

# WEIDMAN CENTER

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## BYU ENGINEERING

### BYU Engineering Leadership Certificate Program

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## Purpose

The BYU Engineering Leadership Certificate is an opt-in program that prepares students to be leaders in engineering contexts, and in their homes, churches, and communities by supporting their development of the Weidman Center Global Leadership Competencies.

## Instructions

### Step 1: Apply

- **Must apply and get admitted before starting program requirements**
- **Qualifications:**
  - BYU students of any major housed in the Ira A. Fulton College of Engineering
  - Sophomores or Juniors enrolled in 200-level or above major courses
  - Seniors or Graduate students with two academic years left in their program or a viable plan to finish six weeks before graduation
  - 3.0 cumulative GPA or above
- **Keep a copy of your application response questions for reflection at end of program**

### Step 2: Complete Leadership Certificate Requirements 1-3

- **Requirement Details:** See “Leadership Certificate Requirements” section
- **Deadlines**

Requirement	Due Date
Leadership Book Reflections	3 weeks after reading the book
Workshop Surveys	2 days after attending the workshop
Experience Reports	3 weeks after experience is finished

### Step 3: Complete Exit Survey and Interview

- **Exit Survey:** Available on the Learning Suite Community Exam tab
- **Interview:** Email [global-leadership@byu.edu](mailto:global-leadership@byu.edu) to coordinate, subject line: Schedule LC Exit Interview
- **Final Program Deadline:** Six weeks prior to your graduation

## Leadership Certificate Requirements

*Location of Proposals, Reflections, Surveys, and other content:* Learning Suite – BYU Engineering Leadership Certificate Community

*Requirement order:* Requirements are initiated and completed by you at your own pace and in any order you choose

### Requirement 1: Leadership Books

- **Read two leadership books and complete its corresponding reflection**
  - Select books from the Approved Book list or submit a Book Proposal for approval. *Please choose a book you have not previously read*
- **Deadline - Leadership Book Reflections:** Three weeks after reading the book
- **Questions on the Leadership Book Reflection** – See [Appendix A](#)

### Requirement 2: Leadership Workshops

- **Attend all five Weidman Center sponsored workshops and complete the corresponding survey.** *Please note that the Leverage your Strengths workshop also includes a Clifton Strengths assessment and an in-person mentoring session*
- **Deadline to complete a workshop's survey:** Two days after attending
- **Workshops:**
  1. [Recognize & Reduce Unconscious Bias](#)
  2. [Becoming an Expert Problem Solver](#)
  3. [Leverage Your Strengths](#)
    - *Prior to the workshop: Complete the Clifton Strengths Assessment. We will provide the info and pay the fee*
    - *After the workshop:*
      - *Complete the survey*
      - *Schedule and attend an in-person mentoring session with a college strengths coach*
  4. [Creating Collaborative Environments](#)
  5. [Crucial Conversations](#)
- **Questions on Workshop Survey-** See [Appendix B](#)

### **Requirement 3: Engineering Experiences**

*Experiences are the setting where leadership and technical skills are practiced and honed. The goal of this requirement is for you to have transformative experiences, those that will challenge and push you outside your comfort zone as you apply and develop new leadership and technical skills.*

- **Complete two experiences, their corresponding report or presentation, and submit 4 to 5 experience outcomes**
- **Experience Approval** - The experience must be approved before you begin. Submit an Experience Proposal to receive approval
- **Information and Qualifications**
  - You are responsible for anything associated with enrollment and participation in the experience
  - Each experience needs to be in an engineering context
  - Each experience needs to have components associated with each Weidman Center Leadership Competency – See [Appendix C](#)
  - Time commitment: Minimum of 30 hours completed within 15-weeks (one semester). The experience can be longer, but no longer than 12 months.
  - Experiences and Class Credit: One experience can be tied to certain class credit; such as an engineering capstone class, engineering study abroad program, technical elective credits associated with engineering research assistant and internship positions, competition teams, etc.
  - Experience Examples: See [Appendix D](#)
- **Rubrics – Verbal Presentation and Written Report**
  - Experience 1 – Verbal presentation rubric. See [Appendix E](#)
  - Experience 2 - Written Report rubric. See [Appendix F](#)
- **Deadline for Experience Report or Presentation:** *Three weeks* after experience is finished
- **Experience Outcomes:** For each experience, submit 4-5 specific, measurable outcomes that you would be able to include in a future résumé. These will go in your culmination letter when you graduate from the program. See [Appendix G](#) for an example.

### **Leadership Certificate Awards & Regalia**

- **Milestone Award:** \$400 will be awarded upon completion of one Experience, one Leadership Book, and half of the workshops (three workshops or the Leverage your Strengths workshop requirements plus one other workshop)

- **Completion Award:** \$600 will be awarded upon completion of the remainder of the program, including the Exit Survey and Interview
- **Printed Culmination letter and Leadership Certificate:** Upon program completion, students will receive a printed culmination letter and Leadership Certificate for their portfolio
- **Graduation Regalia:** The College of Engineering Leadership Certificate medallion may be worn at the April college graduation ceremony. Students who want to wear it at graduation must complete all program requirements six weeks prior to the April graduation date.

## Appendix A: Leadership Book Reflection Survey

### Book Overview:

1. Name of Leadership Book:
2. Author(s):
3. Number of pages:
4. Start Date:
5. End Date:
6. Did you read the entire book?
  - a. Yes
  - b. No

### Detailed Reflection:

1. Give a brief overview of the book, describing its focus or main message(s). (3+ sentences)
2. What was the most impactful part of the book for you and why? (5+ sentences)
3. How does the book's impact (see question above) relate to one or more of the Weidman Center Leadership Competencies? (7+ sentences)

### Actionable Insights:

1. As a result of this book, what is one thing you will START?
  - a. Include a specific example of what change you will make. (5+ sentences)
2. As a result of this book, what is one thing you will CONTINUE?
  - a. Include a specific example of what you do in your life now. (5+ sentences)
3. As a result of this book, what is one thing you will STOP?
  - a. Include a specific example of what change you will make. (5+ sentences)

### Leadership Development Rating:

- This book teaches leadership skills in an exceptional way!  
*Strongly agree – Agree - Neither agree/disagree – Disagree - Strongly disagree*
- This book teaches how to apply leadership skills in your life effectively!  
*Strongly agree – Agree - Neither agree/disagree – Disagree - Strongly disagree*
- Would you read this book again? Why? (3+ Sentences)

## Appendix B: Workshop Survey

Did you participate in the workshop for the full 45 minutes?

- a. Yes
- b. No

Reflection:

- 1. As a result of this workshop, what is one thing you will START?
- 2. As a result of this workshop, what is one thing you will CONTINUE?
- 3. As a result of this workshop, what is one thing you will STOP?

How was the delivery of the workshop's content in regards to it being clear, relevant, inspiring, and applicable?

What was the most impactful part of the workshop for you and why?

## Appendix C: Global Leadership Competencies

Words like “leadership” and “global competence” have a wide range of meanings. By leadership we mean leadership qualities, not simply position. By “global” we mean a mindset where students understand, respect, and work together as equal partners with people who look, think, and act differently than they do. By focusing on specific student attributes, we will be able to have more significant impact. As we use the Weidman Center resources, we will focus on providing opportunities that will help students achieve the following understanding and skills:

- **Exceptional Problem Solving:** Students must develop an understanding that excellent problem- solving skills are the core of good leadership skills, recognizing that the problems may focus on technical, personnel, or business issues. They must develop the ability to diagnose and articulate problems and learn processes for working through a range of ideas to identify solutions that match constraints. Using proven processes will help ensure that solutions are thorough, ethical, accurate, and complete. They must also be prepared to appreciate how global considerations impact problem solving, such as the types of technical solutions appropriate for a given region or the interpersonal dynamics created by cultural differences.
- **Effective Teamwork:** Students must be adept at the management of self in team settings, in facilitating the development and contributions of others, and in the skills of organizational effectiveness. They must develop an awareness of their

own approach to problem solving, appreciation for the approaches of others, and the emotional intelligence to navigate the dynamics that result from different approaches. Students will learn best practices to increase respect, belonging, and collaboration within teams. They must appreciate how cultural and socio-economic drivers change team dynamics and how international teams effectively interact. Students should also develop an understanding of the differences between leading and participating on a team.

- **Clear Oral and Written Communication:** Students must develop communication skills in preparation for both graduate education (scientific writing, professional presentations) and business environments (understanding how to appropriately work with colleagues to get a point across, clearly explaining perspectives, writing to secure approval for resources from management, and communicating clear expectations). Student preparation will also include active listening, navigating difficult conversations, receiving and giving constructive feedback, and communicating in light of language barriers and cultural sensitivities. While single lectures or other similar opportunities that teach students other aspects of leadership and global competence are appropriate, our sustained programs will focus on these core areas.

## **Appendix D: Engineering Experience Examples**

*Note: Approval is required for each experience, including those listed. Submit a proposal to start the approval process.*

- Engineering club competition teams
- Capstone class project
- Engineering internships
- Conferences involving the student giving verbal presentations or participating in a competition
- Research assistant
- Engineering related teaching assistant
- BYU Student Innovator of the Year (SIOY) competition
- Undergraduate research poster session or competitions
- College of Engineering sponsored international experience (study abroad & international internships)
- Other experiences are possible, please submit a proposal

## Appendix E: Engineering Experience 1 - Verbal Presentation

### Visuals:

- Photos: Submit at least two meaningful, high-quality photos (150 dpi or higher) taken during the experience to include in your presentation slides
- Video Clip: If possible, record and submit 2-3 minutes of video to include in the presentation. For example, your prototype competing at a conference, part of your team presentation at a conference, or your team building your prototype

**Schedule the presentation:** Email [global-leadership@byu.edu](mailto:global-leadership@byu.edu) to coordinate, subject line: LC presentation request

**Deadline:** Three weeks after experience is finished

### Rubric:

- Formatting:
  - PowerPoint or similar visual aid
  - Length: ~ 8-12 minutes
- Title Slide:
  - Name of engineering experience
  - Start date – End date
  - Hours per semester spent on experience
  - Team member's names (if applicable)
- Introduction (~ 2-3 minutes): Briefly state what your experience was, a general overview of the experience, your tasks and responsibilities, and any project or product that was a result
- Suggested Talking Points (~ 8-10 minutes):
  - Share your development of each leadership competency, exceptional problem-solving, effective teamwork, and clear communication. Include what you identified in the proposal and mid-survey as strengths and weaknesses, new things learned, and challenges overcome
  - How will you incorporate what you have learned in your life? What leadership skills do you want to improve in your future?
- Q&A: There will be a short Q&A at the end of your presentation

## Appendix F: Engineering Experience 2 - Written Report

### Visuals:

- Photos: Submit at least two meaningful, high-quality photos (150 dpi or higher) taken during the experience and to include in the report
- Video Clip: If possible, record and submit 2-3 minutes of video footage. For example, your prototype competing at a conference, part of your team presentation at a conference, or your team building your prototype



**Report proofreading and feedback:** A visit to the BYU Research and Writing Center is required. Please incorporate their feedback into your report prior to submission. Schedule an appointment using this link: [BYU RWC](#)

- Bring a copy of the written report rubric to your session.
- Please include these in your RWC appointment form:
  - Select a time: synchronous or asynchronous
  - Click to notify instructor: Nicole Stewart, using the email: [global-leadership@byu.edu](mailto:global-leadership@byu.edu)

**Deadline:** Three weeks after experience completion

**Rubric:**

- **Formatting:**
  - Double space
  - Length: 7-8 pages
  - 12 pt font
  - Calibri, Ariel, or Times New Roman
- **Title Page:**
  - Name of engineering experience
  - Team member's names (if applicable)
  - Start date – End date
  - Hours per semester spent on the experience
- **Introduction:**
  - ~½+ page
  - Overview of the experience and outcomes
- **Reflection – Exceptional Problem Solving:**
  - 2 pages
  - Share your development of the Exceptional problem-solving leadership competency. Incorporate what you identified in the proposal and mid-survey as strengths and weaknesses, new things learned, and challenges overcome
- **Reflection – Effective Teamwork:**
  - 2 pages
  - Share your development of the Effective teamwork leadership competency. Incorporate what you identified in the proposal and mid-survey as strengths and weaknesses, new things learned, and challenges overcome
- **Reflection – Clear Oral and Written Communication:**
  - 2 pages
  - Share your development of the Clear oral and written communication leadership competency. Incorporate what you identified in the proposal and mid-survey as strengths and weaknesses, new things learned, and challenges overcome
- **Future Plan:**
  - ~½+ page
  - How will you incorporate what you have learned in your life?
  - What leadership skills do you want to improve in your future?

## Appendix G: Engineering Experience - Measurable Outcomes Example

Experience: **Math 113 - Calculus Teaching Assistant**

Outcomes:

- Prepared and taught 30 lesson plans for a recitation class of 40 students
- Assisted with 45 lectures
- Empowered other students to analyze and solve problems on their own
- Learned to quickly assess whether student questions were lacking understanding of the specific topic or foundational principles; addressed accordingly