

Conference Workshops

All workshops will be held in McCain Hall on the MSU campus and will include food and beverages.

Workshop 1

Title: Developing the NAE-2020 Engineer (The Composer- vs. the Conductor-Style Engineer)

Presenters: J. R. Sanders and P. E. Arce (Tennessee Tech University)
McCain Hall, Room 185; 10:00 a.m.–2:30 p.m.

Fee: \$15

This workshop will be conducted with audience collaboration and dynamic participation. Key objectives include the following:

- Description of the Characteristics of the NAE 2020 Engineering Model
- Introduction to the pedagogical driving principles behind the model
- Introduction of the key cycles in acquiring learning based on collaborative approaches: Legacy Cycle and Documentation Cycle
- Introduction of key components of innovative and creative approaches within a Group Genius Approach
- Elements of the Linear Engineering Sequence and its role in the transfer of knowledge with the purpose of innovation assessment of the different aspects involved within the methodology
- Feedback for participants interested in applying the approach.

Workshop 2

Title: Highlights of the ASCE Excellence in Civil Engineering Education (ExCEED) Workshop

Presenters: Tanya Kunberger and Robert O'Neill (Florida Gulf Coast University)
McCain Hall, Room 100; 12:00–3:00 p.m.

Fee: \$25

This workshop will highlight some of the key points of the American Society of Civil Engineering's week-long ExCEED Teaching Workshop through a combination of presentations, group discussions, and small team activities. Presentations will provide background information, while group discussion will expand on proposed concepts and team activities will apply these ideas to the participants' specific course. Upon completion of this workshop, participants will be able to: 1) describe aspects of a model instructional strategy that can be utilized in the engineering classroom to increase student engagement and enhance student learning, 2) identify various learning styles and how to teach to multiple styles within a single class, and 3) apply various organizational and instructional techniques to develop intellectual excitement and foster interpersonal rapport both in and out of the classroom.

Workshop 3

Title: Developing Spreadsheet-Based Decision Support Systems

Presenter: Sandra D. Eksioglu (Mississippi State University)
McCain Hall, Room 105; 12:00–4:00 p.m.

Fee: \$15

Decision support systems (DSS) are used to support complex decision making and problem solving. A DSS uses problem-specific, quantitative and knowledge-based models to analyze data residing in spreadsheets and/or databases. A DSS assists the user in the decision-making process through a graphical user interface. The need to teach DSS development skills to industrial engineering, operations research and business school students has been felt by many universities due to increase popularity of DSS in business and management. Our students are frequently being employed in positions that require developing DSS. Indeed, imparting DSS development skills, which combine OR skills with IT skills, will make students highly sought after in the modern workplace.

Workshop participants will learn about some of Excel extended functionalities and VBA for Excel. They will also learn about using Risk Solver Platform (RSP) to solve mathematical programs and perform Monte Carlo simulation. Finally, they will learn how to use these tools in order to build a DSS in Excel. We will provide some guidance on how to use this material in courses that teach students about building DSS. The workshop is based on the 2nd edition of the textbook [Developing Spreadsheet-Based Decision Support Systems](#), which is published by Dynamic Ideas. We will provide about 15 case studies on developing DSS, PowerPoint presentations for the entire course material and the workshop, examples for entire course and workshop material, and over 25 team projects for students to build DSS. In this workshop, participants will get an excellent jump-start to offer a full course on developing a spreadsheet-based DSS or adding some of the material to the existing spreadsheet modeling courses.