

THE SCHOOL OF ENGINEERING, AVIATION, CONSTRUCTION, AND TECHNOLOGY

Dr. Michael "Sean" June, Interim Chair
Whalin Technology Complex 302
www.technology.eku.edu (<http://www.technology.eku.edu>)
(859) 622-3232

Graduate courses leading to the satisfaction of requirements for the Master of Science in Technology Management are offered by the The School of Engineering, Aviation, Construction, and Technology.

Master's

- Technology Management, Master of Science with a Concentration in Agriculture Operations (M.S.) (<http://catalogs.eku.edu/graduate/science-technology-engineering-mathematics/applied-engineering-technology/technology-management-concentration-agriculture-operations-ms/>)
- Technology Management, Master of Science with a Concentration in Construction Management (M.S.) (<http://catalogs.eku.edu/graduate/science-technology-engineering-mathematics/applied-engineering-technology/technology-management-concentration-construction-ms/>)
- Technology Management, Master of Science with a Concentration in Cyber Systems Tech Security (M.S.) (<http://catalogs.eku.edu/graduate/science-technology-engineering-mathematics/applied-engineering-technology/technology-management-concentration-cyber-systems-tech-security-ms/>)
- Technology Management, Master of Science with a Concentration in Engineering Operations (M.S.) (<http://catalogs.eku.edu/graduate/science-technology-engineering-mathematics/applied-engineering-technology/technology-management-concentration-engineering-operations-ms/>)

Certificate

- Construction Management, Departmental Certificate (<http://catalogs.eku.edu/graduate/science-technology-engineering-mathematics/applied-engineering-technology/construction-management-certificate/>)

Courses

Applied Engineering Management

AEM 706. Six Sigma Quality. (3 Credits)

A. Formerly INT 706. Prerequisite: AEM 202. A study of six sigma methodology and current practices with an emphasis on key quality drivers and statistical methods for world-class products and companies.

AEM 730. Design of Experiments. (3 Credits)

A. Formerly INT 730. Prerequisite: AEM 202. Principles and practices of efficient experiment design for industry. Topics include the philosophy of experiment design, comparison of various designs, hypothesis testing, and the analysis of data.

AEM 801. Economics for Lean Operations. (3 Credits)

A. Cost management, budgeting, accounting, capital planning, and other topics necessary for making effective economics decisions from a lean perspective. Quantitative methods and computer applications used to formulate decisions relating to operations.

AEM 802. Product Assess & Analysis. (3 Credits)

A. A study of industrial productivity; its assessment, measurement, analysis and improvements with emphasis upon human productivity, and machine, material, and process productivity.

AEM 804. Project Management. (3 Credits)

A. Elements of managing projects including the use of modern project management software.

AEM 805. Operations Research. (3 Credits)

A. Concepts and applications of analytical models in decision-making. Includes general concepts of models and simulation, linear programming, transportation and assignment problems, forecasting and network flow in determining optimal industrial strategies.

AEM 820. Industrial Technology Proposal. (3 Credits)

A. Formerly INT 820. Prerequisite: departmental approval. An individually developed proposal related to a project typically encountered by a manager in a technical environment. The project proposal is to be approved by the student's graduate advisor.

AEM 821. Industrial Technology Project. (3 Credits)

A. Formerly INT 821. Prerequisite: INT 820 or departmental approval. An individually developed project related to the solution of a typical problem encountered by a manager in a technical environment. The problem is to be approved by the student's graduate advisor and the results presented in open forum.

AEM 822. Manufacturing Internship. (3-6 Credits)

A. Formerly INT 822. Prerequisite: departmental approval. Planned and supervised experience in industry in which the students will have the opportunity to observe and participate in manufacturing management activities. The experience must be for at least one semester and the plan of activities should be approved by the student's graduate committee.

AEM 839. Applied Learning in Tech Mgmt. (3-6 Credits)

(3-6) A. Prerequisite: Departmental approval. Planned and supervised experience in industry. The experience must be for at least one semester and the plan of activities must be approved by the student's graduate committee. Minimum of 80 hours work required for each academic credit.

Construction Management

CON 824. Engin and Construct Forensics. (3 Credits)

A. Prerequisite: Departmental approval. Design, material, and ethical failures and their impacts on engineering and construction practice. Case studies will present facts including design and construction, the failure, subsequent investigation and analysis and additional issues such as technical concerns and ethical considerations.

CON 825. Airport Plan & Construction. (3 Credits)

A. Prerequisite: Departmental Approval. Basic airport planning and design topics including system and master planning, capacity, airside and passenger side planning, drainage and pavement design. Regulations in water and air pollution, carbon footprint, renewable energy, security, and sustainable development.

CON 826. Practical Construction Law. (3 Credits)

A. Construction law from the perspectives of the owner, project designers, and contractor. Analysis of "real world" practical cases. Introduction to topics including contract clauses, licensure, contractor liability, dispute resolution, lien laws, and the Miller Act.

CON 827. New Construction Entity. (3 Credits)

A. A study focused on establishing a new construction entity, which includes: selecting company type, establishing professional relationships, fulfilling federal/state mandates, developing a marketing plan and establishing a risk mitigation strategy.

CON 828. LEED Principles & Procedures. (3 Credits)

A. A study focused on understanding of the requirements and procedures for obtaining Leadership in Energy and Environmental Design (LEED) professional accreditation.

CON 829. Construction Portfolio Mgmt.. (3 Credits)

A. Prerequisites: Departmental Approval. A study for seasoned project managers responsible for complex projects and/or portfolios of construction projects. From charrette to managing project execution, enterprise-wide project management principles will be examined.

Network Security Management

NSM 815. Foundations of Network Sec. (3 Credits)

NSM 845. Advanced Server Security. (3 Credits)

A. Prerequisites: Departmental approval. Security management, planning, designing, performance tuning and troubleshooting servers for small-to-medium businesses (SMBs) and enterprises. Hardening services such as web, DNS, file, Directory, and Terminal access. 2 Lec/2 Lab.

NSM 865. Wireless & Mobile Security. (3 Credits)

A. Prerequisites: NSM 815 or departmental approval. Advanced wireless and mobile computing security consideration in small-to-medium business (SMB) and enterprise level networks: Security auditing, standards, protocols, vulnerabilities, attacks, countermeasures, network planning, management, and troubleshooting. 2 Lec/2 Lab.

NSM 895. Special Topics in NSM. (3 Credits)

A. Prerequisites: NSM 815 or Departmental Approval. Emerging technologies in the area of advanced computer networking or telecommunications security, including LAN/WAN/SAN system administration, hardware, software, virtualization, operating systems, scripting, and related industry certifications. 2 Lec/ 2 Lab.