

Student Capstone Manual

Seattle University College of Science and Engineering



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Introduction

Welcome to the College of Science and Engineering Capstone Manual for Seattle University!

As you embark on this critical component of your STEM education, this manual will serve as your comprehensive guide to navigating your capstone project. This project is not only the culmination of your academic journey but also an opportunity to embody the Jesuit values that define Seattle University's mission.



Purpose and Objectives

The STEM Capstone project is designed to integrate and apply the knowledge and skills you have developed throughout your studies to address real-world challenges. This experience provides a platform for demonstrating your technical expertise while also fostering the Jesuit principles of service, ethics, and social responsibility. Through collaboration with industry partners and community organizations, you will work towards innovative solutions that have a meaningful impact on society.

What to Expect

This manual provides you with comprehensive guidance on Project Center support regarding budget and purchasing, deliverables and Projects Day preparation.

Getting Started

Begin by thoroughly reviewing this manual and your course syllabus. Understanding the expectations and utilizing the resources provided will be crucial to your project's success. This information will also be available on the intranet and the Project Center Canvas page, which you can opt into here: <https://seattleu.instructure.com/courses/1618230>

We are eager to support you through this transformative experience and look forward to seeing the innovative solutions you will develop. May your capstone project be a testament to both your personal growth and the enduring values of Seattle University.

Best of luck, and may your journey be both challenging and rewarding!

Sincerely,

Seattle University Project Center Team

Project Center Directory

Project Center Staff

BANN 344

projectcenter@seattleu.edu

Carolina Delgado-Ruiz	Senior Administrative Assistant	cdelgado-ruiz@seattleu.edu
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Rachael Brown	Director	brownra@seattleu.edu

Departmental Contacts

Civil and Environmental Engineering

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Computer Science

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Data Science

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Electrical and Computer Engineering

Shiny Abraham, PhD	Project Coordinator	abrahamash@seattleu.edu
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Mechanical Engineering

Teodora Shuman, PhD	Project Coordinator	teodora@seattleu.edu
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Project Center Important Dates

PROJECT CENTER DUE DATES

Due Date	Deliverable	Details
09/30/24	Project Room Form, Photo Release Form, Exhibit D	Forms available on Student Resources Intranet page ; submit electronically.
11/17/24	Project Photos	Submit photos showcasing your project progress.
03/2025	Project Paragraphs	See syllabus for specific date; follow the provided template, ensure sponsor approval.
03/03/25	Additional Project Photos	Update with new images reflecting recent developments.
05/14/25	Projects Day Posters	Template available; ensure sponsor approval.
05/21/25	Projects Day 1-Minute Videos	Create a brief promotional video for Projects Day and ensure sponsor approval.
Before 06/14/25	Final Deliverables (Reports, etc.)	Ensure all final reports and deliverables are submitted.

PROJECT CENTER EVENTS

Date/time	Event	Location
9/30, 3:40-5:30pm	Fall Workshop	Campion Ballroom
10/14, 3:40-5:30pm	Joint Session 1	STCN 160
10/28, 3:40-5:30pm	Joint Session 2	Campion Ballroom
11/18, 3:40-5:30pm	Joint Session 3	STCN 160
5/27/25 to 6/5/25	Projects Day Practice Sessions	Sullivan Law School
6/6/25, 8am-6:30pm (Event is 12-6pm, other time is for setup and tear down)	Projects Day	Sullivan Law School

Project Center Processes, Budget Instructions and Forms

Instructions To Fill out and Submit Forms Electronically

All forms should be filled out, signed, and submitted electronically to the Project Center via email at projectcenter@seattleu.edu.

To obtain the form:

1. **Visit:** [Student Resources Intranet page](#)
2. **Download:** Save the appropriate form to your desktop.
3. **Open:** Use Adobe Acrobat to open the file directly from your desktop.

IMPORTANT NOTE: For digital signatures, forms must be downloaded and opened with Adobe Acrobat to ensure proper functionality.

Project Budget

Initial Team Budget

Each team must submit an Initial Team Budget to outline projected costs, including supplies, equipment, subscriptions, shipping, and taxes.

Guidelines:

- **Categories:** Classify expenditures into project supplies, capital equipment, mileage/travel, and miscellaneous expenses.
- **Exclusions:** Do not include conference/competition travel costs, overnight shipping, basic office supplies, on-campus parking, team-building activities, food purchased within 50 miles of campus, or alcohol.
- **Tracking:** Monitor your budget throughout the year and discuss discrepancies with the Project Center.
- **Approval:** Obtain approval from your Faculty Advisor and the Project Center Director before making purchases. Submit any budget changes via the Increase of Team Budget Request form.

Submit the Initial Team Budget Request form by the deadline specified in your syllabus.

[Initial Team Budget Request Form](#)

Increase of Team Budget

Submit an Increase of Team Budget Request form in writing if your budget needs adjustment. Provide reasons such as budget depletion or a change in expense categories.

Guidelines:

- Include items not listed in the initial budget.
- State the total increased budget (e.g., from \$500 to \$700).

Approval: Ensure this form is approved by your Faculty Advisor and Project Center Director before making any purchases.

[Increase of Team Budget Request Form](#)

Parking On-Campus for Visitors

To secure parking for non-SU visitors working with your project team, request parking at least 3 days in advance.

To request parking:

Email projectcenter@seattleu.edu with:

- Team Number
- Date and time of parking needed
- Guest(s) name(s)
- Number of passes
- Reason or title of meeting

Note: On campus parking is not covered for SU faculty and students.

Purchasing Instructions

Physical Items:

- Complete and submit a ProcureSU Purchase Request form at least 10 business days before items are needed.
- Include item details and approvals from your Faculty Advisor.

Software/Subscriptions:

- Use the ProcureSU Purchase Request form and schedule a purchase time with the Project Center Assistant.
- Submit a receipt monthly and cancel subscriptions after project completion.

Guidelines:

- Order through ProcureSU approved vendors.
- Purchases are property of the Project Center and must be returned at the end of the year.

[ProcureSU Purchase Request Form](#)

Reimbursement Instructions

Supply Reimbursements:

- Reimbursements are rare and only for minimal supplies bought when the Project Center is unavailable.
- Submit requests within 30 days, including itemized receipts and proof of payment.

Travel Reimbursements:

- **Local Travel:** Generally not reimbursed unless frequently required. Use sustainable options like mass transit.
- **Outside Local Area:** Reimbursed at 67 cents per mile. Carpool and limit drivers to two per trip.
- **Shared Use Mobility Options (SUMO):** Ridesharing and car sharing may be used. Tips for rideshare services are capped at 20%.
- **Van Rentals:** Register drivers with Public Safety and complete a Vehicle Rental Contract through the Project Center.
- **Overnight Travel:** Must be approved 2 weeks in advance. Use university vans or mass transit, and reserve refundable hotel rooms.

Submit reimbursement requests using the General Reimbursement form or the Mileage Reimbursement form

[General Reimbursement Request Form](#)

[Mileage Reimbursement Request Form](#)

Projects Day Preparation and Deliverables

Projects Day is coming soon! This is your opportunity to showcase your capstone work from the Project Center program. Highlight your designs, demos, and presentations. Be ready to discuss your process, challenges, and successes. This event lets you display both technical and communication skills to sponsors and potential employers. Show your passion and ability to create real-world solutions. Share your achievements with sponsors, faculty, and peers.

This section includes information on:

- Deliverables Summary and Deadlines
- Project Photos
- Project Paragraph Instructions and Example
- Projects Day Posters Instructions
- Projects Day Video Assignment Instructions
- Presentation Practice Sessions and Project Display Instructions
- Final Reports and Final Deliverables

Deliverables

Your teams will have several deliverables throughout the academic year. Follow your department's course syllabus and the Project Center calendar for deadlines for all submissions.

Important Deadlines

Due Date	Deliverable	Details
03/2025	Project Paragraphs	See syllabus for specific date; follow the provided template, ensure sponsor approval.
03/03/25	Additional Project Photos	Update with new images reflecting recent developments.
05/14/25	Projects Day Posters	Template available; ensure sponsor approval.
05/21/25	Projects Day 1-Minute Videos	Create a brief promotional video for Projects Day and ensure sponsor approval.
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DUE: 11/17/2024 AND 3/3/2025

Take Pictures!

- Take pictures of your project team throughout the year
- Take action shots! Be creative! Have fun!



Your Project Photos Make an Impact

The photos you submit bring your hard work to life and allow us to showcase your impressive capstone projects. When featured in the Projects Day booklet, on our website, and in other Project Center materials, your photos:

- Help your sponsor share the results of your collaboration and the value created
- Generate excitement and interest among future sponsor organizations
- Inspire future students by highlighting the creativity and innovation of your projects
- Allow us to celebrate and amplify your success to the broader community

By documenting and submitting visuals of your project, you play a role in promoting the transformative learning experiences the Project Center provides. We are proud of all you accomplished and want to share the story of your project through powerful images.

Projects Day Program Paragraph

DUE MARCH (SEE SYLLABUS)

To summarize project details for the Projects Day program, please follow the format below and use the template available here: [Project Paragraph Template](#) (NOTE: When there are multiple people listed, please list them alphabetically by last name. Please note in example how to list “PhD”, “PE” etc.):

Projects Day program paragraphs should be written as though the project has been completed. Paragraphs should be 150-250 words. Be sure to check spelling and grammar!

REMEMEBER: Your sponsor liaison, faculty advisor, and project coordinator must approve the final draft of your abstract before the project coordinator submits it on behalf of all the project teams to the Project Center.

EXAMPLE PARAGRAPH

TITLE: Seismic Assessment and Retrofit for the Cedar Falls

Powerhouse NUMBER: CEE 20.4

SPONSOR: Seattle City Light

SPONSOR LIAISON: Robert Cochran, PE,

SE FACULTY ADVISOR: J. Paul Smith,

PhD, PE, SE

STUDENTS: Hiba Farag, Kevin Hernandez, Kelvin O’Gorman, Patricia Paulino, Banh Quan

The Cedar Falls Powerhouse plays a vital role in the operations that deliver safe drinking water to millions of Greater Seattle residents. Constructed in 1905, the Cedar Falls Powerhouse project was built during a time where seismic provisions were practically non-existent. Due to the area’s high seismic risk and the building’s age, there are concerns about the structural integrity and ability to withstand a major earthquake. Seattle City Light requested that Team CEE 20.4 conduct a seismic assessment of the powerhouse to identify potential deficiencies and design appropriate retrofit alternatives in accordance with ASCE 41-17: *Seismic Evaluation and Retrofit of Existing Buildings*. Following the completion of a multi-tier analysis, the team delivered a final report to Seattle City Light containing a list of identified deficiencies as well as supporting calculations, computer models, mitigation alternatives, and cost estimates.

Additional examples of previous project paragraphs can be found in previous Projects Day booklets here: [Projects Day Booklet Library](#)

Due 5/14/2025

Students, it's poster time! Here are key details for Projects Day:

- Check with your department and coordinator for specific poster requirements and deadlines.
- Create an exciting, high-level poster highlighting your project. Get sponsor approval on content! A template can be found here: [Poster Template](#)
- Use the Project Center's 36x48 inch poster template. Email if you need it.
- Once your poster design is sponsor-approved, send a PDF and PPT copy to your advisor and coordinator for review.
- After final approval, email your poster file to projectcenter@seattleu.edu for professional printing.

Your printed poster should include:

- Sponsor name/logo (if approved)
- Seattle U signature/seal
- Project title
- Team members, advisor, sponsors
- Summary of project need
- Visuals (charts, photos, etc.) plus narrative explaining your process and results

This is your chance to showcase your great work! Follow the instructions to produce an eye-catching Projects Day poster. Plan ahead and meet department deadlines. Let us know if you have any questions!



Projects Day Video Assignment

Due 5/21/2025

Heads up students - it's time to create a short video to promote your Projects Day presentation! Videos will be sent out prior to Projects Day to build interest and encourage attendance to your presentation.

Keep it under 1 minute and give viewers a professional, high-level look at your project. This video will build excitement for your work and encourage attendance.

You're representing your sponsor, Seattle U, and the Project Center, so put your best foot forward! Dress professionally and get sponsor approval for content.

Your video should:

- Introduce your project and sponsor
- Explain the problem you're solving
- Showcase your approach and solution
- Be engaging and well-produced

This is a chance to highlight your team's skills for future employers! Contact the Project Center with any questions and your advisor for help.

Instructions:

- **Your video must be approved by your sponsor prior to submitting it to your project coordinator and the Project Center.**
- 1 minute or less in length
- Landscape orientation
- Approved by sponsor liaison
- Posted to YouTube (publicly or unlisted)(list content type as “not for children”)
- Link sent to project coordinator and Rachael Brown (brownra@seattleu.edu)

Video Tips:

- Identify sponsor and problem solved
- Use relevant images to entice viewers (project site, drawings, etc.)
- Not all team members need to speak
- Get sponsor approval on content before posting
- Notify sponsor liaison for any restrictions on what can be shown

Sample Videos can be found here: [Project Center YouTube Channel](#)

Presentation Practice Sessions and Project Display

Two weeks before Projects Day, presentation rooms in the Law School will be available for practice sessions. Please check with your project coordinator to determine if your presentation will be loaded onto a departmental laptop or if you should bring your own laptop. Follow your department's guidelines for presentations. The Project Center will send all teams an email with instructions to reserve practice times in the Law School.

On Projects Day, each team will have one 6-foot table for the poster and other display materials. Any team needing additional display space or power requirements should coordinate with the Project Center at least 2 weeks prior to Projects Day. Power cords and power strips will be available on loan but must be requested in advance.

Final Reports and Other Deliverables

DUE BEFORE 6/14/2024

Fellow students, it's time to wrap up your projects! Make sure you complete all sponsor deliverables before the course deadline. This includes reports, prototypes, software, presentations - you name it.

Double check your agreements to confirm nothing's missing. Your sponsors are expecting everything you committed to, so don't let them down! Communicate progress and submit all final documents directly to them.

Finish strong by closing out any final presentations, consultations, or questions professionally. Ask if they need anything else before you conclude this partnership.

Successful project delivery shows your capabilities and benefits future student opportunities. Take pride in impressing your sponsors! They'll remember the quality work you delivered.

CEE/ENSC Teams ONLY - For civil and environmental engineering projects, sponsors may want printed reports too.

Reach out to the CEE Project Coordinator before the deadline and get specific instructions for printing.

Once your reports are approved by the Coordinator, send to the Project Center for professional printing.

Plan ahead to make sure sponsors get printed reports if they expect them!

Congratulations on successfully completing your capstone project! All your research, planning, and hard work has resulted in an awesome capstone project.

While reaching the finish line on such an intensive undertaking is reason to celebrate, we hope you also appreciate everything you've learned and gained through this experience. The planning, collaboration and problem-solving have equipped you with valuable skills in time management, communication, critical thinking and perseverance. These capabilities will surely benefit your future pursuits.

Be proud of how much you've accomplished with this capstone project. You've proven your abilities to take on challenges and see a major project through from start to finish. These lessons and competencies will stay with you well beyond graduation. Don't forget to add your capstone project to your resume and LinkedIn profiles!

As you wrap up your academic program, please know that the Project Center is here to support you in building upon your capstone experience. We wish you tremendous success as you complete your studies and embark on your career. We're cheering for you!

Congratulations again on a job well done. Your capstone project is an accomplishment to celebrate.

Sincerely,

The Project Center