THE SUMMER STE²M EXPERIENCE @ NEW MEXICO TECH

NEW MEXICO TECH

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JULY 7 — 12, 2019

ASTE²M-Course Is...

... a five-day opportunity for you to be a college student and earn one credit hour. Learn more about a specific science or engineering discipline while you experience university life on New Mexico Tech's campus. You will be challenged by college professors with exciting lectures, relevant labs, and interesting field trips designed to give you a great understanding of what it takes to succeed in that particular field.

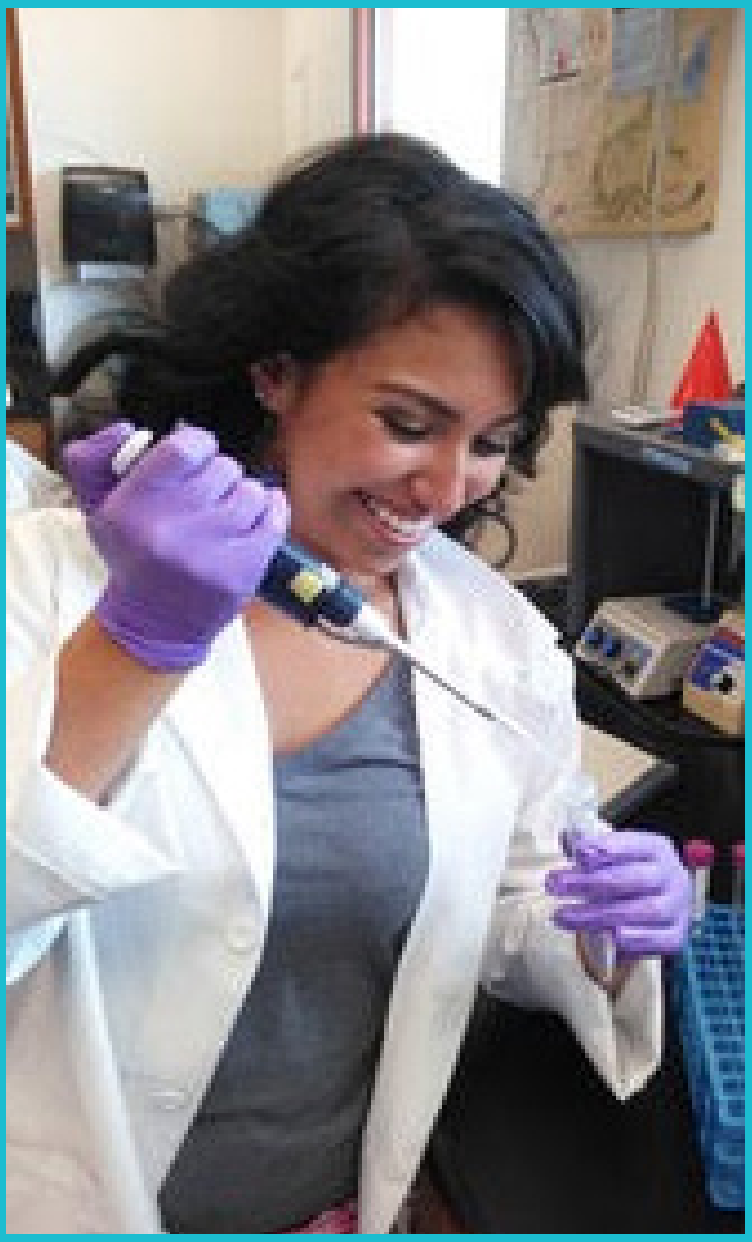
New Mexico Tech's Summer Science Experience will give you an idea of what to shop for when you're ready to apply to college. You'll learn what it takes to reach your career goals, and it looks GREAT on your college application!

New Mexico Tech has a reputation for quality: quality academics, quality faculty, and quality students. It is a university dedicated to excellence in education and research, within a collegial, yet challenging, atmosphere.

Tech offers degrees in physical and biological sciences, chemistry, computer science, engineering, Earth sciences, mathematics, management, physics, technical communication, and pre-professional programs. Tech also offers numerous master's and Ph.D. programs. Students at Tech share a tradition of cooperation, helpfulness, and a motivated determination to succeed.

Summer is a great time to be on New Mexico Tech's green, shady, flower-filled campus! Enjoy our swimming pool and gym and meet fellow students from all over the United States while improving your mind, earning college credit, and experiencing college life — all in one week!

Minimum requirements: Rising juniors and seniors with at least a 2.75 cumulative grade point average (on a 4.0 scale) and Algebra I or higher.



Olivia Chavez—*Biology major at New Mexico Tech*
I am studying entomology, herpetology and various aspects of ***Batrachochytrium dendrobatidis****. I enjoy studying details of insect exoskeletons, and relaxing with my Siamese cat and Albino ball python.*

Only $500 covers tuition, 1 college credit hour, room, & meals for five days, ! JULY 7—12

As a teenager my plan was to graduate high school and go to art school. The summer between my junior and senior year my parents encouraged me to attend the summer mini courses at NMT. I was very resistant as I had no desire to go into engineering or science. I took two courses that summer: Petroleum Engineering and Geophysics. Both courses were fun and engaging and I had a great time, but it was the Petroleum Engineering mini course that changed my life course. After the mini course I decided that I wanted to be a Petroleum Engineer. I had learned how exciting and fun engineering and science could be, it was the spark I needed to truly appreciate my math and science courses in high school. After high school I enrolled at NMT and graduated in 2002 with a BS in Petroleum and Natural Gas Engineering. I currently work at the Petroleum Recovery Research Center (PRRC) on the NMT campus as a Research Associate II. At the PRRC I conduct research for improved methods of water shutoff in oil field wells.

~Kate Wavrik

Kate Wavrik in the Petroleum Recovery Research Center (PRRC) lab.

We are looking for students who are intrigued by math, science, engineering and entrepreneurship. You will thrive in a small school environment that provides an intense, focused education. Tech students have been challenged in high school and look forward to continued challenges and opportunities alongside our brilliant faculty and fellow students who share their passion for knowledge.

Hands-on learners do especially well at Tech due to the abundance of research opportunities that take theoretical classroom learning and apply it to research, lab work and field experience.

New Mexico Tech students are:

- Discovering methods to extract valuable resources from the Earth more efficiently and economically
- Studying earthquakes and volcanoes to better understand the mechanisms at work within our planet
- Developing alternative fuels
- Keeping our nation's computer systems secure and safe from malicious cyber attacks
- Monitoring asteroids to protect us from "the big one"

Biology & Psychology

Biology & Psychology: "Field to Lab"

K. Goncz

Research in biology and psychology depends on observation, hypothesis formation, and experimentation with systems that occur in nature. For some types of life science research, it is observations in the field that lead to experiments in the lab. In this course, students will explore a variety of New Mexico field environments (e.g. desert, pond, and cave), and will observe and collect the plants, animals and microbes that populate them. Students will learn about experimental designs for testing scientific hypotheses, and then use hands-on laboratory techniques to run tests. Students will work in groups to design and carry out research projects.

https://www.nmt.edu/academics/biology/index.php

Rachel Perez—*of Garden Grove, Calif., went on to receive her masters of biology at the Smithsonian Tropical Research Institute for her research on the Panama Rocket Frog.*

Civil & Environmental Engineering

"Mni wičoni (Water is Life)"

C. Richardson

Students enrolled in this class will learn about water quality from lakes, rivers, and groundwater and the science and engineering needed to produce a product water from these resources safe for human consumption. Students will participate in hands-on sampling and analysis activities, bench-scale unit operations for water treatment, and classroom discussions about this precious resource we need to survive. Learn about the role of the civil and environmental engineer in providing our daily need for safe drinking water.

http://infohost.nmt.edu/~enve/

Computer Science ≠ Engineering

Exploring Computer Science

Mini-Course 2019

This mini-course will provide an introduction to the field of computer science, including discussions of computational thinking, programming, algorithms, computer systems, applications, and computer security. Students will have hands-on labs on applying computational approaches to real-life problems in various contexts. In addition, students will be given an opportunity to learn the skills in creating web applications and mobile applications.

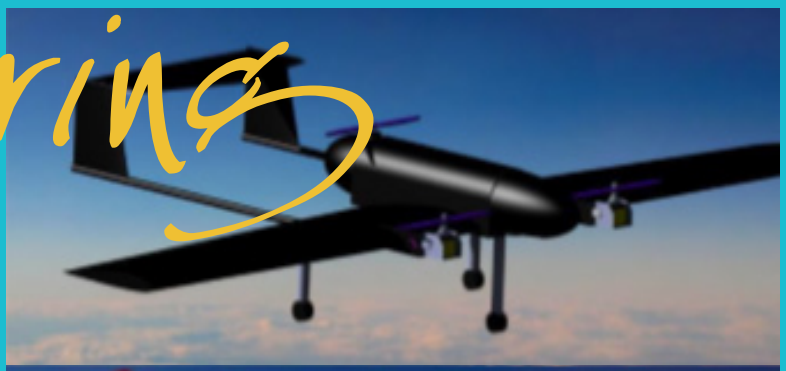
www.nmt.edu/academics/compsci/index.php

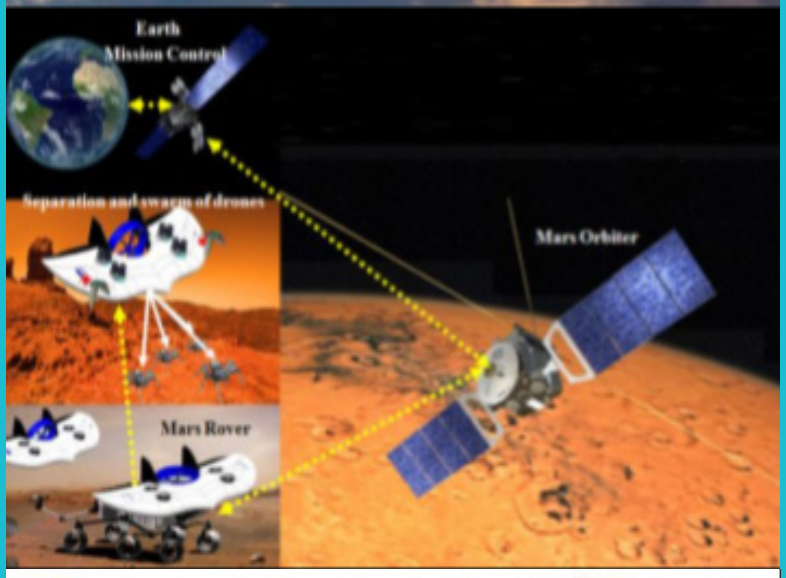
Mechanical Engineering

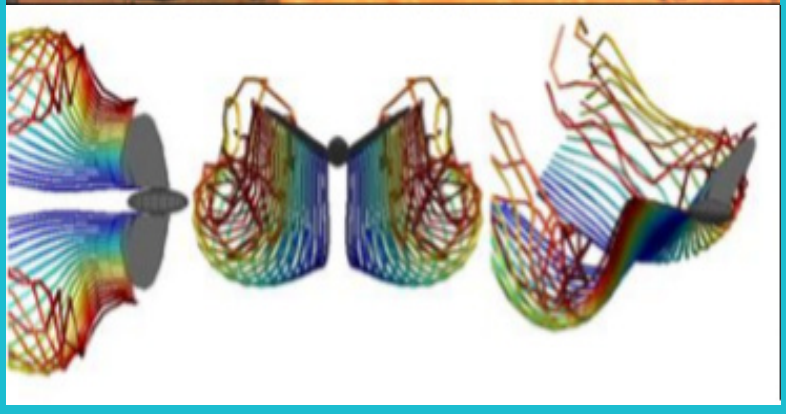
Intro to Unmanned Aerial Systems (UAS)

M. Hassanalian

Students will learn different aspects of unmanned aerial systems, including novel classification of flying drones that ranges from unmanned air vehicles (UAVs) to smart dusts, with their new defined applications.. They will also become familiar with design challenges of space and marine drones, existing methods for increasing the drones' endurance, and various control, guidance, navigation, and manufacturing techniques. Students will participate in design, CAD modeling, aerodynamic analysis, and simulation of a small fixed wing micro air vehicle in XFLR5 software.







https://www.nmt.edu/academics/mecheng/

NEW MEXICO TECH
SCIENCE • ENGINEERING • RESEARCH UNIVERSITY

JULY 7—12

2019 New Mexico Tech Summer STE²M Experience

APPLICATION FOR ADMISSION

Completed application and official high school transcripts must be received by May 31, 2019.
Submit application to the Admission Office, 801 Leroy Place, Socorro, NM 87801

DO NOT SEND PAYMENT! (Payment due upon receipt of invoice.)

CONTACT INFORMATION

Full Legal Name: _____
Last First Middle

Mailing address: _____
City State ZIP

Telephone:( ) _____ Email: _____

PERSONAL INFORMATION

Date of Birth: _____ Male/Female _____ T-Shirt Size _____
Month/Day/Year

Predominant Ethnic Background (Required for Federal Reporting)

☐ Caucasian/White ☐ African American/Black ☐ Hispanic ☐ Asian/Pacific Islander
☐ American Indian/Alaskan Native – Tribe: _____ ☐ Other _____

HIGH SCHOOL INFORMATION

High School Attending: _____ City / State: _____

Date of Graduation: _____ HS Code: _____

NEW MEXICO TECH SUMMER *STE²M* EXPERIENCE INFORMATION

☐ **Biology/Psychology** *(limited to 20)*
☐ **Civil/Environmental Engineering** *(limited to 20)*
☐ **Computer Science/Engineering** *(limited to 20)*
☐ **Mechanical Engineering** *(limited to 20)*

Please indicate 1st and 2nd choice.
(2nd choice must be indicated in case 1st is full/unavailable.)

1st Choice: _____ 2nd Choice: _____

ALL students are REQUIRED to stay in NMT's Residence Halls for the duration of the course.
NO REFUNDS AFTER THE FIRST DAY OF CLASS

I certify that all information given in this application is complete and accurate to the best of my knowledge. If I am accepted as a student at New Mexico Institute of Mining and Technology, I agree to conform and abide by all rules, regulations, and procedures of the Institute. Misrepresentation in any statement by me will be considered adequate grounds for denying admission, for cancellation of registration, or for suspension from the Institute.

Student's Signature: _____ Date: _____