

## Panel 2C Multi-department Cooperation

**Facilitator:** Todd Polk (University of Texas-Dallas)

**Sidekick:** Shraddha Sangelkar (Rose-Hulman Institute of Technology)

**Scribe:** Brian Sycott (East Carolina University)

**Panelists:**

Beth DeBartolo (Rochester Institute of Technology)

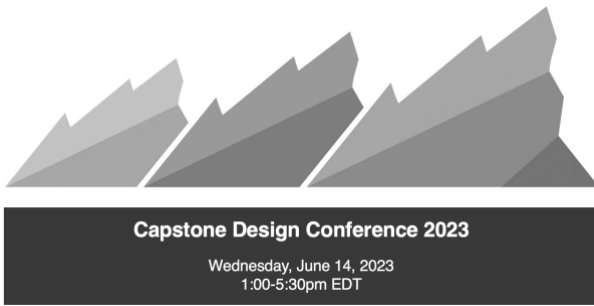
Jay McCormack (Rose-Hulman Institute of Technology)

Rod Wetterskog (University of Texas-Dallas)

**Description:** Getting faculty and departments working together on capstone

**Starting Questions:**

1. What is the current level of inter-department cooperation on capstone at your university?  
JM: Originally a robotics alternative capstone experience. Multidisciplinary capstone start ~5 years ago. Course is still an alternative..  
RW: Capstone is run at the college level not the department level
2. What is shared between departments? Information? Teams? Teaching material?  
Grading responsibility?  
BD: Individual advisors handle grading.  
JM: Worked together with different departments to develop assessments that work for individual departments.  
RW: SOS - *Staff*: handles all nontechnical aspects of the project. *Operations*: badges, budgets, etc. *Studio*: 16000 sq ft restricted for student capstone use. Each team has dedicated space.
3. If your university is "siloes" is there any cooperation between departments?  
BD: There are silos but engineering is branching out to include other disciplines such as business and design.
4. How did you break the silos?
5. What would it take to get departments at your university to begin working together?



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6. What issues/roadblocks have you run into trying to work with other departments on capstone?  
BD: Logistic issues such as timing and grading responsibility.

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### Notes:

38 Participants

### Session Questions/Comments

#### 1. Do different departments work together?

BD: Departments work together to serve ~400 students. Multidisc class was the only option as of 5-6 years ago. Saves resources by not having to manage individual programs. Staffed with adjuncts, retired engineers from the area.

JM: The departments do work well together. It isn't particularly hard, just knock on the door across the hall. There is a challenge with the imbalance of students, i.e. more mechanical than optical. How do you keep faculty engaged when there aren't very many students from their department.

#### 2. How do folks generally get faculty to cast their nets for project solicitation?

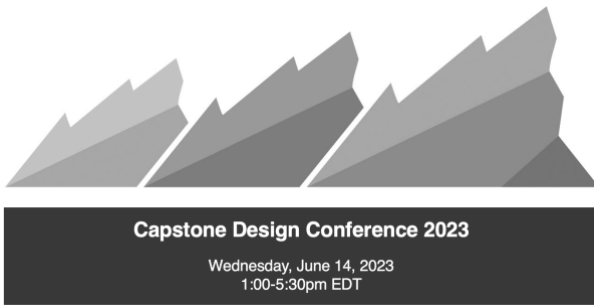
(Question seconded in the chat too)

BD - we have a team of project advisors who work during the summer to solicit and prep projects for the coming year. It's a tall order!

Anne Spence (Baylor): @Natalie and @Leah, we have a faculty member tasked with identifying/soliciting projects. We gather up ~20 projects per year for our combined capstone (ME, EE, general E). this faculty member (a clinical faculty) receives a course release for this activity (i.e. he is on a 2-3 teaching load because of this involvement)

#### 3. What are you teaching in class? Design process? (UT Dallas)

BD: Topics taught in class have evolved over time. Currently includes flipped class modules covering topics like customer requirements. All students complete those. There



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used to be workshops covering discipline specific topics. Students pushed back because it separated teams.

JM: Small classes, 1 - 1.5 sections. Workshops are self-selected by students based on skills students feel they will need for the project. Large group instruction centers on project management.

RW: EPICS workshops are provided to all students. Faculty drive to topics presented to students. Course focuses on project management and the design process. Skill assessment takes place early in the project. Students are expected to seek out and acquire the technical skills they need for the project.

#### **4. What is experience from colleagues about how well academic advisors were engaged? And how to deal with such an issue?**

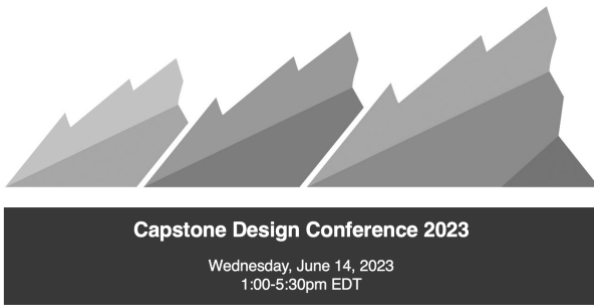
JM: No real hangups. Some programs have junior design credits. The interdisciplinary course can count for some of those credits.

BD: No options to take discipline specific capstone. Scheduling conflicts can arise but there are multiple time periods. Conflicts are allowed in the second semester after the team has worked successfully for a semester. The team needs ok from members, advisor and support staff. Some students get off track and have to come back for one semester to complete capstone. Faculty try to avoid this.

#### **5. We're piloting a capstone that combines both the CS department and Engineering department. Is this something others have tried? The idea came from a need for more software expertise on some of our projects.**

BD: RIT is working on this now. Mostly doesn't work with CS dept, but does work with SW engineering students. SW/ID/Engineering all use similar processes, align well. Sometimes SW students come in for a semester (i.e. project on game design, needs VR interface)

(Commenting on Beth's discussion) We sometimes have trouble figuring out appropriate content for our Industrial Management Engineering students (we



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serve Mechanical, Electrical, Computer Systems, Industrial Management, and Materials Engineering).

Jason Bailey (UArkansas): HMIs for PLCs have worked out better from my projects than getting CS to develop a program. But communication is a work in progress. Getting CS and even CE to interface with any hardware was a challenge.

JM: Students are integrated. The challenge was confirming that projects were sufficient for departments. There is a challenge in getting students to communicate. Sequence the same for CS and Engineering. Can have upperclassmen serve as technical advisors. Tension felt is about finding a project acceptable to discipline. But during the course I don't want to keep walls in place. CS students should be able to go to the machine shop.

RW: Engineering capstone is 2 semesters while CS is 1. There is a challenge when the transfer takes place after the first semester. Explored having two semesters for CS with 2 credits. Right now it's two CS teams per engineering team.

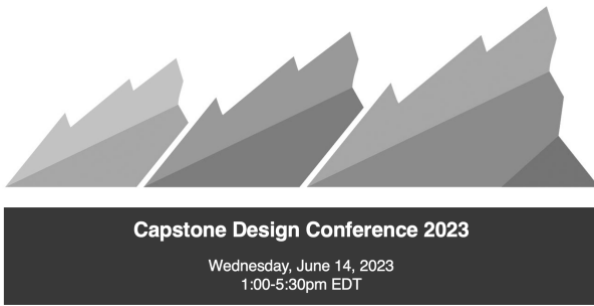
6. **Perhaps off topic. I am curious if anyone here is doing research within this specific topic area (multi-dept cooperation)?** I am a PhD candidate starting on my dissertation proposal (wanting to study organizational conditions enabling cross-dept/college capstone courses) and would love to connect. – Stephen Moyer (semoyer@vt.edu), VT Engineering Education

Hi Stephen - happy to talk after - Todd.Polk@utdallas.edu

7. **In going from a siloed discipline-based capstone towards a more multi-disciplinary approach ... Can you talk about the question/challenge of the different Learning Outcomes for each approach ... something like depth vs breadth of knowledge**

JM: Mechanical engineering capstone handled most of the ABET assessment. Department heads got together and spoke about how assessment would be done for each discipline. Over the course of 4 meetings an assessment plan was developed. The CS outcomes align well with those from engineering.

BD: Met with representatives from each department. Found that outcomes 1 - 7 aligned well with capstone. Right now there is a different syllabus for each department. Currently



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working to unify the syllabus. Decided together which artifacts would be needed by each department. Capstone can be the student outcome dumping ground.

8. **How are folks managing event attendance?** This year, we had situations where students and sponsors on interdisciplinary teams were asked to attend multiple events: multiple pitch events, end-of-year events, etc. This resulted in significant time commitments for students and sponsors as well as some confusion.

BD: We have an end of year campus wide exhibition. Used to do in class final presentations. Only students and advisors attended. Had 2-minute lightning talks but only students attended. Now the only requirement is the end of the year expo.

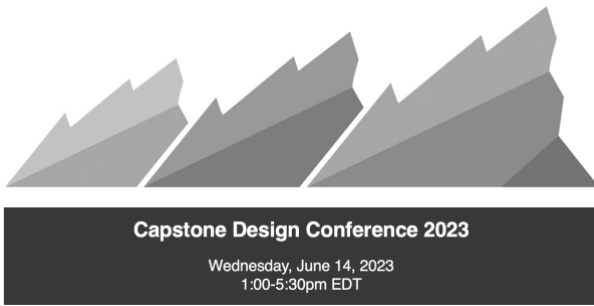
JM: At first events from individual departments were selected for attendance. There is also an end of the year expo. Since covid there has not been a return to department specific events.

RW: CS still does a virtual event with 5 concurrent sessions having 20 teams present. Out of 90 students 2-3 will miss. Engineering has an expo that is open to the public separated by department. Size is the limiting factor. Chance for industry partners on the fence about sponsoring a project to be convinced.

9. In the case of the panelists **are there formal Sponsorship Agreements for agreeing to fund and a Contract with sponsors (IP handling, written project definition, scopes of supply and the like)** and if so, **do the panelists organizations handle this “non-tech” stuff from start to finish** (as I believe I heard Rod say)? These activities are a big time sink here at Illinois for each department being the tip of the spear for those matters.

Doran Varga (University of Washington) College of Engineering Industry Capstone Program has such a Sponsorship Agreement. My colleague Jill Kaatz and I handle this from start to finish.

Leah Fitzgerald (Colorado School of Mines) - Here at the Colorado School of Mines we have an 80% FTE that does all things contracting with sponsors (me!). I do the contracting (formal project acceptance agreement with funding level), help them if they need an NDA/IP Agreement, and organize the backend master project list and solicitation. I also coordinate them coming to campus for our teaming event and invites to our culminating showcase.



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Stephen Zahos (UIUC): Thank you, so much. We need to build this at my university. The issue is that the legal and campus contracts departments developed these requirements over time and it was all left to each capstone instructor and project procurement person to be the interface. Not the best situation..big time sink as I said!

Leah Fitzgerald: @Stephen - absolutely. We worked with our general counsel to develop the contracts, and if we update anything we just send it to them to keep in their files. We are one program across many "schools" so reporting is difficult but we operate as one. Having at least one or two full-time folx (staff) on the program is absolutely key to scaling!

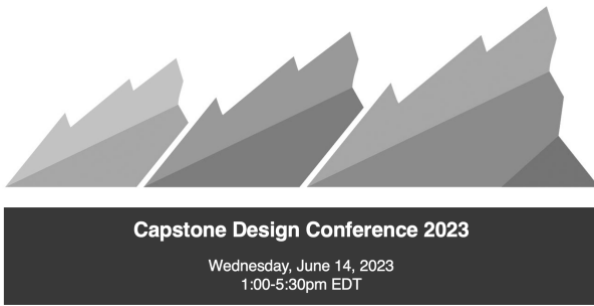
BD: Get sample agreements from other universities - that makes it so much easier!

Susannah Howe (Smith): There is a nascent effort to collect Sponsor Agreement documents from different institutions for the (revived) Capstone Design Hub (CDHub). Jorge Rodriguez (Univ of Georgia) is helping to collect them - so if you have one to share, send it to him directly or to [capstoneconf@gmail.com](mailto:capstoneconf@gmail.com) and we'll get it into the collection.

**10. Does anyone incorporate disciplines outside of STEM into their capstone experience?** (Beth mentioned Industrial Design - any others? Any social sciences or humanities?)

JM: We have students in humanities, arts and music. Since our course is optional, recruiting needs to take place. One way to encourage participation is to integrate other subject area projects. Student-initiated projects. Some funding is available for students to propose projects in these areas that also include engineering.

BD: No formal relationship but do work with industrial design, business, public policy, museum studies, etc. Really interesting project opportunities. Plenty of engineering can go into these projects - good opportunity to showcase what multidisciplinary capstone can do. Community-engaged capstone projects as well → rarely solved with just engineers alone. Hard to figure out logistics and language, but really worth it!



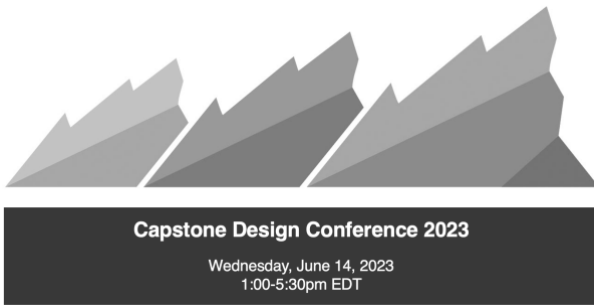
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RW: These types of problem statements are really interesting for students. UTDesign is required for engineers, but capstone outside engineering is optional - need to hand pick students outside engineering. This is a common issue for CS capstone, who interfaces with math or IT departments often. Other schools are looking to formalize their capstone for structure and sponsorship opportunities.

11. Wanted to ask a question about the end-of year design presentation/festival events that a couple of people mentioned a ways back - how are they scheduled around classes and finals? It sounds like RIT's may be on a Saturday to avoid conflicts?

### Chat Transcript:

- 12:14:29 From rblust1 : Reacted to "Who do we hold accountable..." with 😊
- 12:18:39 From Daniel Auger : How do you deal with the team dynamics when some members of the team want an A and some are content with a C so the amount of effort they are willing to put in varies?
- 12:19:08 From Todd Polk - UTDallas to Bridget Smyser-Northeastern (she/her)(Direct Message) : Question ni chat to cover
- 12:19:30 From Michael Hirsch (Boston U.) : Reacted to "How do you deal with..." with 👍
- 12:19:47 From Atiq : How do you verify fulfillment of accountability? And make it acceptable?
- 12:19:53 From Robin Fowler : Reacted to "How do you deal with..." with 👍
- 12:20:06 From Charoenphol, Ploy Phapanin : Reacted to "How do you deal with..." with 👍
- 12:20:36 From Novella Keeling (CU Boulder) : Reacted to "How do you deal with..." with 👍
- 12:21:53 From Dmytro Zagrebelnyy : I use peer feedback - when each student in the team grades other student's individual contributions.



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12:21:55 From Nathan M. Kathir. George Mason : For Session 1C: What can you do if students don't want to say anything negative about teammates? They do in the anonymous course survey at the end of the semester/year.

12:22:20 From Michael Hirsch (Boston U.) : I have about 160 students each year. Would like one-one but as Rachel says that class size makes one-one challenging.

12:22:29 From Roger amd Marsha McCarty : We use 360 peer review surveys three times during the semester and so we can see accountability and how it varied across the semester.

12:22:36 From Michael Hirsch (Boston U.) : Reacted to "For Session 1C: What..." with 👍

12:23:04 From mike thorburn - Cal State Univ LA : Bill - do advisors grade weekly activity reports or does the capstone director? How many students are in the program?

12:23:13 From Rungun (Penn State Berks) : @Nathan - I give them a chance twice in each semester to give me "private feedback" about their teammates. I see this does work

12:23:50 From Rungun (Penn State Berks) : what 360 review tools people use?

12:24:03 From Dustin Rand (he/him) UVM : At UVM we use EduSourced 360 Peer Evaluations, normalized to the Team Average and then adjust the final grade based on how their average compares to their team (up/down).

12:24:09 From David Schmidt U of Minnesota : Reacted to "How do you deal with..." with 👍

12:24:22 From Rungun (Penn State Berks) : Thanks @Dustin

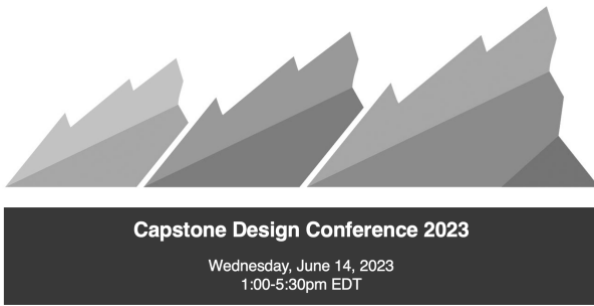
12:24:39 From Courtney Pfluger (She/Her) Northeastern University : Replying to "what 360 review tool..."

I used Teammates- it has the students give feedback to me privately AND feedback to each team member. This survey is free

12:24:45 From Hamid Rad : biweekly individual reports in addition to the weekly group reports can help

12:24:45 From Roger amd Marsha McCarty : Replying to "what 360 review tool..."





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I have used Qualtrics 360 surveys for Universities and also from Edusourced as part of their project management program.

12:24:54 From Eli Patten (MechE, UW, Seattle) : question from the notes: What do you do when you find out a team member does not have the skill leveled originally thought and can't really provide the efforts/work product required?

12:25:38 From Melodie Lawton : I'm interested to see more specifically the weekly report templates and how to foster students inputting relevant information. How do the students see each other's contributions?

12:26:03 From Dmytro Zagrebelnyy : Reacted to "At UVM we use EduSou..." with 👍

12:26:09 From Rungun (Penn State Berks) : Replying to "what 360 review tool..."

@Courtney - can you please give the URL?

12:27:58 From Courtney Pfluger (She/Her) Northeastern University : Replying to "what 360 review tool..."

<https://teammatesv4.appspot.com/web/front/home>

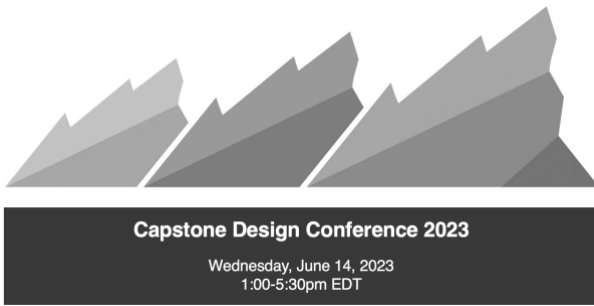
12:28:15 From mike thorburn - Cal State Univ LA : Follow up about weekly reports. Even if not graded, does the capstone director read all of them? I am curious about the volume of reports and the ability to read them critically.

12:28:57 From Hamid Rad : In a job environment, the person can be fired. But in school you can only punish the student(s) by grade, but that is at the end of the semester which sometimes defeats the purpose. What do you suggest?

12:30:16 From Dmytro Zagrebelnyy : Replying to "In a job environment..."

Peer pressure - make the contributions visible and apparent.

12:31:25 From Rungun (Penn State Berks) : When people put tools - please give URL so we can enter them in the google doc and it will be more useful for everyone - Thanks



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12:32:14 From Courtney Pfluger (She/Her) Northeastern University : Replying to "Follow up about week..."

I do scroll through them and sometimes have TA's look at them to ensure there is no issues

12:32:46 From Jim Hartman - UNC Charlotte : Replying to "How do you deal with..."

Grade the C's harshly with the threat of an F - don't allow them to coast.

12:33:25 From Robert J. Ryan : Replying to "How do you deal with..."



12:34:37 From Courtney Pfluger (She/Her) Northeastern University : Replying to "I'm interested to see..."

Here is my weekly memo template I give students

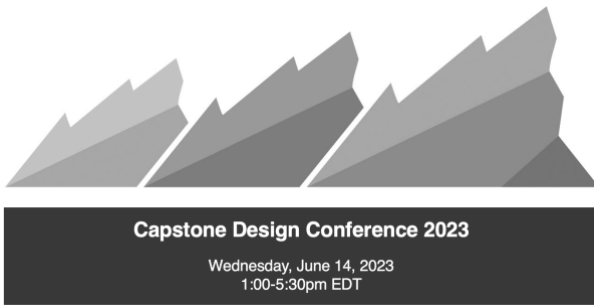
12:36:51 From Rungun (Penn State Berks) : For people running multi-semester (or quarter) Capstone - how do you deal with a F in the first semester/quarter or they totally drop out?

12:37:16 From Hamid Rad : The question of failing was about an individual within the team, not the whole team performance.

12:37:36 From Dmytro Zagrebelnyy : Replying to "For people running m..."

We do not give grade for semester 1. They get cumulative grade after semester 2.

12:37:44 From mike thorburn - Cal State Univ LA : What metrics go into the evaluation/grade? How do you keep students focused on the goals of the project as opposed to completion of interim reports etc. Is the mentor doing the grading?



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12:38:05 From Rungun (Penn State Berks) : Replying to "For people running m..."

I am asking about an individual member rather than whole team

12:38:15 From Rungun (Penn State Berks) : Replying to "For people running m..."

Thanks @Dmytro

12:39:47 From Dmytro Zagrebelnyy : Sometimes students are not interested in the project...

12:41:36 From Courtney Pfluger (She/Her) Northeastern University : Replying to " Sometimes students ..."

I changed two years ago to allowing students picking and ranking their interest in project topics to help with this issue

12:41:41 From Rich Burman : Replying to "What metrics go into..."

This is a great question. Sometimes the reports (etc) represent well defined tasks that students throw their time into. This is in contrast to "messy" design work. Granted we can add training wheels and guide the design process BUT this removes some of the student creativity and problem solving.

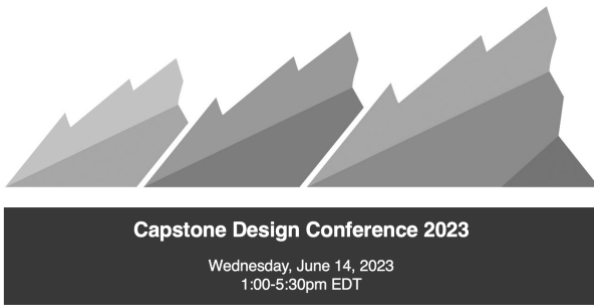
12:42:09 From Jason Bailey : Replying to "Sometimes students..."

I do the same

12:42:18 From Todd Polk - UTDallas : Replying to " Sometimes students ..."

We do the same - they bid on their preferred projects and then we form the teams from their bids

12:42:37 From Courtney Pfluger (She/Her) Northeastern University : Reacted to "We do the same - the..." with 👍



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12:42:41 From Michael Hirsch (Boston U.) : Replying to " Sometimes students ..."

I've even seen the other extreme-student-defined projects where the team loses interest in their own project, perhaps when they find it wasn't "easy".

We always have the students pick their top 3 choices from a few dozen projects.

12:42:49 From Helen Markewich : Reacted to "We do the same - the..." with 👍

12:42:59 From Robert J. Ryan : Reacted to "We do the same - the..." with 👍

12:43:00 From Rungun (Penn State Berks) : I use a "team eval" in which the team sits together and evaluates one member at a time and this is a two way communication. For example A,B,C and D are in a team. A,B and C evaluate D for various areas based on a template I have and they can have a dialogue for accountability and it works well for us

12:45:36 From Rungun (Penn State Berks) : Replying to " Sometimes students ..."

It is one of the points I use for team formation and project assignment. I tell them it is like you are at a company and sometimes you get what you want and other times you just work to put bread on the table :-)

12:46:21 From Jason Bailey : Replying to "I use a "team eval..."

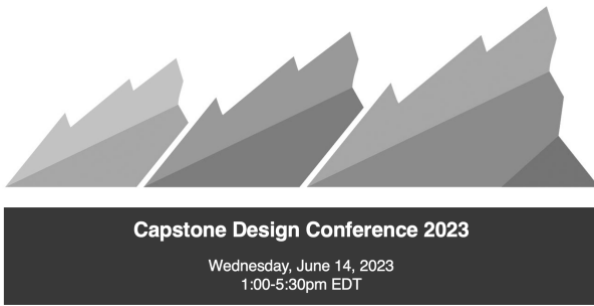
I have had students admit to lying on evals not to affect peer grades.

12:46:23 From Brenden Smerbeck : Replying to " Sometimes students ..."

We use a top 10 system, where they use the initial proposals for their first round of selections. We then have the sponsoring companies give presentations about the projects before asking the students to revise their selection. For their top 3 projects of the 10, we ask the students to write a justification statement as to why it's been placed in its position. We find this allows us to gauge personal interest while still being able to properly allocate students based on their discipline and the required group size (80+% are placed in one of their top 3)

12:46:34 From Jim Hartman - UNC Charlotte : Replying to "For Session 1C: What..."

we do 4 peer evals during the 2 semesters. Stress to students that if they don't tell the truth about an underperforming teammate, they are licensing them to continue to underperform and dooming yourself to do their work to make it up. Don't enable the freeloaders!



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12:47:04 From mike thornburn - Cal State Univ LA : We use Capstone to demonstrate a variety of ABET requirements. Communications, Writing, but also design process (requirements, design, analysis, simulate, prototype, assess, repeat). Not too difficult to assess at team level .... but at program level hard to assess at individual level. I am curious if others use mentors for evaluation? Is the program director running 40 students or 200?

12:48:05 From Rungun (Penn State Berks) : Replying to "I use a "team eval" ..."

I tell them that peer evals will not be used for grading - it is to make the teams work together. I use it to increase my observations and then it might affect the grade

12:48:25 From Jim Hartman - UNC Charlotte : Replying to "Follow up about week..."

We have the team mentor review the weekly reports (what I did this week, what I am going to do next week) during the weekly meeting.

12:49:09 From David Schmidt U of Minnesota : Replying to "We use Capstone to d..."

We have lots of ABET in our course too. It makes it hard to focus on the project sometime.

12:49:33 From Dmytro Zagrebelnyy : Replying to "We use Capstone to d..."

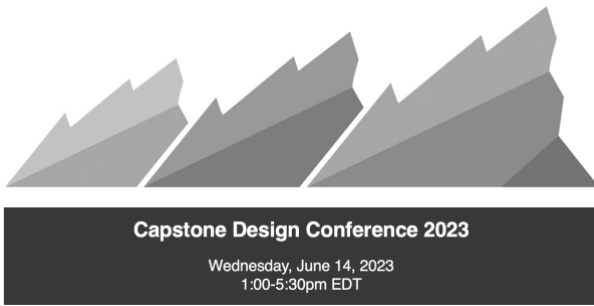
My plan for the next year to have all drafts to be individual submissions, and only the final document as the team's submission. This way each student has to show the work and their individual grade will show their accountability

12:50:08 From Roger McCarty - Brigham Young University : Replying to "For Session 1C: What..."

We emphasize the disservice you do to a student if you don't tell the truth in the eval. By not saying something now you help them feel that they can get away with not supporting a team in the work place. At school they get an F and can learn from it, but in the work force they get fired. So we encourage them to help their team mate by letting them know now that they can't get away with freeloading.

12:50:12 From Todd Polk - UTDallas to Kris Jaeger-Helton(Direct Message) : Hi Kris!  
😊

12:50:22 From Jim Hartman - UNC Charlotte : Replying to "For people running m..."



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That may put a burden on the team to be 1 man down, so we will look to see if they need support from lab staff, grad students, other teams, etc.

12:51:01 From Dmytro Zagrebelnyy : Replying to "We use Capstone to d..."

also prevents too much of compartmentalization within the team.. i.e. I am responsible for only this aspect and do not care about the rest...

12:53:17 From Kris Jaeger-Helton - Northeastern to Todd Polk - UTDallas(Direct Message) : Hi Todd!

12:54:16 From Kris Jaeger-Helton - Northeastern : One saying I have - along with the supportive aspect:

"Absent does not mean exempt."

12:55:40 From Steve Zahos : Reacted to "My plan for the next..." with 👍

12:55:55 From Robin Fowler : re: getting students to be honest in peer evals: We ask a number of team-level questions (like "we're sharing the workload relatively evenly") b/c people are more willing to acknowledge those than "Bill isn't doing his work"

12:56:15 From Robin Fowler : so then, teams with big discrepancies sometimes come to our attention and we can dig deeper

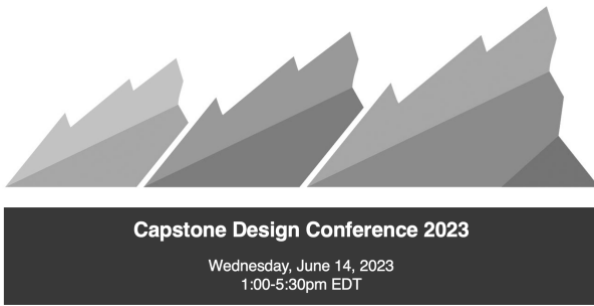
12:56:43 From Lee Hinkle : Replying to "We use Capstone to d..."

We assign 2nd semester teams as mentors for 1st semester teams. Also, students complete written evaluations for group presentations.

12:56:58 From mike thornburn - Cal State Univ LA : Replying to "re: getting students..."

Sometimes I see the teams bifurcate. One half says the other half stinks - and vice versa.

12:57:07 From David Schmidt U of Minnesota : Replying to "We use Capstone to d..."



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@Dmytro Zagrebelnyy We do individual drafts too but it is sections of the final report so it seems I am forcing them to compartmentalize. Are you making them all draft the design section of the final report?

12:57:12 From Mark-RPI : Replying to "How do you deal with..."



12:57:36 From Robin Fowler : Reacted to "Sometimes I see the ..." with 👍

12:58:55 From Dmytro Zagrebelnyy : Replying to "We use Capstone to d..."

@David Schmidt... early draft is a must- just to make sure they start working early. If I do not ask for early draft- we end up with last moment ideas and the end result can be poor.

12:59:27 From mike thornburn - Cal State Univ LA : Really curious - do advisors of teams of 3-10 assign grades or does the director of a program of 200-250 assign grades?

13:00:44 From Susannah Howe | Smith (she/her) : Bridget: here's a Q asked earlier that I don't think has been discussed yet: "What do you do when you find out a team member does not have the skill level originally thought and can't really provide the efforts/work product required?"

13:00:45 From Jason Bailey : Replying to "Really curious - d..."

I am a director of about 100 between CP1&2 and assign grades

13:00:54 From Rungun (Penn State Berks) : Replying to "For people running m..."

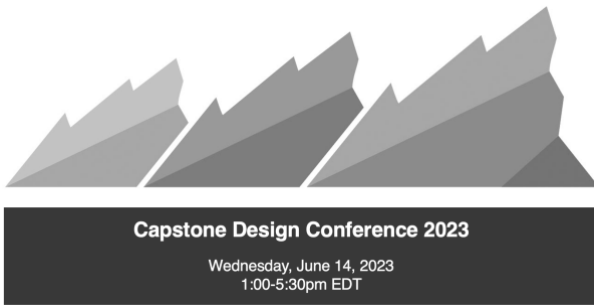
Thanks for answering the question - we have teams of 3 or 4 and has not happened in my eight years, but it almost happened one time

13:01:11 From Novella Keeling (CU Boulder) : Replying to "Really curious - do ..."

We have team advisors propose individual grades and the instructor assigns final grades

13:01:13 From Dmytro Zagrebelnyy : Replying to "Really curious - do ..."

I have TAs grading routine assignments. The final or milestones are combined (TA + myself). The end grade is combined from routine assignments +milestones.



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13:01:16 From Todd Polk - UTDallas : Replying to "re: getting students..."

We just had that here at UT Dallas. Somehow they managed to successfully complete the project! Lucky for us it was an internally sponsored project rather than a customer sponsored one.

13:02:16 From Brenden Smerbeck : Replying to "Really curious - do ..."

In our program, the advisors provide an initial grading suggestion for certain areas of the rubric. The advisors are often an employee of the sponsoring company. As they have "skin in the game" relating to the performance of the team and individual students and it's result with respect to the deliverable product.

However, myself (associate director) and the program director are responsible for conferring the final grades. (50-60 students, 2 semesters)

13:02:38 From Brenden Smerbeck : Reacted to "Bridget: here's a Q ..." with 👍

13:04:16 From Rungun (Penn State Berks) : Replying to "Really curious - do ..."

My largest class has been 12 projects with 48 students in two sections. I do all the grading and we have no graduate students or graders or even a "co-teacher".

13:05:36 From Jason Bailey : Replying to "Really curious - d..."

How is capsone viewed as a teaching load?

13:05:43 From Nathan M. Kathir. George Mason : Replying to "Really curious - do ..."

Either they must be using the knowledge they were supposed to have learned previously, OR willing to learn new skills. If neither, then need to have a serious conversation.

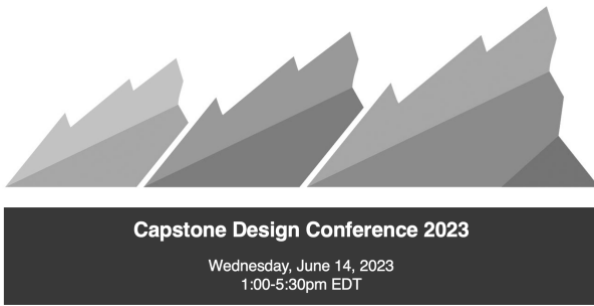
13:06:31 From Rungun (Penn State Berks) : Replying to "Really curious - do ..."

@Jason Bailey In our school it is just one instructor and it is counted in the first semester as 3 contact and in second semester as 6 contact (it is a 3 credit both semester)

13:07:12 From Jason Bailey : Replying to "Really curious - d..."

Thanks





## Panel 2C Multi-department Cooperation

13:07:19 From Lynn Hall : Thank you!

13:07:22 From Yah-el Har-el : Replying to "Really curious - do ..."

Thank you

13:07:27 From Dan Godrick (CU Boulder) He, Him : Thank you!

13:07:31 From Helen Markewich : thank you!

13:07:31 From Mark-RPI : Replying to "Really curious - do ..."

Thank you so much! As always, great to hear from our colleagues!!!

13:07:35 From Corey Schimpf : Thank you!

13:07:41 From Novella Keeling (CU Boulder) : Thank you, all!

13:07:41 From Jessica McCarthy-Olin College : Thank you!

13:07:47 From Chris Pung : TY

13:07:50 From Lena Ahmadi : Thank you

13:07:51 From Susannah Howe | Smith (she/her) : And check the notes to see if there's anything missed!

13:07:53 From Kris Jaeger-Helton - Northeastern : Thank you!!!

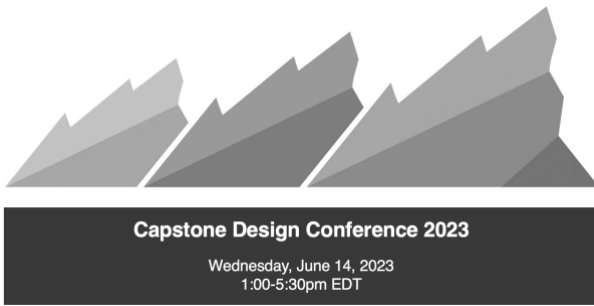
13:08:00 From Lee Hinkle : Replying to "re: getting students..."

As part of individual team check ins we ask the students to provide the percentage contribution for each team member including themselves (total must be 100%). In total it is usually clear which teams are coping and which ones are having issues with workload balance.

13:08:04 From Nathan M. Kathir. George Mason : Replying to "Really curious - do ..."

What is the ideal size deal size of a team? four students? When you have four and one fails after one semester, it becomes a huge increase in workload for the remaining three.

13:08:09 From Rebecca Blust - University of Dayton : great discussion....thank you!



## Panel 2C Multi-department Cooperation

13:08:47 From Robin Fowler : really appreciate this way of sharing info too! I only caught one of those examples so will appreciate when you make both available!

13:09:02 From Aaron Smith : Thank you all.

13:09:04 From David Schmidt U of Minnesota : Amazing job to Todd and others who helped capture this session. It was moving way to fast for me to help.

13:09:06 From Rungun (Penn State Berks) : Replying to "Really curious - do ..."

@Nathan M. Kathir. George Mason - it is similar to the question I asked and you are right it becomes a problem.

13:09:17 From Todd Polk - UTDallas : Reacted to "Amazing job to Todd ..." with 👍

13:09:18 From Alan Marks (UW) : Thanks, everyone!

13:09:23 From Kathryn D (RPI) : Thank you to all. Great discussion - much appreciated.

13:11:46 From Susannah Howe | Smith (she/her) to Todd Polk - UTDallas(Direct Message) : When you kick off the next session, perhaps remind people to add their institution to their nametag on Zoom, since it's helpful in the chat to know where people are from

13:14:24 From Bridget Smyser-Northeastern (she/her) to Todd Polk - UTDallas(Direct Message) : Good sidekickin'!

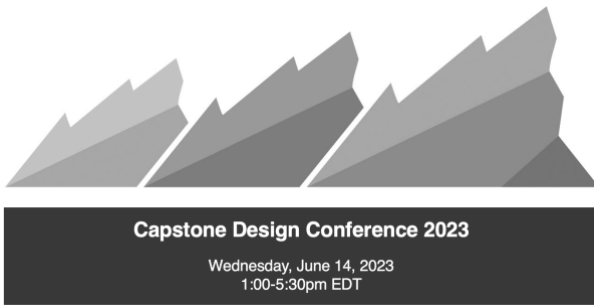
13:25:44 From Laura Hirshfield (U of Michigan) to Todd Polk - UTDallas(Direct Message) : Closing the breakout rooms now - then I'll rename them for session 2

13:25:59 From Todd Polk - UTDallas to Laura Hirshfield (U of Michigan)(Direct Message) : OK sounds good

13:26:10 From Todd Polk - UTDallas to Bridget Smyser-Northeastern (she/her)(Direct Message) : Replying to "Good sidekickin'!"

Thanks!

13:26:15 From Laura Hirshfield (U of Michigan) to Todd Polk - UTDallas(Direct Message) : Should I open them before 2:30 to give people time to join, or wait for you to announce



## Panel 2C Multi-department Cooperation

13:26:39 From Todd Polk - UTDallas to Laura Hirshfield (U of Michigan)(Direct Message) : Replying to "Should I open them b..."

wait please

13:26:47 From Laura Hirshfield (U of Michigan) to Todd Polk - UTDallas(Direct Message) : Reacted to "wait please" with 👍

13:27:03 From Jenn Carlson (Michigan MDP) : Is there going to be a list of attendees for future networking? Thanks. First session was really interesting!

13:27:59 From Todd Polk - UTDallas : Replying to "Is there going to be..."

Hi Jenn - yes we should be able to provide that

13:28:21 From Jenn Carlson (Michigan MDP) : Replying to "Is there going to be..."

Great, thanks!

13:32:19 From Sarah Brownell (Rochester Institute of Technology, any pronouns) : Replying to "Is there going to be..."

Does multi-department include outside engineering

13:32:20 From Sarah Brownell (Rochester Institute of Technology, any pronouns) : Replying to "Is there going to be..."

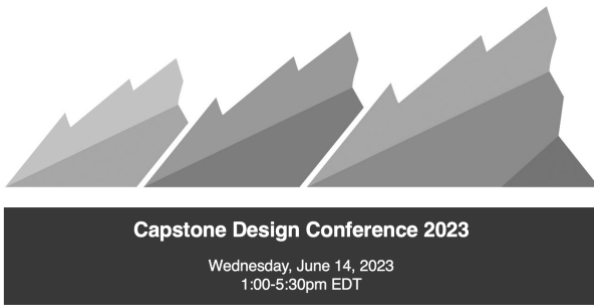
?

13:48:46 From Shraddha Sangelkar | Rose Hulman | she/her to Todd Polk - UTDallas(Direct Message) : Replying to "We are not getting a..."

Ideas: 1) follow up on dept. specific evaluations 2) budgets 3) Instruction challenges with different vocabularies

13:50:16 From Beth DeBartolo - RIT : Only 2 days???

13:50:39 From Todd Polk - UTDallas : Replying to "Only 2 days???"



## Panel 2C Multi-department Cooperation

yes but they are long days!

13:51:51 From Natalie Hunt (University of Minnesota - Twin Cities) : How do folks generally get faculty to cast their nets for project solicitation?

13:51:57 From Sarah Brownell (RIT, any pronouns) : What are you teaching in class? Design process? (UT Dallas)

13:52:15 From Charles Maric : What is experience from colleagues about how well academic advisor was engaged? And how to deal with such a issue?

13:52:44 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "How do folks general..." with 👍

13:52:47 From Jen McInnis (SNHU) : We're piloting a capstone that combines both CS department and Engineering department. Is this something others have tried? The idea came from a need for more software expertise on some of our projects.

13:52:47 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "What are you teachin..." with 👍

13:52:52 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "What is experience f..." with 👍

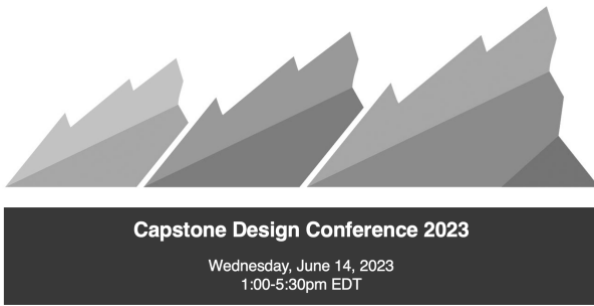
13:53:00 From Leah Fitzgerald (she/her) Mines : I second Natalie's question on organization of project solicitation across faculty leads

13:53:33 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "We're piloting a cap..." with 👍

13:53:37 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "I second Natalie's q..." with 👍

13:54:11 From Sarah Brownell (RIT, any pronouns) : Replying to "We're piloting a cap..."  
RIT is working on this now.

13:56:25 From Jason Bailey (U of Arkansas) : Replying to "We're piloting a c..."



## Panel 2C Multi-department Cooperation

Getting CS and even CE to interface with any hardware was a challenge.

13:58:17 From Jen McInnis (SNHU) : Reacted to "RIT is working on th..." with 👍

13:59:19 From Louis Taborda (Sydney) : Thanks for a great discussion ... my question: In going from a siloed discipline-based capstone towards more multi-disciplinary approach ... can you talk about the question/challenge of the different Learning Outcomes for each approach ... something like depth vs breadth of knowledge

14:00:18 From Shraddha Sangelkar | Rose Hulman | she/her to Todd Polk - UTDallas(Direct Message) : there are more bolded questions in the doc

14:00:21 From Dorian Varga | UW-Seattle College of Engineering | she, her : I'm curious how folks are managing event attendance. This year, we had situations where students and sponsors on interdisciplinary teams were asked to attend multiple events: multiple pitch events, end-of-year events, etc. This resulted in significant time commitments for students and sponsors as well as some confusion.

14:00:33 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "Thanks for a great d..." with 👍

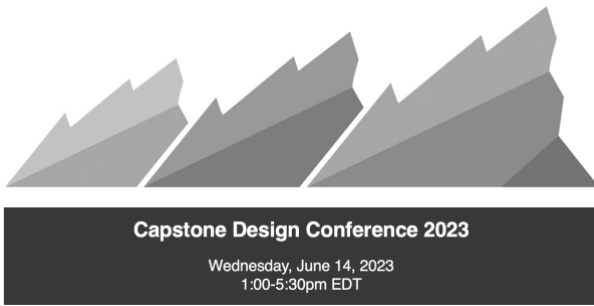
14:00:57 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "I'm curious how folk..." with 👍

14:04:05 From Brad DeBoer - RPI : (Commenting on Beth's discussion) We sometimes have trouble figuring out appropriate content for our Industrial Management Engineering students (we serve Mechanical, Electrical, Computer Systems, Industrial Management, and Materials Engineering).

14:04:09 From Jason Bailey (U of Arkansas) : HMIs for PLCs have worked out better from my projects than getting CS to develop a program. But communication is a work in progress

14:05:11 From Natalie Hunt (University of Minnesota - Twin Cities) : Reacted to "I second Natalie's q..." with 👍

14:05:14 From Jen McInnis (SNHU) : Reacted to "How do folks general..." with 👍



## Panel 2C Multi-department Cooperation

14:05:20 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "(Commenting on Beth'..." with 👍

14:05:24 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "HMI's for PLCs have w..." with 👍

14:05:24 From Anne Spence (Baylor University) : @Natalie and @Leah, we have a faculty member tasked with identifying/soliciting projects. We gather up ~20 projects per year for our combined capstone (ME, EE, general E). this faculty member (a clinical faculty) receives a course release for this activity (i.e. he is on a 2-3 teaching load because of this involvement)

14:06:04 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "@Natalie and @Leah, ..." with 👍

14:06:06 From Natalie Hunt (University of Minnesota - Twin Cities) : Reacted to "@Natalie and @Leah, ..." with 👍

14:06:25 From Natalie Hunt (University of Minnesota - Twin Cities) : Replying to "@Natalie and @Leah, ..."

This is great, thank you!

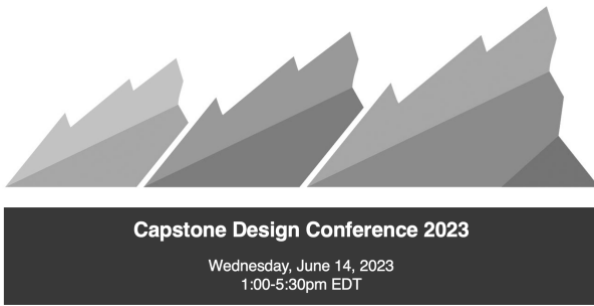
14:07:58 From Stephen Zahos : In the case of the panelists are there formal

Sponsorship Agreements for agreeing to fund and a Contract with sponsors (IP handling, written project definition, scopes of supply and the like) and if so, do the panelists organizations handle this "non-tech" stuff from start to finish (as I believe I heard Rod say)? These activities are a big time sink here at Illinois for each department being the tip of the spear for those matters.

14:08:23 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "In the case of the p..." with 👍

14:10:48 From Dorian Varga | UW-Seattle College of Engineering | she, her : @stephen, University of Washington College of Engineering Industry Capstone Program has such a Sponsorship Agreement. My colleague Jill Kaatz and I handle this from start to finish.

14:11:19 From Leah Fitzgerald (she/her) Mines : @Stephen - Here at the Colorado School of Mines we have an 80% FTE that does all things contracting with sponsors (me!). I do the contracting (formal project acceptance agreement with funding level) help them if they need



## Panel 2C Multi-department Cooperation

an NDA/IP Agreement, and organize the backend master project list and solicitation. I also coordinate them coming to campus for our teaming event and invites to our culminating showcase.

14:11:41 From Natalie Hunt (University of Minnesota - Twin Cities) : Reacted to "In the case of the p..." with 👍

14:11:57 From Natalie Hunt (University of Minnesota - Twin Cities) : Reacted to "@Stephen - Here at t..." with 👍

14:12:00 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "What is this workshop..." with 👍

14:17:24 From Stephen Zahos : Replying to "@Stephen - Here at t..."

Thank you , so much. We need to build this at my university. The issue is that the legal and campus contracts departments developed these requirements over time and it was all left to each capstone instructor and project procurement person to be the interface. Not the best situation..big time sink as I said!

14:18:02 From Beth DeBartolo - RIT : Replying to "@Stephen - Here at t..."

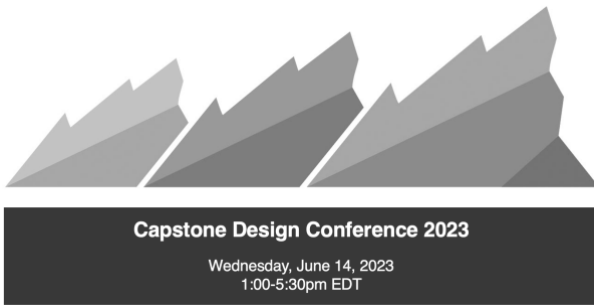
@Steve, get sample agreements from other universities - that makes it so much easier!

14:18:49 From Shraddha Sangelkar | Rose Hulman | she/her : Replying to "What is this workshop..."

Can you clarify?

14:19:11 From Leah Fitzgerald (she/her) Mines : @Stephen - absolutely. We worked with our general counsel to develop the contracts, and if we update anything we just send it to them to keep in their files. We are one program across many "schools" so reporting is difficult but we operate as one. Having at least one or two full-time folx (staff) on the program is absolutely key to scaling!

14:23:09 From Susannah Howe | Smith (she/her) : Does anyone incorporate disciplines outside of STEM into their capstone experience? (Beth mentioned Industrial Design - any others? Any social sciences or humanities?)



## Panel 2C Multi-department Cooperation

14:24:31 From Dorian Varga | UW-Seattle College of Engineering | she, her : These responses did help, thank you!

14:29:06 From Shraddha Sangelkar | Rose Hulman | she/her : There was a clarification questions about EPIC workshops that was mentioned.

14:39:01 From Brad DeBoer - RPI : Wanted to ask a question about the end-of year design presentation/festival events that a couple of people mentioned a ways back - how are they scheduled around classes and finals? It sounds like RIT's may be on a Saturday to avoid conflicts?

14:39:38 From Stephen Zahos : Replying to "@Stephen - Here at t..."

We have well-developed university approved contracts. It's a manpower issue. Contracts/purchasing is very understaffed, so it falls to the department level, and most of the staff is not schooled in contracts. I hold my own as an experienced senior industry guy but I do have to procure upwards of 60 projects per academic year for my single department.

14:39:56 From Beth DeBartolo - RIT : Replying to "Wanted to ask a question..."

Yes, ours is on a Saturday

14:40:30 From Brad DeBoer - RPI : Replying to "Wanted to ask a question..."

@Jay, how does R-H do that?

14:55:04 From Laura Hirshfield (U of Michigan) to Todd Polk - UTDallas(Direct Message) : Closing rooms now!

14:56:16 From Rungun Nathan : customer agreement as student?

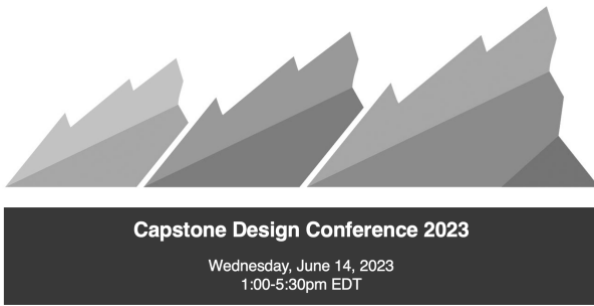
14:57:24 From Rungun Nathan : I know some schools that charge \$10,000 for two semesters

14:57:52 From deekivett : For all those charging the fee... does sponsor retain 100% IP as a result of any work done?

14:58:06 From Allyson Gibson (BYU) : We charge \$22k. Sponsor keeps all IP.

14:58:07 From Brenden Smerbeck (CPE, URI) : Replying to "For all those chargi..."





## Panel 2C Multi-department Cooperation

100%, yes

14:58:10 From Beth DeBartolo - RIT : Replying to "For all those chargi..."

Yes for us

14:58:12 From deekivett : Also - how much does their personal contribution of time/labor/materials/etc. count toward that

14:58:23 From Michael Hirsch (Boston U.) : We don't charge anything

14:58:44 From Susannah Howe | Smith (she/her) : Stay tuned for the 2025 Capstone Survey that will collect updated info on sponsorship fees among other things.

14:59:00 From Dustin Rand (he/him) UVM : We charge between 2k - 10k. We break it into Sponsorship and materials. Sponsorship is usually 40-50% of total cost.

14:59:07 From Dorian Varga | UW-Seattle College of Engineering | she, her : For us, \$15K for 2 quarters and shared IP

14:59:11 From Dustin Rand (he/him) UVM : Cost is dependent on company size.

14:59:12 From Bryan Lewis : We charge \$2,000 per semester (that include a \$1000 overhead and the students have \$1,000 for materials)

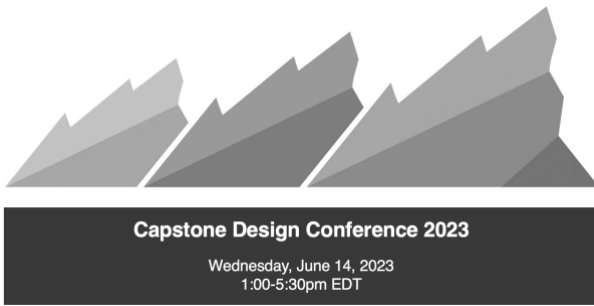
14:59:17 From Dorian Varga | UW-Seattle College of Engineering | she, her : \* we are looking to increase

14:59:29 From Gail Hohner : If you have an IP agreement the IRS won't allow a donation

14:59:37 From David Schmidt U of Minnesota : Wow. I can't get sponsors for free. I have some work to do apparently.

14:59:43 From deekivett : I have been on the sponsor side myself, and had a hard time signing on to pay for a project where the results are not guaranteed.

15:00:33 From Bryan Lewis : We write the agreement so they are purchasing the final report.



## Panel 2C Multi-department Cooperation

15:00:35 From deekivett : As the sponsor, I had to invest my time, my resources, my liability having students working in my facility, and it was going to be very expensive for me to take them in and ultimately their work may or may not be useful.

15:00:47 From deekivett : Reacted to "We write the agreeme..." with 👍

15:01:04 From deekivett : Reacted to "If you have an IP ag..." with 👍

15:01:11 From Jason Bailey (U of Arkansas) : Reacted to "As the sponsor, I ..." with 👍

15:01:29 From Jason Bailey (U of Arkansas) : Reacted to "I have been on the..." with 👍

15:01:41 From Bryan Lewis : Reacted to "As the sponsor, I ha..." with 👍

15:02:13 From Todd Polk - UTDallas : Google doc link:  
[https://docs.google.com/document/d/1uJbcn76dl33AH-MuuPJoR4ab\\_44gP05E/edit?usp=drive\\_link&oid=117377723258457336551&rtpof=true&sd=true](https://docs.google.com/document/d/1uJbcn76dl33AH-MuuPJoR4ab_44gP05E/edit?usp=drive_link&oid=117377723258457336551&rtpof=true&sd=true)

15:05:58 From Bridget Smyser-Northeastern (she/her) : Remember to put your questions in the chat!

15:06:39 From Rungun Nathan : Replying to "For all those chargi..."

yes 100% and we also give the option of NDA, but try hard to let the students present to the class only

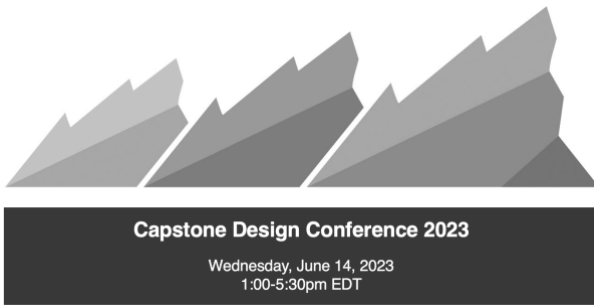
15:07:17 From Robin Fowler (UMich) : how do you hold students accountable to mandatory role rotations?

15:07:23 From Rungun Nathan : Replying to "Also - how much does..."

We try to tell them that they are contributing to the next generation of engineers and their potential employees

15:07:32 From Jay Goldberg (Marquette University) : Is the sprint approach (as used in the course) representative of what is done in a company using the sprint approach?

15:07:42 From Hrushi Godbole (RIT) : Are there particular project types/attributes that you find 'sprint planning' better suited than Gantt chart (and vice versa)?



## Panel 2C Multi-department Cooperation

15:07:59 From Rungun Nathan : Replying to "Stay tuned for the 2..."

Can I join the team to summarize this into a paper?

15:09:02 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "Are there particular..."

That's a good question. I think the concept of short chunks of work and reflect on the results is pretty universal.

15:09:40 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "Are there particular..."

Students of course push back that their project is different, but I don't buy that.

15:09:41 From Rungun Nathan : Replying to "If you have an IP ag..."

Interesting. The donation according to IRS means no returns for the money (my understanding).

15:10:01 From Sarah Bloomer - Olin College (she/her) : Replying to "Are there particular..."

It depends on how the work can be broken down into work items - can work be completed in 2 weeks (you should be able to break just about anything down into 2-4 weeks sprints) but perhaps there are bigger chunks...yes, like Jay said.

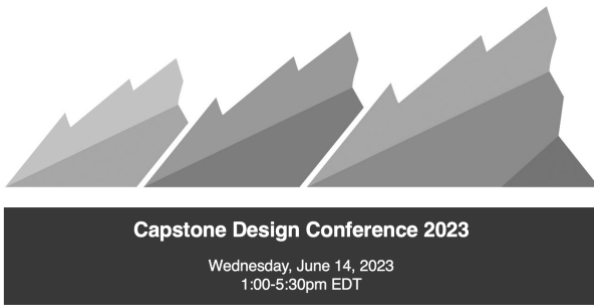
15:10:08 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "Are there particular..."

I've had students tell me that they'd like to do a one week sprint versus two because they lack discipline :)

15:10:16 From Bryan Lewis - BYU-Idaho : Replying to "Stay tuned for the 2..."

I would be happy to help on the paper. I have been involved in many contract negotiations over the last 5 years. lewisbr@byui.edu

15:10:20 From Sarah Bloomer - Olin College (she/her) : Reacted to "I've had students te..." with 🙄



## Panel 2C Multi-department Cooperation

15:10:42 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "Are there particular..."

I appreciate their self-awareness.

15:11:17 From Rungun Nathan : Replying to "As the sponsor, I ha..."

We do not have students working at the facility - that becomes a bigger issue with "Risk Management" for the two parties (industry and university) involved - which can become a nightmare

15:11:25 From Jenn Carlson (Michigan MDP) : Reacted to "I appreciate their s..." with 🍌

15:11:48 From Matt Bietz - UC Irvine (he/him) : Reacted to "Is the sprint approa..." with 👍

15:12:08 From Rungun Nathan : Replying to "Stay tuned for the 2..."

my email is Rungun.nathan@psu.edu

15:12:14 From Jay Goldberg (Marquette University) : How do you schedule/plan for tasks that take longer than the two week sprint period? Do you break it down into multiple 2-week sprints?

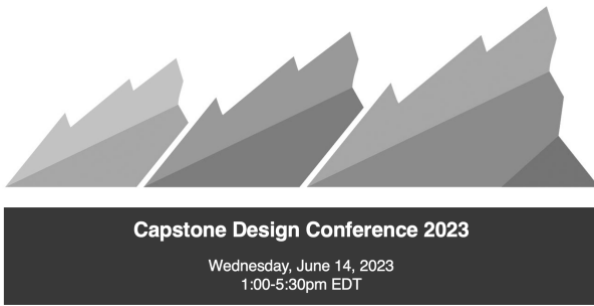
15:12:28 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "How do you schedule/..."

yup

15:13:44 From Hrushi Godbole (RIT) : Replying to "Are there particular..."

Great, thanks! I am new to capstone design context. In my previous project - I was exploring dynamic learning cycles. When the uncertainty is high (early on) it is good to have shorter sprints. While later on when the uncertainty is low, you can go towards longer sprints.

15:13:49 From Alan Marks (UW) : How do you manage the reporting out to the class each week? We have ~ 20 teams in the class, which makes that kind of hard for students to pay attention to,



## Panel 2C Multi-department Cooperation

15:14:50 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "How do you manage th..."

I think having a small group listen in on the report outs make sense. Keeping student involvement under an hour makes sense. It shows that you value their project time so they better as well.

15:15:10 From Sarah Oman (Oregon State Uni) - she/they : Replying to "Stay tuned for the 2..."

You can check out the previous years' survey results here:  
<https://capstonedesigncommunity.org/capstone-surveys>

15:15:26 From Bob Buckner - Tennessee Knoxville : Really like the idea of rotating the PM role so every students has the opportunity to learn the competencies. We're considering the same for product manager/owner and technical lead roles.

15:16:14 From Shraddha Sangelkar | Rose Hulman | she/her : Replying to "Really like the idea..."

That is the main aspect of the sprint implementation that I liked.

15:16:41 From Hrushi Godbole (RIT) : Reacted to "Really like the idea..." with 👍

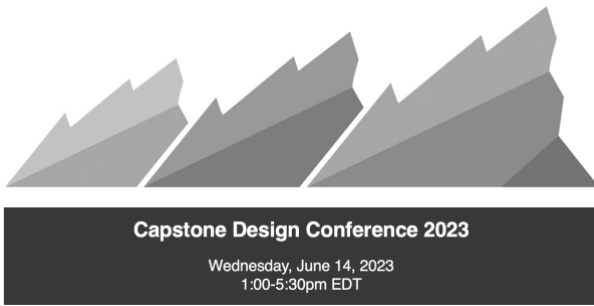
15:16:44 From Sarah Bloomer - Olin College (she/her) : This is similar to Trello or Notion, but it's in Teams. We looked at it and thought it was too simplistic. Cool to see you using it, Bryan.

15:16:46 From Brenden Smerbeck (CPE, URI) : Taiga (taiga.io) as another option for agile project management. Free and open sourced, sprint/kanban options. File uploads, wiki creation, fully customizable, hooks for other services. Very helpful

15:17:01 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "Taiga (taiga.io) as ..." with 👍

15:17:04 From Beth DeBartolo - RIT : 🤔

15:17:39 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "Are there particular..."



## Panel 2C Multi-department Cooperation

Uncertainty awareness is great. Additionally, students early in a project can be discouraged by project management because so much of the work is nebulous. Shorter sprints can help. I think focusing on the tracking and reflection portion of project management is more important early in the project, then they can transition into planning as they understand more about the project.

15:17:43 From Brad DeBoer - RPI : Do your students check their emails?

15:17:53 From Jenn Carlson (Michigan MDP) : Reacted to "Do your students che..." with 😂

15:18:14 From Jenn Carlson (Michigan MDP) : Replying to "Do your students che..."

This is the \$64,000 question!

15:18:35 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "Really like the idea..."

I think that part came from Renee Rogge.

15:18:36 From Hrushi Godbole (RIT) : Reacted to "Uncertainty awareness..." with 👍

15:19:18 From Dorian Varga | UW-Seattle College of Engineering | she, her : Replying to "Stay tuned for the 2..."

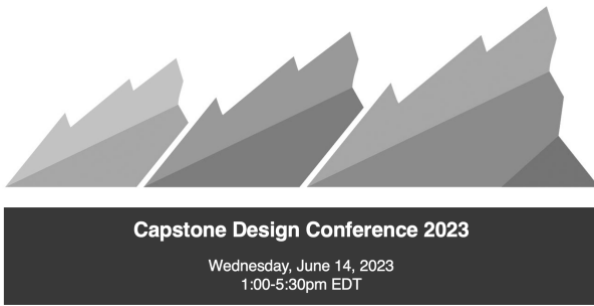
I would also be interested in being involved on a paper: [dvarga@uw.edu](mailto:dvarga@uw.edu). We conducted benchmarking in 2007, 2020/21 and 2022/23 (for both undergraduate and graduate capstones).

15:20:05 From Mark Anderson-RPI : how are the reported times confirmed / verified for accuracy?

15:20:18 From Beth DeBartolo - RIT : Did you get any feedback on whether the time tracking categories made sense? Did students want more/fewer/different categories?

15:20:55 From Jonathan Torres : Reacted to "how are the reported..." with ✚

15:20:57 From Beth DeBartolo - RIT : Replying to "how are the reported..."



## Panel 2C Multi-department Cooperation

And can teammates see one another's responses? That might help keep them honest about time reporting.

15:21:16 From Jenn Carlson (Michigan MDP) : Reacted to "how are the reported..." with 

15:22:13 From Daniel Auger : Replying to "how are the reported..."

How many teams can you handle in the free version?

15:22:17 From Edwin van der Vlist : How many hours are students required to spend on their capstone course weekly?

15:22:30 From Hrushu Godbole (RIT) : Does anyone record time-spent on "individual work" vs. "collaborative work with at least one other team-member"

15:22:32 From Alan Marks (UW) : How do you use the information? Grading? As a prompt to talk to the students?


15:22:38 From Mark Anderson-RPI : Replying to "how are the reported..."

seems like it might lead to debates if the # hours relates to max possible grade

15:22:40 From Jonathan Torres : Can that account for a difference in ability and efficiency in completing certain tasks?

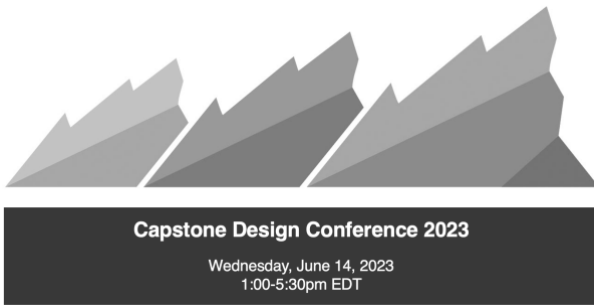
15:24:29 From Bryan Lewis - BYU-Idaho : Replying to "how are the reported..."

It is just a grade cutoff. So they can put in 200 hr and that does not give them an A. Their grade will be determined by the peer feedback and what they actually do. The hours are just used as a grade cap.

15:24:42 From Bob Buckner - Tennessee Knoxville : Reacted to "That is the main asp..." with 

15:25:11 From Bryan Lewis - BYU-Idaho : Replying to "how are the reported..."

@Daniel Auger I have 5 right now. I have not seen a limit. I work with another group on campus who has used it with many more groups each semester.



## Panel 2C Multi-department Cooperation

15:25:23 From Bryan Lewis - BYU-Idaho : Replying to "Can that account for..."

Not really

15:26:17 From Bryan Lewis - BYU-Idaho : Replying to "How many hours are s..."

10 hr/week is the expectation. Usually a little less at the beginning and much more at the end.

15:26:46 From Todd Polk - UTDallas : Replying to "How many hours are s..."

Ours is also 10 hrs/week, and 15/week in the summer which is a shorter semester

15:26:59 From Brenden Smerbeck (CPE, URI) : Replying to "How many hours are s..."

We require 15 hr/week; with 5 hours being accomplished during required course time

15:27:14 From Bryan Lewis - BYU-Idaho : Replying to "How do use the infor..."

When I meet with the team every few weeks, we go over everyones timesheet and discuss how things are going.

15:30:08 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "how are the reported..."

I think one thing to keep in mind is that the number of credit hours in the course already implies a certain amount of effort from the students. This just makes that explicit and hopefully students gain some self-awareness about how long things actually take.

15:30:36 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "How many hours are s..."

12 hours per week

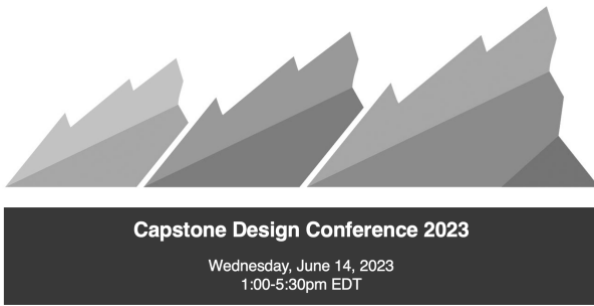
15:30:54 From Sarah Bloomer - Olin College (she/her) : Replying to "How many hours are s..."

we do 12 hours per week

15:31:22 From Mark Anderson-RPI : Replying to "How many hours are s..."

3 credits x 3 hours per credit = 9, with 4 being in class.





## Panel 2C Multi-department Cooperation

15:31:24 From William Miller Univ. Tennessee, Knoxville : Often students take Capstone without completing core course work. How do you handle

15:31:50 From Novella Keeling (CU Boulder) : What are the team roles in this structure?

15:31:54 From Sarah Bloomer - Olin College (she/her) : Replying to "How many hours are s..."

We block out all Wednesday for our capstone which most students appreciate. It solves issues about finding time to do work together.


15:32:23 From Bill Endres - Mich Tech : ME470 - How I have framed my program since I took over in 2009. Works well in many ways. Nice job! Thanks for sharing.

15:32:49 From Rungun Nathan : Why does the ME470 increase student performance?

15:33:19 From Jay McCormack - Rose-Hulman Institute of Technology : Replying to "How do you use the infor..."

I like to give a grade in terms of Red, Yellow, Green every sprint. I used to hang them on the wall so that everyone could see them. Visual management! I'll write them feedback and use it as a prompt for meeting. I'd prefer to minimize show and tell in meetings. This fills in for that. Then when we meet we can focus on process, planning, troubleshooting, etc.

15:36:17 From Dustin Rand (he/him) UVM : I do a "Student Choice" award after our Design Night event.

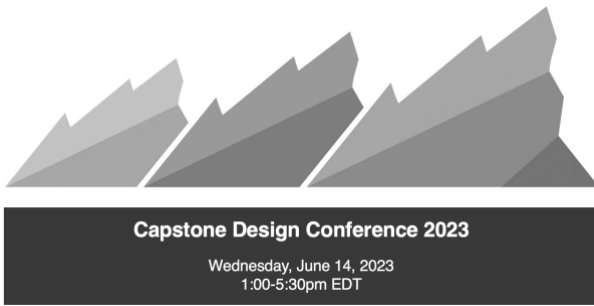
15:36:39 From Matt Bietz - UC Irvine (he/him) : Reacted to "I do a "Student Choi..." with 

15:37:12 From Hrushu Godbole (RIT) : Replying to "I do a "Student Choi..."

What stage of the course does 'design night' occur?

15:37:20 From Dustin Rand (he/him) UVM : We also have two Instructor given awards for "Innovative" and "Production Ready".

15:37:33 From Jay McCormack - Rose-Hulman Institute of Technology : I really like the most complete!



## Panel 2C Multi-department Cooperation

15:37:40 From Dustin Rand (he/him) UVM : Replying to "I do a "Student Choi..."

It is after the course is basically done.

15:37:51 From Michael Hirsch (Boston U.) : Reacted to "I really like the mo..." with 👍

15:37:53 From David Schmidt U of Minnesota : Replying to "How do use the infor..."

Thanks Kris, I was thinking about adding the 'best project' award. I can take that off my todo list maybe the student choice award is on my list now.

15:37:54 From Hrushi Godbole (RIT) : Reacted to "It is after the cour..." with 👍

15:38:20 From Dustin Rand (he/him) UVM : Replying to "I do a "Student Choi..."

It is a big hit. We hand out certificates and I have seen the awards on their resume.

15:39:32 From Julie Steinbrenner - CU Boulder : How often do teams see the work of other teams in your course?

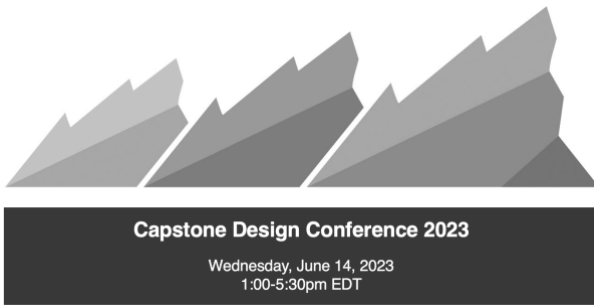
15:41:27 From Matt Bietz - UC Irvine (he/him) : We've struggled with finding ways to give impact awards that focus on what the students did rather than what their project sponsors did. For example, our students don't necessarily get their first choice project, but some are "build something useful for this business" while others are "help cure cancer" kinds of projects. Giving an impact award seems to be rewarding the sponsor's choice rather than the students' work. Do you have any advice about how to ensure the judging focuses on the students rather than the sponsor's choices?

15:41:28 From Edwin van der Vlist : Do you publish these awards?

15:41:47 From Steve Larimore - University of Arizona : Is there money with these awards?

15:41:53 From Shraddha Sangelkar | Rose Hulman | she/her : Are these awards only once a year/

15:44:31 From Kris Jaeger-Helton, Northeastern : Reacted to "We've struggled with..." with 👍



## Panel 2C Multi-department Cooperation

15:46:28 From Jay Goldberg (Marquette University) : Did any of your alumna further develop or commercialize the results of their projects after graduation?

15:46:40 From Kris Jaeger-Helton, Northeastern : Replying to "We've struggled with..."


We try not to eliminate any project in the description. If students have been able to see the value beyond themselves and focus beyond the single result and can convey that, then they are eligible!

15:47:24 From Kris Jaeger-Helton, Northeastern : Replying to "We've struggled with..."

Thanks for asking Matt!

15:47:29 From Mark Anderson-RPI : Replying to "Did any of your alum..."

two of mine did a kickstarter with some help from the sponsor. Failed. But succeeded the second time! They started a company. Have lost track of them - a good reminder to go look them up and check!


15:47:40 From Matt Bietz - UC Irvine (he/him) : Reacted to "We try not to elimin..." with 


15:47:41 From Sarah Bloomer - Olin College (she/her) : Wow! I love it, Susannah!

15:47:44 From Jorge I Rodriguez, PhD (UGA) : super fun podcast, want to hear it


15:47:45 From Beth DeBartolo - RIT : How long did this take??

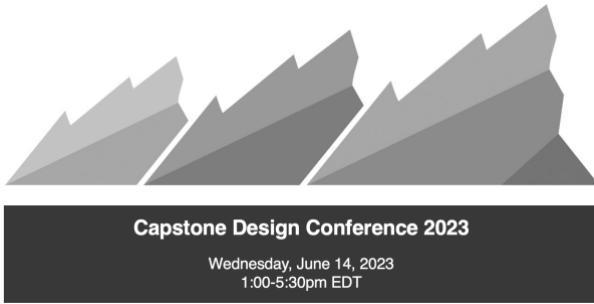
15:47:47 From Jay Goldberg (Marquette University) : It is impressive that you have kept in touch with so many past students.

15:47:55 From Mark Anderson-RPI : Reacted to "It is impressive tha..." with 



15:48:19 From Dorian Varga | UW-Seattle College of Engineering | she, her : Reacted to "super fun podcast, w..." with 

15:48:38 From Jorge I Rodriguez, PhD (UGA) : did you contact sponsors regarding not infringing NDAs?

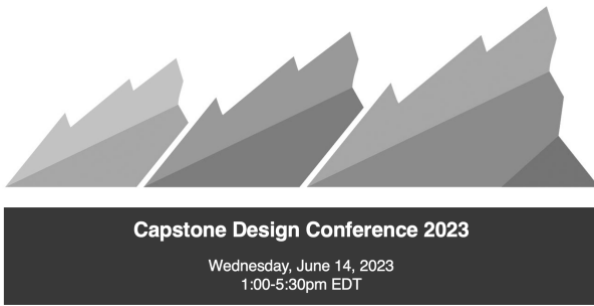
15:49:16 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "It is impressive tha..." with 



## Panel 2C Multi-department Cooperation

- 15:53:10 From Jenn Carlson (Michigan MDP) : Reacted to "two of mine did a ki..." with 
- 15:56:26 From Beth DeBartolo - RIT : Those are some really thoughtful insights from your students! Did you address unconscious bias?
- 15:56:50 From Laura Hirshfield (U of Michigan) to Todd Polk - UTDallas(Direct Message) : Are you good to share slides for the last two wrap up slides, or would you like me to
- 15:57:26 From Todd Polk - UTDallas to Laura Hirshfield (U of Michigan)(Direct Message) : I think they are in Susannah's so we don't have to switch again. If not I can do it
- 15:57:34 From Laura Hirshfield (U of Michigan) to Todd Polk - UTDallas(Direct Message) : Reacted to "I think they are in ..." with 
- 15:57:40 From Laura Hirshfield (U of Michigan) to Todd Polk - UTDallas(Direct Message) : Also breakout rooms are created, I will try to change breakout room names based on topics I see dropped in the chat
- 15:58:02 From Laura Hirshfield (U of Michigan) to Todd Polk - UTDallas(Direct Message) : (Rooms 1-7 are named right now, 8-20 are currently unnamed)
- 15:58:02 From Todd Polk - UTDallas to Laura Hirshfield (U of Michigan)(Direct Message) : OK - mainly 2-7 for the 6 breakout sessions
- 15:58:19 From Jay Goldberg (Marquette University) : Why wait 8 weeks for the workshop? Would it be helpful to hold this workshop at the start of the project?
- 15:59:15 From Shraddha Sangelkar | Rose Hulman | she/her : How long is the workshop/coaching? Would you be able to do a workshop for capstone instructors -coaching them to coach?
- 15:59:57 From Roger McCarty - Brigham Young University : Replying to "Why wait 8 weeks for..."

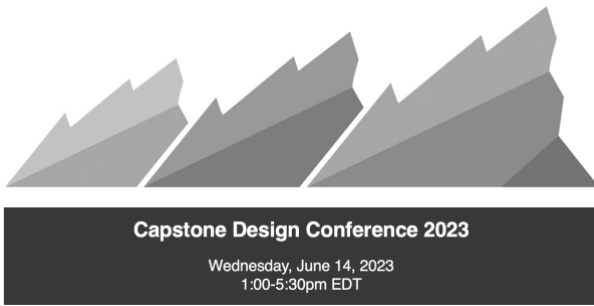
I agree that you could give some inclusion up front, but the mid semester is a much richer discussion.



## Panel 2C Multi-department Cooperation

- 16:00:05 From Matt Bietz - UC Irvine (he/him) : Did you discuss strategies for calling out/correcting bad behavior, or helping students speak up for themselves and others?
- 16:01:15 From Dustin Rand (he/him) UVM : thanks
- 16:01:38 From Kris Jaeger-Helton, Northeastern : Thanks, Susannah!
- 16:01:47 From Gail Hohner : thanks Susannah
- 16:01:52 From Kristine Nagel Ga Tech CoC : Thank you
- 16:01:55 From Susannah Howe | Smith (she/her) : Thanks to all the Nifty/Flop presenters!!
- 16:02:00 From Hugh McManus : thanks!!
- 16:02:04 From Mark Anderson-RPI : thank you to EVERYONE! I always appreciate the sharing!!
- 16:02:04 From Leah Fitzgerald (CO school of mines) : Hey all! Is there anyone on the call who sits more on the staff side of the house instead of faculty/academic side? I do stakeholder relations, events, marketing, business development etc. and new to my role. Looking for some contacts!
- 16:02:08 From Shraddha Sangelkar | Rose Hulman | she/her : Reacted to "Thanks to all the Ni..." with 👍
- 16:02:09 From Blake Everett Johnson : Thanks Susannah!
- 16:02:13 From Allyson Gibson (BYU) : Great ideas!! Thank you, everyone!
- 16:02:21 From Kris Jaeger-Helton, Northeastern : Reacted to "thank you to EVERYONE..." with 👍
- 16:02:37 From Beth DeBartolo - RIT : Notes docs for sure. Recordings may take a little longer.
- 16:02:45 From Laura Hirshfield (U of Michigan) : Replying to "Hey all! Is there an..."

Leah, I'll designate a room for this during News & Brews so you can hopefully connect with others who are in a similar role!



## Panel 2C Multi-department Cooperation

16:02:47 From Shraddha Sangelkar | Rose Hulman | she/her : Replying to "Hey all! Is there an..."

Reach out to Colleen Coxe from Harvey Mudd

16:03:22 From Jenn Carlson (Michigan MDP) : Replying to "Hey all! Is there an..."

I'm the program manager for our multidisciplinary design program. I do a little of both - working to get sponsors for projects in the summer but also working with students and curriculum in the on semesters.

16:03:29 From Hamid Rad : Thank you all! Great Sessions!

16:03:49 From Jenn Carlson (Michigan MDP) : Really enjoyed the sessions and the collaboration. Thanks!

16:03:49 From Laura Hirshfield (U of Michigan) : Replying to "Hey all! Is there an..."

Also I believe Rekha Manohar at Stevens

16:04:11 From Laura Hirshfield (U of Michigan) : I can rename rooms as people claim topics, too!

16:04:16 From Jorge I Rodriguez, PhD (UGA) : thank you all, see you at TN

16:04:32 From Blake Everett Johnson : Replying to "Hey all! Is there an..."

I'll throw Steve Zahos from UIUC under this bus! Steve has done great work for us.

16:04:42 From Nathan M. Kathir. George Mason : Thank you to all organizers and presenters!

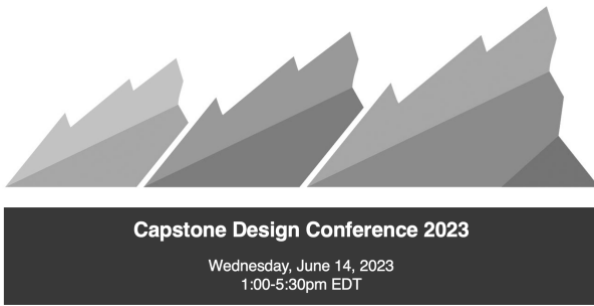
16:04:45 From Charles Maric, UCONN Engineering : Thank you everyone, Charles Maric

16:04:48 From Matt Bietz - UC Irvine (he/him) : Thanks everyone!

16:04:48 From Kristine Nagel Ga Tech CoC : Thank you and see you in TN

16:04:52 From Sanghun Kim/Temple Univ : Thank you everyone.

16:04:53 From Rungun Nathan : Thanks all



## Panel 2C Multi-department Cooperation

16:05:01 From Mustafa Mozael : Thank you all

16:05:02 From Sarah Bloomer - Olin College (she/her) : Thank you everyone! Lots of good stuff to chew on.

16:05:15 From Louis Taborda (Sydney) : Thanks from Sydney!

16:05:20 From Cassie Bowman (ASU/Psyche) : Thank you! See you in June!

16:05:32 From Stephen Zahos : Replying to "Hey all! Is there an..."

I do/have done a lot of this in Mechanical science and Engineering and Agricultural and Biological Engineering at Illinois

16:05:49 From Abdel Shuaib - Arizona State University : Thank you all.

16:06:06 From Dmytro Zagrebelnyy(UCR) : Thank you all.

16:07:02 From Mir Atiqullah(Atiq) - Kennesaw State U. : Thanks to the of organizers. Went so well, we should continue to do it