Contents

WELCOME TO CAPSTONE ......................................................................................................................... 2
CAPSTONE OVERVIEW ............................................................................................................................... 2
PROJECT SPONSOR RESPONSIBILITIES ..................................................................................................... 3
  1. WORK WITH THE GRADUATE MENTOR TO DEVELOP AN RFP ......................................................... 4
  2. HELP KICKOFF THE UNDERGRADUATE TEAM’S PROJECT WORK ................................................. 4
  3. MONITOR PROJECT PROGRESS ........................................................................................................ 5
  4. EVALUATE PROJECT RESULTS AND PROVIDE ASSESSMENT OF TEAM PERFORMANCE ............ 5
KEYS TO SUCCESS AS A PROJECT SPONSOR ......................................................................................... 6
PROJECT SPONSOR CALENDAR ................................................................................................................ 7
Welcome to Capstone

We are excited to partner with you this year in Capstone. With your help the BYU Civil & Environmental Engineering Department’s Capstone Program (CE 471A & 472) is building a reputation as one of the best graduate and undergraduate experiences our students can have. Your role as project sponsor is integral to each student’s educational success and positive outcomes for your organization. With your help, we know that this will be a successful year. We are excited to work with you to help these remarkable students become tomorrow’s civil engineering leaders by providing opportunities for them to work on real-world problems where true innovation and an understanding of today’s technical and operational challenges in civil engineering can be learned and practiced.

Dr. Jim Nelson – Director
Dr. Wood Miller – Co-Director
Kim Glade – Administrative Assistant

Capstone Overview

The Civil & Environmental Engineering Capstone Program is a two semester educational program for undergraduate and graduate students. This program enables cross-functional student teams from a variety of Civil Engineering areas (Environmental/Water, Geotechnical, Structures, and Transportation) to work on real sponsored projects. Each team is assigned a graduate student mentor who will guide the undergraduate student team through the development of a design solution for the project. Research indicates that students work harder and more creatively when their projects are authentic and of real consequence to a sponsoring “client”. Over the two semesters, students are taught design methods and are given insights into the latest technologies in civil and environmental engineering which gives them a chance to use this in a structured design process that mimics what is done in professional practice, in fact we refer to the 472 class where students are doing the actual work as an “on campus internship.”

The graduate mentor and team develop a relationship with you as the project sponsor and come to appreciate the needs and wants of your organization. Capstone is a course of study that includes more than 200 hours of internship work including class time, lab time, and independent work towards developing a solution to your proposed project. Of course each team is comprised of 3-4 students so the combined man-hours actually devoted to solving the problem is generally more than 600. Also, there is an assurance that the solution is being checked and reviewed by an assigned faculty technical advisor.

“Research indicates that students work harder and more creatively when their projects are authentic and of real consequence to a sponsoring “client”’”
As a project sponsor, your support is vital to helping the student project teams succeed. We do not want you to jump in and do the project, but we do want you to be an effective advocate for the wants and needs of your organization. The responsibilities of the project sponsor fall into four general areas:

1. **Work with the graduate mentor to define an appropriate scope and develop an RFP**
2. **Help kickoff the undergraduate team’s project work**
3. **Monitor project progress**
4. **Evaluate project results and provide assessment of team performance**

The common thread that unites these responsibilities is effective communication. Each of these responsibilities is discussed in a separate section below.

### Project Sponsor Responsibilities

<table>
<thead>
<tr>
<th>Month</th>
<th>Sponsor Participates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun. – Aug.</td>
<td>Sponsor develops the initial project proposal</td>
</tr>
<tr>
<td>First week of Sept.</td>
<td>Sponsor meets/communicates with graduate mentor</td>
</tr>
<tr>
<td>Sept. – Oct.</td>
<td>Graduate mentor with guidance of project sponsor develops an RFP</td>
</tr>
<tr>
<td>Last week of Oct.</td>
<td>RFP’s are put out for undergraduate capstone teams to respond to</td>
</tr>
<tr>
<td>Mid Nov.</td>
<td>Undergraduate team proposals due</td>
</tr>
<tr>
<td>Mid Nov. – End of Nov.</td>
<td>Project proposals reviewed</td>
</tr>
<tr>
<td>First week of Dec.</td>
<td>Undergraduate capstone teams awarded a proposal</td>
</tr>
<tr>
<td>Between first week of Dec. and first week of Jan.</td>
<td>Kickoff meeting with sponsor, graduate mentor, undergraduate capstone team</td>
</tr>
<tr>
<td>Mid Feb.</td>
<td>50% completion report turned in and reviewed by sponsor, graduate mentor and faculty advisor</td>
</tr>
<tr>
<td>End of Feb.</td>
<td>Feedback from 50% report received by teams</td>
</tr>
<tr>
<td>First week of Apr.</td>
<td>Final reports due, final presentations made</td>
</tr>
<tr>
<td>Mid Apr.</td>
<td>All evaluations/feedback for grades submitted</td>
</tr>
</tbody>
</table>

“As a project sponsor, your support is vital to helping the student project teams succeed”
“By working closely with the graduate mentor during the fall semester to develop an appropriate scope, which will become the basis of the RFP the undergraduate teams respond to, not only will the objectives be well understood by the teams, but more importantly you will be able to transfer some “ownership” of the understanding and management of the project to the graduate mentor so that he/she can effectively resolve most of the technical and other questions that come up along the way.”

1. **Work with the Graduate Mentor to Develop an RFP**

One of the most important aspects of the Civil & Environmental Engineering Capstone program is the graduate student mentor. The mentor is involved in a graduate experience to further his/her understanding of civil engineering business practice, project management, and leadership. His/her experience in successfully leading the undergraduate team and developing them as engineers is the fundamental learning experience in their graduate class. Further, the graduate mentor is provided to create a buffer or liaison between you (the project sponsor) and the team. We know that your time is valuable and that you have many other priorities ahead of the capstone project, but in order for the undergraduate teams to perform at a high level and produce results that are valuable they need to be able to ask questions and get timely responses. By working closely with the graduate mentor during the fall semester to develop an appropriate scope, which will become the basis of the RFP the undergraduate teams respond to, not only will the objectives be well understood by the teams, but more importantly you will be able to transfer some “ownership” of the understanding and management of the project to the graduate mentor so that he/she can effectively resolve most of the technical and other questions that come up along the way.

We expect that the graduate mentors will begin working with you the first of September as they are assigned to a project. You will want to meet with him/her and speak by telephone a few times to iterate on the objectives and scope of the project. The graduate student will turn that information into a formal RFP by the end of October. At that point, if necessary, the graduate mentor could probably take over for you in terms of answering questions and guiding the team through a design, though ideally you will still be as involved as time permits.

2. **Help Kickoff the Undergraduate Team’s Project Work**

As a project sponsor you can help the team to start their project work by having an introductory or kickoff meeting with them. Consider having this meeting to take place at your organization or in the field at the site of the project. During the meeting you can help them gain an appreciation and excitement about the importance of the project, the value it has to your organization, and then review the scope and make sure they get off to a good start.

After the initial meeting it is our intent that the graduate mentor can handle most of the communications and help keep the team on task. You will be included when project report updates are sent and we hope that you will be able to monitor the progress as both the students experience and the ultimate outcome of the project results will benefit from your guidance and communications.

We suggest that you should talk with the graduate mentor as frequently as you would like and have time for. During these conversations, you should be an ally in moving the team forward. If you feel like the team needs to hear some specific comments, tell the graduate mentor, or respond directly to the team.

“As a project sponsor you can help the team to start their project work by having an introductory or kickoff meeting with them. After the initial meeting it is our intent that the graduate mentor can handle most of the communications and help keep the team on task. But we suggest that you should talk with the graduate mentor as frequently as you would like and have time for.”
Teams prepare a progress report that is emailed to the graduate mentor weekly and cc’d to you. These weekly progress reports will often have attachments including results relating to the project team’s work to date. Respecting your time availability, the graduate mentors are expected to oversee the team’s progress, but you have right to interject as frequently as you would like and have time for. If you are dissatisfied with the progress of the team or feel they have a misunderstanding of your needs, an email or other communication from you that carefully lays out your best thinking on the problem at hand can be of great help to a team and the ultimate outcome of the project. Not only does it provide a written report that the team can read over and over again, but it also serves as a basis for future discussions with the team.

We encourage you to provide honest feedback that will help Capstone know what it is doing well and to identify potential areas for improvement.

Working towards tangible results for a real-world-sponsored project is important in meeting the educational outcomes of the Capstone course for our students. Your project is a key in helping facilitate student learning throughout the design process. To increase the likelihood for a successful project outcome, it is important that you review project results throughout the semester. Your review along with the team’s graduate mentor is important to help facilitate a positive outcome for the students and the project.

We encourage you to provide prompt and careful attention to the results provided by the project team. Please be sure that they are addressing your needs and if not, contact the team’s graduate mentor and team to develop a strategy to help the team accomplish its task.

Students value your opinion and are generally eager to address concerns that you may have. If you expect the team to produce quality deliverables on time, let them know this. You'll tend to get what you expect by providing feedback to the students and to Capstone. Throughout the winter semester you will be asked specifically to provide four feedback surveys for the following:

1. The project proposal
2. The project management plan
3. The mid-term report
4. The final product
We encourage you to provide honest feedback that will help Capstone know what it is doing well and to identify potential areas for improvement. The surveys will enable Capstone, the team, and the graduate mentor to make appropriate corrections to increase the potential for a successful project outcome. In addition to the surveys, you will have an opportunity to communicate on a regular basis and receive weekly status updates from the project team. We encourage you to provide feedback throughout the project to help facilitate a positive outcome.

**Keys to Success as a Project Sponsor**

In addition to the above responsibilities, we have some brief hints for finding success as a project sponsor. These include the following:

1. Support the learning objectives of the class. You may want to add your own strengths, but please don't take off on an extremely different approach.

2. Clearly communicate your perception of how the team is progressing with the graduate mentor and team. If you are unhappy, let them know about it. If you feel like the team needs to hear some specific comments, tell the graduate mentor.

3. Develop an expectation that the project will be successfully completed on time.

4. Make time available for your team. Communicate with the graduate mentor and team at the expected times and as often as your time permits throughout the semester.

5. Let the team know you are counting on their work. Explain the impact that the project will have on your organization.

We are embarking on a great adventure of teaching students the practice of engineering. We hope you enjoy the journey as much as we do.
Project Sponsor Calendar

“We look forward to another successful year with your Capstone project support”