About the program

Engineering Leadership and Innovation Program Mentor Guide

Thank you for participating as a mentor in the Engineering Leadership and Innovation program. We hope you find the mentor relationship to be both fulfilling and enlightening. The purpose of this guide is to provide an overview of the program and requirements of mentors.

Program description

The Kansas State University College of Engineering program, Engineering Leadership and Innovation, or ELI, was developed in response to alumni feedback, corporate discussions, government initiatives and opinions of professional societies that a need exists for technical leaders with a broad understanding of how engineering is practiced in a rapidly changing business environment. The complexity of problems facing today’s industries requires leaders with both technical and team management skills to solve complex problems that require careful assembly of the social, ethical, political, economic, business and engineering pieces.

The ELI program will prepare engineering students for potential leadership roles in these types of dynamic environments. Participants enter the four-semester program in their junior year, and will receive a scholarship to take leadership and business courses, learn from an industry mentor, meet with industry leaders and practice hands-on leadership within a creative inquiry team.
Program goals

Vision
The College of Engineering ELI program will prepare exceptional engineering students for potential leadership roles in organizations that will flourish in a dynamic business environment operating under complex social, ethical, political, economic, business and engineering factors.

Mission
The ELI program will —

- Equip students with the skills and confidence needed to lead real-world engineering projects.
- Strengthen students’ classroom learning through a leadership practicum on a creative inquiry team.
- Help students build a realistic career plan directed toward engineering management.
- Build students’ appreciation of nontechnical factors that affect technical decisions.

Approach
We will teach participants business and leadership theory through coursework, and define a personal leadership development path for each participant through conversations with mentors. Participants will then create and implement innovative solutions on creative inquiry teams. They will document their leadership journey using standard measurement tools interpreted in collaboration with the mentors.
Program elements

Primary program elements are as follows:

- Coursework in leadership and business
- Leadership practice
- Relationship with an industry mentor
- Corporate partner interactions
  - On-site facility tours
  - On-campus corporate events
- Leadership portfolio
  - Leadership development plan
  - Leadership report (junior year)
  - Leadership essay (senior year)
  - Reflections, photos and plans
- Evaluation of skills development
- Scholarship of $3,000 per year
Role of a mentor

Participants will be assigned to a mentor group comprised of an industry mentor from one of the K-State College of Engineering’s corporate partners and ELI participants. The group will serve as the connection point of mentors and mentees. The goal of this component of the program is to help ELI participants learn the tacit aspects of engineering practice. Mentors will devote six hours per semester (two hours per month) to interacting with the mentees in their mentor group via email, phone, video chat or face-to-face meetings.

Each mentor will guide and organize her or his mentor group (mentor + ELI participants). Primary responsibilities are as follows:

- Organize regular contact with the group, at least monthly.
- Guide leadership exploration exercises. The leadership report is meant to be starting point of the mentor-mentee relationship. The mentor will use this as the opportunity to tell the mentees about her or his own leadership journey.
- Coach mentees as they respond to the leadership assessment reports. The role of the mentor is to help mentees face candid evaluation while challenging them to undertake constructive personal reflection.

Leadership report

During the first semester in the program, each mentor group will select a biography or autobiography to read and use for their leadership report. Each mentee will then write a two-page reflection on that leader’s style, challenges and personal characteristics. The activity provides the opportunity for the participants to ask the industry mentor about experiences and his or her own leadership style.

Action Items

- Advise your mentor group in the selection of a biography or autobiography and provide direction to the group on completion of the leadership report (fall semester, junior year).
- Provide feedback on the completed leadership reports (fall semester, junior year).
Leadership development plan

Participants will document their career goals and plan leadership activities throughout the program. During the first semester, participants will meet with their mentor group to prepare a set of goals and planned activities such as running for office on a creative inquiry team or student organization. At the start of each subsequent semester, participants will highlight successes and respond to challenges during the previous semester. Participants’ leadership development plans will then be updated for the coming semester. This activity affords the opportunity for the mentor to actively help the mentee set realistic goals and evaluate progress towards these goals. Feedback from the mentor will be especially helpful in setting realistic career goals.

Action Items

- Provide direction and feedback on the creation of the leadership development plans – (fall semester, junior year).
- Provide direction and feedback on revised leadership development plans (spring semester junior year, fall and spring semester senior year).

Evaluation of skills development – Student Leadership Practices Inventory

The Student Leadership Practices Inventory, or Student LPI, is a commercial tool sold by Wiley under the Leadership Challenge brand. “Applying the proven principles of Kouzes and Posner’s acclaimed Practices of Exemplary Leadership® model, the Student LPI enables individuals and organizations to measure their leadership competencies and act on their discoveries. Leaders will gain deep insight into how they see themselves as leaders, how others view them, and what actions they can take to improve their effectiveness” [LPI Overview]. This helps students determine actions that will improve their leadership skills. Measurement is made against the Five Practices leadership model, which says leaders will —

- Model the Way
- Inspire a Shared Vision
- Challenge the Process
- Enable Others to Act
- Encourage the Heart

Students will use the Student LPI in two ways —

- Self-assessment in which the ELI participant answers a set of questions about her or his own interests and attitudes.
- 360° assessment in which the ELI participant answers a set of questions about his or her own interests and attitudes, and can select team members, mentors, instructors, etc. to answer the same questions. The survey consists of self and observer questionnaires and can be used by unlimited observers, in order to get rich and useful feedback on the frequency of one’s leadership behaviors.

Each ELI participant will take the self-assessment at the start of the program and at the start of the second year. After taking each self-assessment, the participant will write a response to the assessment and share both the report and response with their mentor. Mentors will provide feedback and coach the participants as they respond to the leadership assessment reports. The role of the mentor will be to help mentees face candid evaluation while challenging them to undertake constructive personal reflection.

Participants will take the full 360° assessment in the last semester of the program. Mentors (and mentor group members) will receive an email with a link to each participant’s 360° assessment. Mentors will then answer the 30 question assessment for each participant in their mentor group. Once all of the assessments have been submitted, the Program Administrator will provide a copy of the 360° individual feedback report and a reassessment report that compares the participant’s most recent 360° scores with the scores from their previous self-assessments.

**Action Items**
- Provide feedback on mentee's response to the self-assessment report (fall semester, junior and senior year).
- Submit observer assessment of mentee (spring semester, senior year).
- Provide feedback on 360° individual feedback report and reassessment report.

**Leadership essay**

The culmination of the program is the leadership essay. Participants will work with their mentor groups to summarize and interpret their leadership activities throughout the ELI program to develop a five-page leadership essay. As one component, participants will respond to leadership evaluations performed within their creative inquiry teams or student organizations.

**Action Item**
- Provide direction and feedback on the leadership essay (spring semester, senior year).

**ePortfolio**

Students will use the ePortfolio module in K-State Online to document their leadership journey. Students will post their leadership report, Leadership development plan, leadership essay, Student LPI reports, reflections, photos and plans throughout the ELI program into their ePortfolio. Mentors will have access to each participant's ePortfolio and will be able to provide comments directly onto the ePortfolio website.

**eID**

All ELI program mentors are required to have an eID. The eID serves as the K-State user name, becomes part of the user's K-State email and is used to access K-State Online (Canvas). Mentors will receive an email with instructions on how to register for an eID at the start of the program.

**Action Item**
- Register for eID (start of program).
Fall

☐ Register for an eID.

☐ Provide direction and feedback on Student LPI self-assessments (juniors and seniors).

☐ Provide direction and feedback on leadership report (juniors).

☐ Provide direction and feedback on leadership development plan (juniors and seniors).

Spring

☐ Provide direction and feedback on leadership development plan (juniors and seniors).

☐ Submit observer assessment for the 360° assessment (seniors).

☐ Provide feedback on 360° feedback report and reassessment report (seniors).

☐ Provide direction and feedback on leadership essay (seniors).

Questions or comments

If you have questions or comments concerning the Engineering Leadership and Innovation program, please contact Dr. Ronaldo Maghirang at -785-532-2908 or rmaghir@k-state.edu.
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