Introduction to the TUES Program (ITP)

This workshop provides an overview of the TUES Program (Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics). Program directors will present background and vision of the program. The workshop is structured for active participation where participants will reflect, think, and share individually and in small groups on answers to questions such as: What kinds of proposals are appropriate for the TUES Program? What questions could a proposal address? Program directors will share insight on TUES project components, the various types of projects, associated characteristics of each type and due dates. The differences between the former CCLI program and the TUES program will be discussed. Participants will consider standard review criteria for intellectual merit and broader impacts as well as added criteria that are specific to TUES. Additional characteristics that have been found to be critical for successful project proposals will also be considered. Among others, these characteristics include: building and motivating the work; the importance of and how to ensure the adoptability, adaptability, and/or transportability of the work; dissemination; goals; outcomes; diversity; and evaluation.

Schedule:

S112    Wednesday    March 23, 2011    11:00 am MDT

Location: 3105 MEB (Merrill Engineering Building)

To register, visit https://education.research.utah.edu/special_events.jsp

Presenters: Janis Terpenny, Susan Finger, Louis Everett, and John Yu, Engineering Program Directors

UU Facilitator: Elizabeth Johnsen
Transforming Undergraduate Education in STEM Proposal Writing Strategies Workshop

This workshop will first present data from an analysis of the engineering proposals submitted to an earlier Course, Curriculum and Laboratory Improvement (CCLI) Phase 1 competition. The data identify the most common strengths and weaknesses cited by the review panels in discussing these proposals. Following this, the workshop will explore a systematic process for converting an idea into a competitive Transforming Undergraduate Education in STEM (TUES) project. The interactive format will enable participants to develop an understanding of the data and to identify approaches for enhancing these strengths and dealing with these weaknesses as they develop their ideas. The workshop will use a series of interactive exercises in which participants first reflect on their own current understanding of the issue, then share these ideas in small groups and then again with the entire group, and finally hear an expert's opinion. Through this process, participants should develop a better understanding of the role that reviewers play in the proposal decision process; the factors that reviewers consider in processing proposals; and approaches for anticipating and responding to these factors. This will enable them both to prepare more competitive proposals for NSF's education programs and provide them with a broader perspective on writing successful proposals.

Schedule:

S113           Wednesday     March 30, 2011            11:00 am MDT

Location: 1850 WEB (Warnock Engineering Building)

To register, visit https://education.research.utah.edu/special_events.jsp

Presenters: Russ Pimmel, Janis Terpenny, Susan Finger and John Yu, Engineering Program Directors

UU Facilitator: Elizabeth Johnsen

Project Evaluation Workshop

The goal of this workshop session is to prepare engineering faculty members to work with an evaluator to plan and implement an effective evaluation of an education research or development project. In pursuit of this goal, the session intends to increase the participants' awareness of the role of goals and outcomes in the evaluation process, of the nature of the cognitive and affective outcomes, and of evaluation tools for monitoring these types of outcomes. The session consists of a series of small group activities using a think, share, report, and learn format. In this format, group member first reflect on their own current conceptual understanding of the issue, then share these ideas in small groups and then again with the large goals, objectives, and outcomes in project evaluation, (2) evaluating cognitive outcomes, (3) interpreting evaluation data, (4)
evaluating affective outcomes, (5) writing an evaluation plan for a proposed project, and (6) working with an evaluator. The workshop is intended for faculty members who are either seeking external support for educational research and development projects or are engaged in efforts to improve the educational experience of their students.

Schedule:

S116    Thursday    April 7, 2011    11:00 am MDT

Location: 1850 WEB (Warnock Engineering Building)

To register, visit https://education.research.utah.edu/special_events.jsp

Presenters: Janis Terpenny, Susan Finger, Louis Everett, and John Yu

UU Facilitator: Eric Eddings, Assoc. Dean for Research, College of Engineering

Mock Panel Review Workshop

This workshop will engage the participants in a mock panel review of an actual proposal submitted to the Course, Curriculum and Laboratory Improvement (CCLI) or Transforming Undergraduate Education in STEM (TUES) Program. Participants will be required to read the proposal in advance and prepare an individual review identifying the strengths and weaknesses of the proposal in accordance with the NSF Review Criteria. The participants will also be requested to rate the proposal in accordance with the NSF Rating System and provide recommendations for improvement. During the workshop session, the individual participants will form into review panels of 3-5 persons. They will then be asked to discuss various elements of the proposal (e.g., Project Summary, Goals and Outcomes, Work Plan, Dissemination Plan, Evaluation Plan, and Broader Impacts) and, in each case, identify strengths and weaknesses and suggest ways to strengthen that particular element of the proposal. After this discussion, selected local workshop sites will be called upon to report their findings to the larger group of participating institutions. Following these reports, the workshop presenter will discuss the findings of the NSF/DUE Engineering Program Directors. In addition, Q&A opportunities will be afforded throughout the workshop.

Schedule:

S118    Thursday    April 14, 2011    11:00 am MDT

Location: 1850 WEB (Warnock Engineering Building)

To register, visit https://education.research.utah.edu/special_events.jsp

Presenters: Russ Pimmel, Louis Everett, and Don Millard, Engineering Program Directors

UU Facilitator: Eric Eddings, Assoc. Dean for Research, College of Engineering
The Scholarship of Teaching and Learning (SoTL) is receiving increased attention in higher education and many faculty members are embracing more scholarly approaches to teaching and learning. The purpose of this workshop is to explore the levels of the Hutchins and Shulman (1999) continuum from Teach as Taught to the Scholarship of Teaching and Learning, and especially considering what is involved at each of the levels and approaches faculty can take to advance their level of scholarship and support SoTL activities locally.

<table>
<thead>
<tr>
<th>Levels of inquiry in engineering education</th>
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<tbody>
<tr>
<td><strong>Level 0</strong> Teacher</td>
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<tr>
<td>– Teach as taught (“distal pedagogy”)</td>
</tr>
<tr>
<td><strong>Level 1</strong> Effective Teacher</td>
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<tr>
<td>– Teach using accepted teaching theories and practices</td>
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<tr>
<td><strong>Level 2</strong> Scholarly Teacher</td>
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<tr>
<td>– Assesses performance and makes improvements</td>
</tr>
<tr>
<td><strong>Level 3</strong> Scholar of Teaching and Learning</td>
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<tr>
<td>– Engages in educational experimentation, shares results</td>
</tr>
<tr>
<td><strong>Level 4</strong> Engineering Education Researcher</td>
</tr>
<tr>
<td>– Conducts educational research, publishes archival papers</td>
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</tbody>
</table>


Schedule:

S11B Tuesday April 5, 2011 11:00 am MDT

Location: 802 WBB (William Browning Building)

To register, visit [https://education.research.utah.edu/special_events.jsp](https://education.research.utah.edu/special_events.jsp)

Presenter: Karl Smith, University of Minnesota and Purdue University

UU Facilitator: Elizabeth Johnsen
The two-part workshop is focused on executing a Type 1 project to prepare for a Type 2 proposal and the elements of a competitive Type 2 proposal with an emphasis on the broader impacts. While it is certainly not necessary to receive a Type 1 award prior to receiving a Type 2 award, competitive Type 2 proposals tend to need to show results comparable to those that might be expected from a successful Type 1 project. This workshop is an abridged version of a day and a half workshop run at the University of Texas at El Paso in August 2010 that focused on preparing more competitive Type 2 TUES proposals.

Schedule:

S11C- Part 1       Tuesday       April 26, 2011       11:00 am MDT

Location: 1850 WEB (Warnock Engineering Building)

To register, visit [https://education.research.utah.edu/special_events.jsp](https://education.research.utah.edu/special_events.jsp)

Presenter: Steve Cooper, Stanford University

**UU Facilitator: Elizabeth Johnsen**

The two-part workshop is focused on executing a Type 1 project to prepare for a Type 2 proposal and the elements of a competitive Type 2 proposal with an emphasis on the broader impacts. While it is certainly not necessary to receive a Type 1 award prior to receiving a Type 2 award, competitive Type 2 proposals tend to need to show results comparable to those that might be expected from a successful Type 1 project. This workshop is an abridged version of a day and a half workshop run at the University of Texas at El Paso in August 2010 that focused on preparing more competitive Type 2 TUES proposals.

Schedule:

S11C- Part 2       Thursday       April 28, 2011       11:00 am MDT

Location: 1850 WEB (Warnock Engineering Building)

To register, visit [https://education.research.utah.edu/special_events.jsp](https://education.research.utah.edu/special_events.jsp)

Presenter: Steve Cooper, Stanford University

**UU Facilitator: Elizabeth Johnsen**