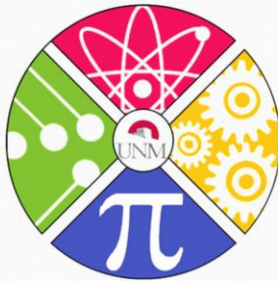


Hi. I'm Yadéeh Sawyer with the STEM Gateway program. I'm not going to get into what my program does right now because I'll get into the details of our program in a bit.

I'm going to give you a bit of information about STEM at UNM the resources available to you to make sure you succeed.

What is STEM?

- Science, Technology, Engineering, and Math



STEM stands for Science, Technology, Engineering, and Math.

If you are not going into a “STEM” field, does that mean STEM is not applicable to you? (discuss)

Absolutely not. You may just enjoy it, or know somebody who does. Or, maybe it’s only the “cool facts” or results of other people doing STEM that you like. But, a lot of what is encountered within STEM, can be applied to expanded to any field.

Why STEM?

- Because it's cool!
- Makes you more marketable
- Wide range of possible careers



Why should you stick with STEM, even if it is “hard”? (Discuss.)

(*) The obvious answer is also “because it’s cool”!

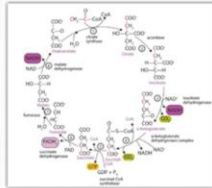
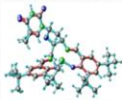
(*) Another is that it makes you more marketable, you stand out of the crowd.

(*) And the last that I’ll list is that it exposes you to a wide range of possible careers. Even if you end up in a non-STEM field, you are able to make more because of your STEM degree.

Challenges with STEM

- Feelings of not belonging
- Difficult subject matter

$$(x + a)^n = \sum_{k=0}^n \binom{n}{k} x^k a^{n-k}$$



A Computerized and On-line Super Twisting Speed Control of Alternating Current Asynchronous Machine Using Omron V3000[®] Drive

Emasad Sulakshnar, Abhishek Singhar Nivi, Mihad Mahrkandah
Department of Electrical and Computer Engineering, Bahad University of Technology, Bahad, Iran

Temporal acuity and the rate and dynamics of mass extinctions

Douglas H. Erwin¹
Department of Paleobiology, National Museum of Natural History, Washington, DC 20560-8122

many envisioned a general theory of mass extinctions driven by impacts (2). Others favored an endogenous process, identifying or-



Site-Specific Fluorescence Dynamics of α -Synuclein Fibrils Using Time-Resolved Fluorescence Studies: Effect of Familial Parkinson's Disease-Associated Mutations

Shresh Sahay¹, A. Aravog¹, G. Krishnamoorthy^{1,2,3} and Sanjay K. Mishra¹

¹Department of Bioscience and Biotechnology, IIT Bombay, Powai, Mumbai 400075, India
²Department of Chemical Science, Tata Institute of Fundamental Research, Mumbai 400005, India

There are many challenges within STEM. One of the biggest is (*) The feeling of not belonging. This is often referred to as the Impostor Syndrome. The main thing to remember about this is that YOU ARE NOT ALONE. We all feel like this at one point or another. (*) the other challenge is the STEM fields are hard. Take these titles for example (read). Underlying each of these are complex mathematical equations or concepts. But, don't let that scare you away, use it as a challenge to really understand the subject matter.

Status of STEM at UNM

- **1503** First time full-time freshman from the fall of 2005, 2006, and 2007 were tracked in this study.
- Students initially stated that they were interested in STEM degrees



29.6%



42.5%



22.2%

5.7% Still enrolled

Within UNM, the STEM Gateway program did a study where they looked at 1503 first time, full-time freshmen between the fall of 2005 and 2007. Of the students whom initially expressed an interest in obtaining a STEM Degree, what are the possible outcomes? (discuss).

(*) Right, they can Stop college all together, switch majors, or stick with it until they earn their degree. Which of these do you think had the highest percentage? And which the lowest?

(*) 43% of students changed majors, 30% dropped out, and only 22% earned their degrees. And, these extremes were emphasized within underrepresented groups.

We are here to help!

- STEM Gateway
- STEM UP
- STEM Collaborative Center
- Other STEM resources



Regardless of your degree, even if you are not STEM, remember there are resources here at UNM to help you succeed. I'm going to go over the various STEM focused programs and a few other resources.

STEM Gateway

<http://stemgateway.unm.edu/>



- Peer Learning Facilitators (PLFs)

- Undergrads who assist instructors in implementing learning
- Work with small groups to complete in-class assignments
- Hold office hours



- Fall 2015 Serviced Courses:


- MATH 153 with Precious Andrew and Derek Martinez
- MATH 162 with Derek Martinez
- CHEM 121 with Sushilla Knottenbelt
- CHEM 122 with Diana Habel-Rodriguez
- EPS 101 with Aurora Pun
- BIOC 445 with Martina Rosenberg
- BIOL 202 with Kelly Howe

The STEM Gateway program is aimed at increasing success in STEM students, specifically underrepresented groups. One of our initiatives are the Peer Learning Facilitators. These are undergraduate students who work within the classroom to assist the instructor in implementing active learning strategies. They have previously take the course, so they are familiar with the material. They also hold office hours and study sessions outside of class time.

For the Fall, the courses they are in are: (read), and there may be a few more as the semester approaches. Students who enroll in sections with PLFs do 15% better than their peers in non-PLF courses. So, if you can, if the course you are taking has PLF serviced sections, enroll in those.

STEM Gateway

<http://stemgateway.unm.edu/>



- Peer Learning Facilitators (PLFs)
- Essential Academic Skills Enhancement (EASE) Workshop Series
 - Biology, Chemistry, Math, and Engineering

Workshop
Basic Excel
Advanced Excel
Library research strategies
Advanced Library research strategies
Critical Thinking
Scientific Reading and Writing
Study Skills
Metric Conversions & Scientific Notation
Graph Review
Math Review
Problem Solving for Math

Another initiative that we started last Spring is the Essential Academic Skills Enhancement, or EASE, workshop series. The idea behind these is that there are many skills that students are expected to have, but are rarely actually taught, unless you have taken it upon yourself to take a specialized course. We don't want these skills being the reason you don't succeed in a content course. If you struggle, it should be a result of the difficult concepts and specific content, not these basic skills.

Right now these workshops are required as part of specific courses, but we can always hold a special session if the interest is there. The topics we cover are (read).

Are there any questions about the STEM Gateway program?

STEM-UP

<http://stemup.unm.edu/index.html>



- Student Education Leaders (SELs)
 - Undergraduate CNM Transfer students in STEM fields
 - Work with CNM transfer students to serve as guides, mentors, and role models.
 - Host weekly study groups for certain courses



The STEM-UP program is focused on assisting CNM to UNM transfer students. They have Student Education Leaders, or SELs, who are similar to PLFs in the sense that they hold study groups. They are familiar with the challenges transfer students face, and act as guides, mentors, and role models.

STEM Collaborative Center

<http://stem.unm.edu/>



- List-serve: go to UNM listserv management (<http://it.unm.edu/email/lists/signup.html>) and type “UNM_STEM-I” under “list name.”
- STEM University



The STEM Collaborative Center runs a listserv that will keep you in the loop with STEM events occurring on campus. They send out a weekly STEM Bulletin, so you don't have to worry about your email being flooded by spam.

The STEM Collaborative is in the early phases of their program, but plan on launching their STEM University this fall. The Listserv announce when this is out. STEM University will have many free events ranging in the level of commitment, from 1 hour to full semester. For example, this summer, they took students to various locations around NM, where students participated in data collection in caves, Bosque del Apache, and the Valles Caldera.

UNM STEM Research Opportunities

- McNair/ROP <http://mcnair.unm.edu/>
- Initiative for Maximizing Student Development (IMSD) <http://biology.unm.edu/IMSD/>
- Maximizing Access to Research Careers (MARC) <http://biology.unm.edu/MARC/>
- Research Match Database <http://research-match.unm.edu/>



There are also ample opportunities for students to get involved with research on campus. Programs that pay students to do research are the McNair/ROP program, which has positions for STEM and non-STEM fields, and the IMSD and MARC programs are housed out of the biology department, but have students involved in a broad range of research fields. The Research Match Database allows students to search for faculty who are interested in having undergraduate researchers, and positions may or may not be paid, but will get you invaluable experience either way.

Help with STEM

- CAPS
- Network and get connected



Lastly, if you need help, there are plenty of resources available to you! In addition to your professors and TA's, as well as the PLFs and SELs, you can utilize the Center for Academic Programing Support who have tutors and various workshops. And, make sure you start building your personal and professional networks now. That will be your best resource for all aspects of your success. So, make sure you get connected! As you are here in your bridge program with (AISS or AASS), or any of the other great ethnic centers or student groups here on campus.



And that does it. Do you have any questions for me?