SYSTEMS ENGINEERING

Venkat Allada, Professor
PHD University of Cincinnati
Sustainable produce development, product platform design, mass customization, product innovation, lean manufacturing, intelligent manufacturing systems, process planning supply chain management, systems engineering process and design.

Casey Canfield, Assistant Professor
PHD Carnegie Mellon University

K Chandrashekhara, Curators Distinguished Professor
PHD Virginia Polytechnic Institute
Structures and Composite Materials

Steven M. Corns, Associate Professor
PHD Iowa State University
Associate Chair of Graduate Studies. Computational Intelligence, Complex Systems, Bioinformatics, Infrastructure Systems Modeling, Autonomous Systems.

Elizabeth Anne Fargher Cudney, Associate Professor
PHD Missouri S&T
Quality, Six Sigma, Robust Engineering, and Lean Enterprise.

Cihan H Dagli, Professor
PHD University of Birmingham, UK
Systems Architecting and Engineering, Complex Adaptive Systems, Neural Networks, Fuzzy Logic, Evolutionary Programming, Nesting Problems. INCOSE Fellow, IIE Fellow

David Enke, Professor
PHD University of Missouri-Rolla
Investments, Derivatives, Options and Futures, Financial Forecasting, Trading Strategies, Hedge Funds, Endowment Investing, Financial Risk Management, Engineering Economy, Computational Finance, Computational Intelligence, Neural Networks.

Abhijit Gosavi, Associate Professor
PHD University of South Florida
Lean manufacturing, supply chain management, revenue management, simulation-optimization.

Katie Grantham, Associate Professor
PHD University of Missouri-Rolla

Sheryl Hodges, Assistant Teaching Professor
DEng Louisiana Tech University

Benjamin Kwasa, Assistant Professor
PHD Iowa State University

Suzanna K. Long, Professor
PHD University of Missouri-Rolla
Strategic management, change management, business logistics and marketing.

Robert Marley, Professor
PHD Wichita State University
Human System Integration, Ergonomics

Ruwen Qin, Associate Professor
PHD Pennsylvania State University
Real options, financial engineering, and manufacturing and service operations.

Stephen A Raper, Associate Professor
PHD University of Missouri-Rolla
Packaging engineering, operations, productivity, total quality management, packaging systems design, environmental aspects of packaging and statistical process control.

Jagannathan Sarangapani, Professor
PHD University of Texas-Arlington
Adaptive Control, Wireless Networks

Joan Barker Schuman, Associate Teaching Professor
PHD University of Southern Mississippi
Project Management and Engineering Economics.

David G Spurlock, Associate Teaching Professor
PHD University of Illinois Urbana
General Management

Zeyi Sun, Assistant Professor
PHD University of Illinois at Chicago
Energy efficiency management of manufacturing systems, electricity demand response of manufacturing systems, system modeling of cellulosic biofuel manufacturing, energy modeling and control in additive manufacturing, intelligent maintenance of manufacturing systems.

Donald C Wunsch II, Professor
PHD University of Washington
Adaptive critic designs, neural networks, fuzzy systems, surety, nonlinear adaptive control, intelligent agents, applications.

SYS ENG 5000 Special Problems (IND 1.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

SYS ENG 5001 Special Topics (LAB 0.0 and LEC 0.0)
This course is designed to give the department an opportunity to test a new course. Variable title.

SYS ENG 5040 Oral Examination (IND 0.0)
After completion of all other program requirements, oral examination for on-campus MS/PhD students may be processed during intercession. Off-campus MS students must be enrolled in oral examination and must have paid an oral examination fee at the time of the defense/comprehensive exam (oral/written). All other students must enroll for credit commensurate with uses made of facilities and/or faculties. In no case shall this be for less than three (3) semester hours for resident students.

SYS ENG 5099 Research (IND 1.0-15)
Investigations of an advanced nature leading to the preparation of a thesis or dissertation. Consent of instructor required. Prerequisite: Graduate standing.
SYS ENG 5101 System Engineering and Analysis (LEC 3.0)
The concepts of Systems Engineering are introduced through a project. Students work in virtual teams. The topics covered are architecture development, basic system architectural design techniques, functional decomposition, design and technical review objectives, and initial specifications. Prerequisite: Graduate Standing.

SYS ENG 5105 Project Management (LEC 3.0)
Organization structure and staffing; motivation, authority and influence; conflict management; project planning; network systems; pricing, estimating, and cost control; proposal preparation; project information systems; international project management. Prerequisites: Graduate standing. (Co-listed with Eng Mgt 5320).

SYS ENG 5211 Computational Intelligence (LEC 3.0)
Introduction to Computational Intelligence (CI), Biological and Artificial Neuron, Neural Networks, Evolutionary Computing, Swarm Intelligence, Artificial Immune Systems, Fuzzy Systems, and Hybrid Systems. CI application case studies covered include digital systems, control, power systems, forecasting, and time-series predictions. Prerequisite: Graduate Standing. (Co-listed with Elec Eng 5810 and Comp Eng 5310).

SYS ENG 5212 Introduction to Neural Networks and Applications (LEC 3.0)
The course provides an introduction to basic neural network architectures and their applications. Students learn to construct neural networks and train them to solve engineering problems, specifically pattern recognition and function approximation. Mathematical analysis of network architectures, training algorithms and practical applications of neural nets. Prerequisites: Graduate Standing. (Co-listed with Elec Eng 5370).

SYS ENG 5323 Wireless Networks (LAB 1.0 and LEC 2.0)
Introduction to wireless communications and networking. Topics include transmission fundamentals, wireless channel, coding techniques and error control, satellite and cellular networks, cordless systems, mobile IP and management, multiple access techniques and wireless protocols, wireless LAN, IEEE 802.11, and adhoc and sensor networks. Prerequisites: Hardware competency, Elec Eng 3420 or Comp Eng 3150 and graduate standing. (Co-listed with Comp Eng 5430 and Elec Eng 5430).