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
Human Systems Integration, Human Factors, Automation, Energy Systems, Smart Cities, Organizational Behavior, Decision Science, Risk Analysis, Risk Communication, Data Visualization, Policy Analysis, Behavioral Interventions, Program Evaluation, Implementation Science, Stakeholder Engagement.

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.

Cihan H Dagli, Professor
PHD University of Birmingham, UK
Systems Architecting and Engineering, Cyber Physical Systems, Machine Learning, Deep Learning, Computational Intelligence. INCOSE Fellow, IISE, IFPR 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.

Sheryl Hodges, Associate Teaching Professor[1]
DEng Louisiana Tech University
Program/Project Management, Financial Management, Organizational Management, Engineering/Construction.

Jinling Liu, Assistant Professor
PHD The Pennsylvania State University
Artificial Intelligence, Biomedical Informatics, Precision Medicine, Big Data Analytics, Systems Biology, Immunology, Causal Inference, Mutli-omics data.

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

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.

Javier Valentin-Sivico, Assistant Teaching Professor
PHD Missouri University of Science and Technology
Engineering Economics, Operations Management.

Donald C Wunsch II, Professor[1]
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 intersession. 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 5820).

SYS ENG 5281 Introduction to Probabilistic Risk Assessment (LEC 3.0)
An introduction to advanced techniques for assessing reliability, safety and risk in complex systems. Classification of initiating events, fault tree analysis, consequences, figures of merit, and use of probabilistic risk analysis in regulation are discussed using examples and applied through a simple case study. (Co-listed with Nuc Eng 5281).

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: Comp Eng 3150. (Co-listed with Comp Eng 5430 and Elec Eng 5430).
