

MTSU MSPS PROGRAM'S ENGINEERING MANAGEMENT CONCENTRATION PREPARING STUDENTS FOR THE FUTURE

Brigette Thompson, Graduate student, Masters in Professional Science; Saeed Foroudastan, Faculty, Engineering Technology; Saeed Foroudastan (Faculty Sponsor), Engineering Technology

The Masters of Science in Professional Science (MSPS) program is one of the fastest growing graduate degree programs at MTSU. At its inception the program housed concentrations in biotechnology and biostatistics. Due to the great success of the program and its graduates the program has expanded to include concentrations in actuarial sciences, geosciences, and health care informatics. One of the most recent and arguably the most beneficial additions to the program has been that of the Engineering Management concentration.

The Engineering Management concentration is designed to reinforce the ideal of the symbiotic relationship between science and industry. Engineering Management teaches students the interpersonal, management, and engineering skills needed for success in manufacturing, industry, and business. The program prepares students for careers in the management of technology and engineering in such diverse occupations as: Technology or Project Managers for Manufacturing Operations, Healthcare, Food Production, Concrete/Construction Industries, Automotive Industries, Process Control Companies, and Governmental research initiatives. The program requires students to take courses focusing on project management, safety planning, research methods, and technology trends. Additionally through the coursework offered by the Engineering Management degree the students gain credit towards their Project Management Institute (PMI) and also have the ability to gain full certification in both Lean and Six-Sigma methodologies. Certifications which are highly sought after in today's ever competitive job market.

In addition to the specific concentration courses, each MSPS concentration requires students to take core courses such as Managerial Communications, Leadership and Motivation, and Accounting and Legal Issues for Managers. Furthermore, at the heart of the professional science degree is the 250-hour internship which allows students to gain real-world working experience in an industry setting while performing a company specified project. The MSPS program and the internship process have garnered recognition both at the local, state, and national level.

MTSU MSPS GRADUATE PROGRAM'S GEOSCIENCES CONCENTRATION: RAISING THE STANDARDS FOR FUTURE GEOLOGISTS

Courtney Thompson, Graduate student, Masters in Professional Science; Saeed Foroudastan, Faculty; Saeed Foroudastan (Faculty Sponsor), Engineering

The Professional Science Masters (PSM) is an up-and-coming, two-year, interdisciplinary degree that is nationally recognized. The PSM program is designed to allow students to pursue advanced training in the sciences while simultaneously developing highly-valued business skills. A PSM degree educates students in Science, Technology, Engineering, and Mathematics (STEM) while introducing them to the logistics of the business industry behind the science. As part of the business core, students are introduced to business theories through courses in Statistics, Business Law: Legal Issues for Managers, Accounting, Management & Leadership, and Managerial Communications. The PSM program culminates in a real-world internship in a business or public-sector enterprise, where students apply what they have learned in the classroom to a scientific industry project.

At MTSU this degree takes form as the Masters of Science in Professional Science (MSPS) program. The program serves as the national model for PSM degrees and is the fastest growing program at the university. Due to the great success of the program and its graduates, the program now includes concentrations in Actuarial Sciences, Biotechnology, Biostatistics, Engineering Management, Geosciences, and Health Care Informatics. The Geosciences concentration provides training for students seeking careers as geoscientists in private industry and government agencies, as well as working professionals seeking advanced training in the geosciences. There is a high demand for well-trained and experienced geoscientists in areas such as geographic information systems and environmental geology. The goal of the Geosciences concentration is to provide each student with the knowledge, skills, and experiences necessary to secure employment as a professional geoscientist, and/or to advance into managerial positions within the profession. Students may elect to complete specializations in either Geographic Information Systems or Environmental Geosystems, or may elect to complete a general Geoscience program of studies.

STUDENT GOVERNMENT ASSOCIATION: BUILDING CIVIC ENGAGEMENT
ACROSS MTSU'S UNIVERSITY STRUCTURE

Brandon Loso, Undergraduate, History; Mary Evins (Faculty Sponsor), History-
American Democracy Project

The Student Government Association of Middle Tennessee State University is one of the most vital organizations of the university to effectively promote and further student involvement and civic engagement throughout campus. Beyond just its roles in student governance, SGA is perfectly positioned to model and promote the widest possible opportunities for student civic learning and community involvement. In recent semesters, the SGA has been working within the social activities and purposes of SGA to build stronger bridges across the student body and the local community, advancing civic learning and student engagement. Collaborations between the SGA and other student organizations on campus are initiatives to increase student leadership and community involvement and to graduate more civically engaged citizens. SGA is and should be a leader and a campus role model in this effort. My poster presentation suggests ways SGA can further collaborate with students and student organizations to increase True Blue citizenship across our campus community.

MTSU SMACS ACTIVITIES 2012 – 2013: AN UNEXPECTED JOURNEY

Bryan Donaphon, Undergraduate, Chemistry; Shikha Patel, Undergraduate, Chemistry; Jacob Basham, Undergraduate, Mathematical Sciences (McNair, Honors College); Bethany Wright, Undergraduate, Chemistry; Casondra Emmett, Undergraduate, Forensic Science; Lencie Plancher, Undergraduate, Chemistry; Gary White, Faculty, Chemistry; Andrienne Friedli, Faculty, Chemistry; Gary White (Faculty Sponsor), Chemistry

Bilbo Baggins and his SMACS friends embark on an unexpected journey through Middle Tennessee to reclaim the lost treasure from the evil dragon Smaug. The journey will be difficult and treacherous. First, Bilbo and company use scientific demonstrations and pizza to recruit SMACS allies. Then while traveling through the Misty Mountains, the hardy adventurers must find the Golden Goggles, a powerful object that allows them to attend a lecture by a distinguished scientist. After the arduous journey Baggins and the others replenish their supplies by visiting the Snack Closet. Then Bilbo and friends prepare to attack Smaug. Using advice from an undergraduate research panel they determine vulnerabilities in Smaug's armor. After a long epic fight, Smaug lies on the ground defeated. Bilbo and his friends celebrate their victory by having a picnic. Their exciting adventures are detailed in a poster for the inhabitants of the land of NOLA.

MTSU MERIT BADGE UNIVERSITY

Carla Adamson, Faculty, Mathematical Sciences

The Vision for Middle Tennessee State University (MTSU): We will be a vibrant hub for educating accomplished students who are civically engaged and globally responsible citizens; a seedbed for research and entrepreneurship; and an engine of cultural and economic development. As members of the faculty here at MTSU, we aim to recruit from the Boy Scouts these students who fit this description. Our Merit Badge University is designed to introduce Scouts from Tennessee, Kentucky, and Alabama to MTSU. They are instructed by our faculty, staff and alumni here at MTSU. The Scouts experience eating in McCallie dining hall. MTSU students also assist in some of the Merit Badges, showing what the Scouts could potentially do if they become Blue Raiders! There are many cases where Scouts come to MTSU because they attended MBU here and became familiar with the campus and faculty. After many years, we have discovered that the MTSU students will come and volunteer for MBU, so that they can give back to the community. Our purpose is to educate, recruit, and provide a service to the community. This project began under Dr. James Walker with his Vision: For faculty, staff, students & alumni to pass knowledge on to the next generation.

ADAMS CHAIR OF EXCELLENCE IN HEALTH CARE SERVICES/CENTER FOR HEALTH AND HUMAN SERVICES: FOCUS ON IMPROVING POPULATION HEALTH

M. Jo Edwards, Faculty, Adams Chair of Excellence in Health Care Services/Center for Health and Human Services; Cindy Chafin, Staff or Administrator, Center for Health and Human Services; Cindy Rhea, Undergraduate, Center for Health and Human Services; Jill Thomas, Staff or Administrator, Center for Health and Human Services; M. Jo Edwards (Faculty Sponsor), Adams Chair of Excellence in Health Care Services

The Center for Health and Human Services promotes the improvement of the health and wellbeing of Tennesseans. Through our collaborations we initiate, facilitate, and disseminate research and health-information, and conduct education and service programs designed to improve population health. Over the last ten years, the Center has been awarded over \$5.2 million in external funding to conduct a variety of public health projects:

Tennessee Anti-Tobacco Advocacy Initiative- Funded by the Tennessee Department of Health, MTSU and health-related organizations collaborate to reduce the initiation of tobacco use among youth, promote tobacco cessation, and decrease exposure to secondhand smoke.

The Allied Health Supply and Demand Study, 2010, 4th edition, promotes a well-educated health workforce with materials distributed and to life science teachers, school counselors, health care employers, academic institutions and professional organizations across middle Tennessee.

Folic Acid Every Day, funded by the March of Dimes, educated 600 girl scouts and leaders about the importance of folic acid and vitamin supplementation, as part of an overall healthy lifestyle.

Death Scene Investigation/SIDS Project - Funded by the Tennessee Department of Health, partners the Center, MTSU's University College, and Audio-Visual Services with the Tennessee State Medical Examiner and the Departments of Health and Children's Services to provide a statewide training program for investigating sudden unexpected infant and child death.

Tennessee Cancer Coalition - The Center works with the Department of Health to facilitate activities of the Tennessee Cancer Control Plan, which outlines specific strategies to prevent and control cancer in Tennessee as determined by the Tennessee Cancer Coalition, a volunteer group dedicated to reducing the burden of cancer in Tennessee.

ABC123 Healthy Kids in Tennessee - The Center and MTSU's Center for Physical Activity and Health in Youth collaborates with the Tennessee Cancer Coalition – to educate daycare/preschool providers on healthy lifestyles to decrease the risk of developing cancer and other lifestyle associated diseases and conditions.

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