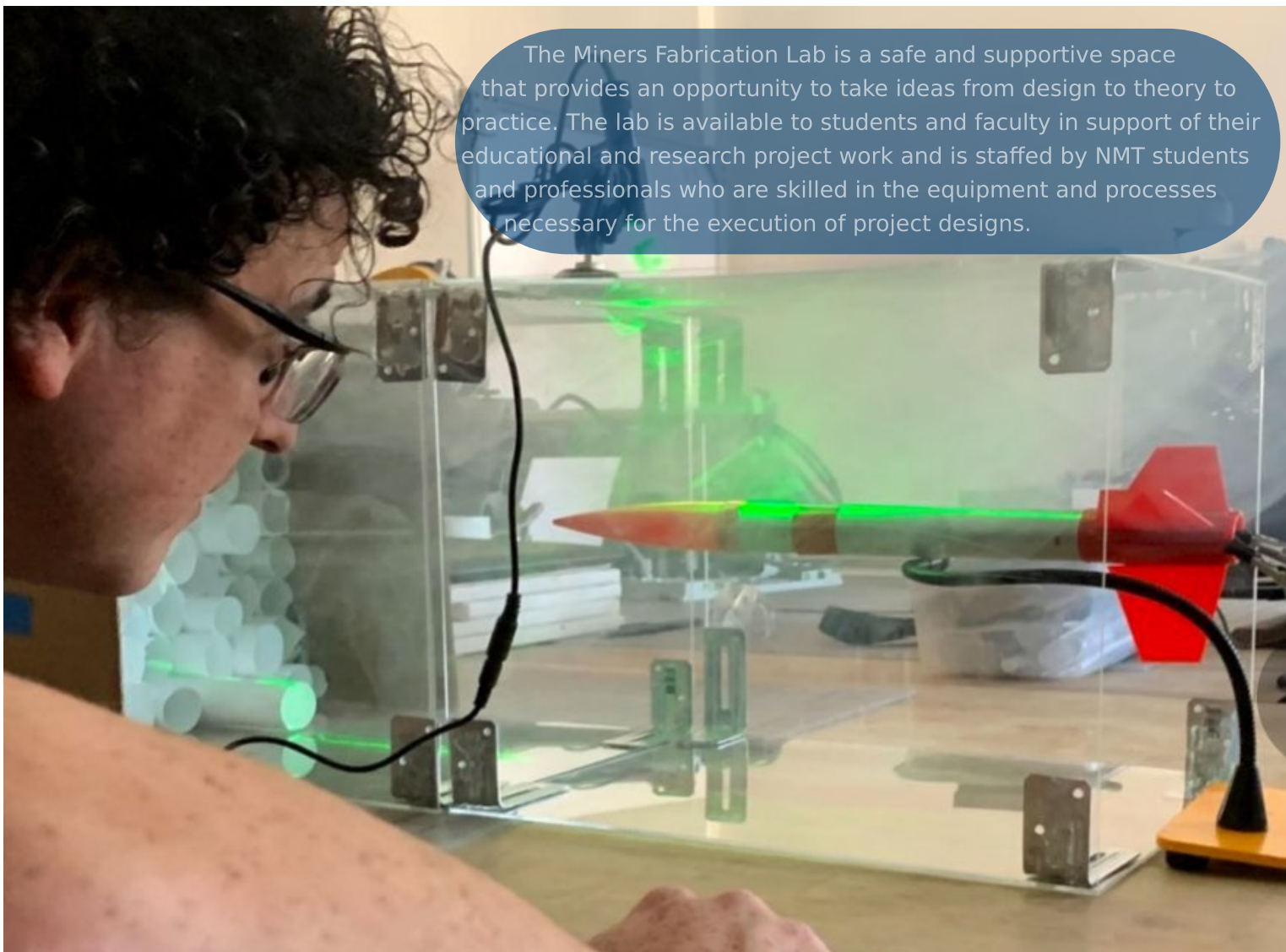


NCKRI



The National Cave and Karst Research Institute (NCKRI) was created by Congress to study all aspects of caves and the karst areas in which most of them occur. Current projects include cave and karst hydrogeology, geophysics, microbiology, geomicrobiology, environmental management, and planetary geology. Areas of interest include cave and karst paleoclimatology, geoarchaeology, biology, among others. NMT's Cave and Karst Studies Program offers specific training for students interested in

Miners Fabrication Laboratory



The Miners Fabrication Lab is a safe and supportive space that provides an opportunity to take ideas from design to theory to practice. The lab is available to students and faculty in support of their educational and research project work and is staffed by NMT students and professionals who are skilled in the equipment and processes necessary for the execution of project designs.

Tech Transfer Collaborative Office

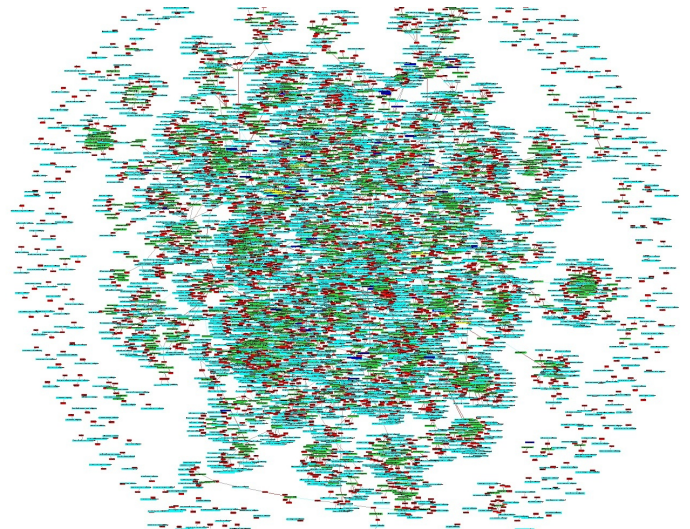
The Tech Transfer Collaborative Office (T2Co) is a team of tech transfer professionals located on Kirtland Air Force Base in Albuquerque, NM. The office manages a partnership between New Mexico Tech and the Air Force Research Laboratory (AFRL) to advance its tech outreach mission, as well as to transfer and transition technologies from the bench to the marketplace. Additionally, the office facilitates outreach to New Mexico Tech staff, students, and faculty and its AFRL partner. The office can facilitate New Mexico Tech engagements with AFRL related to joint intellectual property, internships, collaboration facilities, community makerspaces, equipment donations/loans, STEM K-12 outreach and faculty exchange programs/joint appointments.

ICASA

State-of-the-Art

The Institute for Complex Additive Systems Analysis (ICASA) is a research division of NMT. ICASA's mission is to contribute innovative and relevant solutions to national security and critical infrastructure protection problems. This is performed through examination of the control plane of the system — the mechanisms that enable it to dynamically change and respond to its environment.

ICASA integrates with the university strategic plan by supporting teaching, advising and providing research opportunities and financial support to professors and students. ICASA's vision and future plans include continuing research efforts on complex additive systems in support of information exploitation, protection, and time-critical information dissemination. Also included are sharing, developing and training in situational awareness and assessment that will allow decision makers to quickly and effectively deal with new threats.



Cybersecurity Center

New Mexico Tech has a cybersecurity centers focused on cybersecurity education, research, and economic development for New Mexico. NMT's Transdisciplinary Cybersecurity programs 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 engage in hands-on cybersecurity risk analysis, data analysis, and policy development. Students with their advisors select technical electives that provide expertise to carry out research and solve real-world challenges in cybersecurity.



Only a glimpse of what's at NMT

Unique Capabilities

EMRTC

NMT's Energetic Materials Research and Testing Center (EMRTC) has performed both nationally and internationally recognized research, development, test, and evaluation (RDT&E) programs for over 70 years. Our customer base includes both private industry and government agencies. 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.



Fundamental and applied research is conducted on energetic materials utilizing EMRTC's explosives research facilities. EMRTC's team of experienced scientists and engineers conducted a variety of RDT&E projects for the Department of Defense, the Department of Energy, the Department of State, other Universities, and private industry. Through the years, EMRTC has worked with many graduate Students to perform their research and having the facility to conduct large explosives tests is a unique capability.



EMRTC's 40 square mile field-testing laboratory is located in the mountains adjacent to the New Mexico Tech campus. The semi-arid climate of the southwestern desert allows year round use of the facility. The field laboratory contains over 30 separate test sites, gun ranges, and research facilities, and has the capacity to detonate over 20,000 pounds of explosives in a single event.



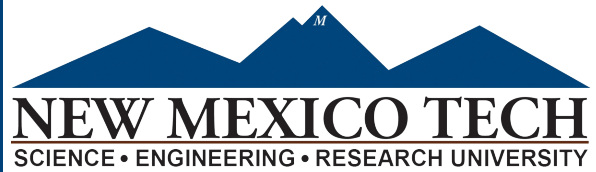
PTRC



Playas Training and Research Center (PTRC) serves government and industry clients, nationally and internationally, that require a controlled environment, reality-based testing and training venues in any aspect of physical security.



Graduate Programs



How to apply

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

We Love to hear from you

Email: graduate.dept@nmt.edu

Telephone: +1 575 835 5720

