

# Implementing an “Intro to SST” Topics Course

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This study is designed to gauge Cal Poly Construction Management students interest level in a potential new topics course, “Intro to SST”, that will feature small building projects and emphasize construction safety. With this course, students will be more experienced and safe with building in the SST prior to the Residential and Commercial building labs, as well as receiving a brief knowledge of what goes into the trade jobs on a day to day basis. Students were asked to answer ten questions – nine survey and one free response. These questions were designed to provide quantitative and qualitative data that would inform the Cal Poly Construction Management department of student interest in a new topics course, and what subjects this course would include.

**Conclusion:** Survey results confirmed that Construction Management students would be interested in an “Intro to SST” topics course if it were offered in the curriculum, and that the current building labs in the SST do not provide enough building experience for students. Results from the interview with CM 102 Professor Tom Kommer highlighted the idea that this course would be well suited as a one unit lab attached to the CM 102 course. This option would be made possible by reducing required topics course units back down to seven, as they previously were, and keeping the overall units of the CM major the same.

**Key Words:** Survey, Topics Course, Construction, Student, Interest

## Introduction

Students in the Cal Poly Construction Management (CM) department enter the curriculum with the course CM 102 “Introduction to Construction Management”, where they learn the basics of the construction industry as well as brief information on material to be taught in more detail in future courses. These future courses also feature building projects in the Simpson Strong Tie (SST) lab to further student’s knowledge of the physical components of managing construction. However, students begin these labs without any experience or familiarity with the SST lab. This study is designed to gauge Cal Poly CM students interest level in a potential new Topics Course, "Intro to SST", that will feature small building projects and emphasize construction safety. The goal of this course is to introduce CM students to the SST lab earlier in their time at Cal Poly. With this Intro to SST course students will be more experienced in building in the SST, construction safety measures, and have a brief knowledge of what goes into the trades on a day to day basis prior to building labs in Residential and Commercial.

## Literature Review

For the literature portion of this project academic sources were not necessary. The survey and interview were conducted within the Cal Poly Construction Management department. However, a personal interview with CM 102 Professor Tom Kommer was conducted. And a Previous senior project which included an extensive survey was used for reference. These resources referenced at the end of this paper, and the interview transcript can be found in the paper references section of this senior project binder.

## Methodology

Data for this senior project was based around exploratory research through a survey of Cal Poly Construction Management students. Students of all years in the CM department were encouraged to participate in this survey that was sent out by the CM department via email. The survey was discussed and constructed with the help of Subject Matter Expert (SME) Dan Knight giving feedback on draft surveys. The survey was supplemented by an interview

with CM 102 Professor Tom Kommer to gauge feasibility and logistics of the potential course discussed in the survey. Ultimately, the student survey and interview would gauge student interest in an “Intro to SST” topics course as well as briefly touching on what this course should cover in its curriculum, and the logistics of offering such a course.

The survey featured ten different questions, and a brief “Intro to SST” course description at the beginning, in order to collect a variety of data from informed participants. Questions one asked the survey participant to state what year in the CM major they are. This was to gain a better understanding of the age of students taking the survey. Question two asked the participant if they would have been interested in the “Intro to SST” course, described at the beginning of the survey, if it had been offered during their time at Cal Poly. Question three asked the participant if they believed a course such as this would benefit younger CM students with experience prior to the Residential and Commercial building labs. Question four asked the participant if guest lectures from tradesmen would be beneficial to the course, and if it should be included in the curriculum. Question five was designed to gauge the students thoughts on their own building expertise, and if the projects that take place in the current building labs (Residential and Commercial) provided enough experience. Question six asks survey participants if they feel that there should be more physical projects done in the SST during their time at Cal Poly. Question seven asked the students for input on specific trades they would like more building experience with. Question 8 asked if students felt this course would be an efficient option for increasing building experience and confidence. Question nine determined if two hours twice a week would be enough time for this class in the participant’s opinion. And finally, question ten proposed an alternate possibility for this course to be offered as a lab component of the Intro to CM course “CM 102”, and how students felt about this idea. The results of this detailed survey are illustrated in the analysis below.

### Survey Analysis

**Question #1** determined the year at Cal Poly of students partaking in the survey. This information is essential in analyzing the following survey question results due to the fact that older students of the CM department have more experience and insight into the major curriculum. As well as having more industry experience and ideas of what the CM curriculum is missing. According to survey results more than half of the participants were fourth and fifth year students, with the next largest group being juniors. Having a majority of older students participate in the survey allows for the results to be looked at more seriously in terms of what the CM curriculum needs to improve upon, and possible things that it is missing.

#### Question #1: What year are you?

31 responses

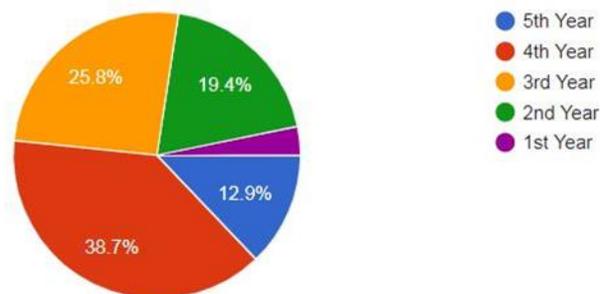
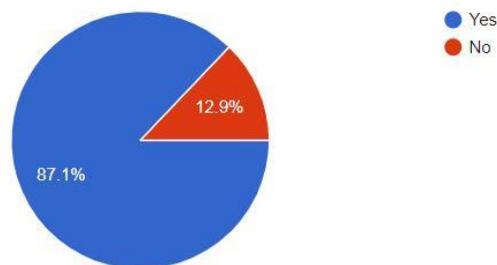


Figure 1: Response to Question #1: What year are you?

**Question #2** took a poll if students participating in the survey would be interested in taking this course if it were offered to them during their time at Cal Poly. Due to a majority of the participating students being upperclassmen, this question can provide a good consensus of if the current student body would be interested in this class or find it beneficial to their CM education. According to the survey results, a majority (87.1%) of students who participated in the survey would be interested in taking a course such as this.

Question #2: Would you have been interested in an Intro to SST Topics Course that featured small building projects, guest lectures, and emphasized construction safety if it were offered to you during your time at Cal Poly?

31 responses

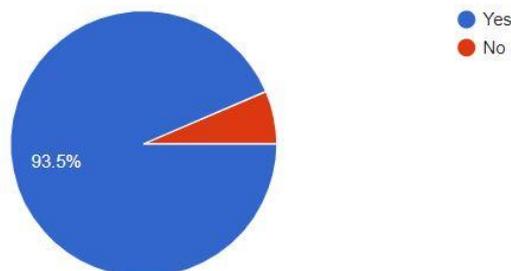


*Figure 2:* Response to Question #2: Would you have been interested in an Intro to SST Topics Course that featured small building projects, guest lectures, and emphasized construction safety if it were offered to you during your time at Cal Poly?

**Question #3** asked survey participants if a course such as this would benefit younger CM students prior to the projects done in the building labs. Nearly all survey participants (93.5%) agreed that this course would benefit the CM education of younger students.

Question #3: Do you think that a course such as this would benefit younger CM students prior to the CM building labs and projects?

31 responses



*Figure 3:* Response to Question #3: Do you think that a course such as this would benefit younger CM students prior to the CM building labs and projects?

**Question #4** pondered the idea of guest trade lectures being incorporated into this potential classes curriculum. All of the survey participants (100%) agreed that guest trade lectures would be beneficial to this course.

Question #4: Do you think guest lectures from tradesmen should be included in this course?

30 responses

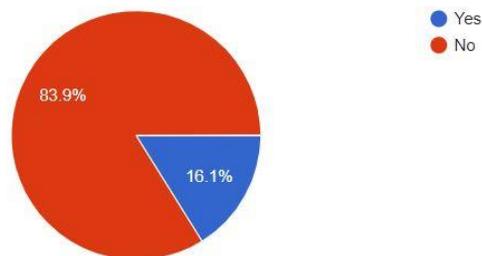


*Figure 4:* Response to Question #4: Do you think guest lectures from tradesmen should be included in this course?

**Question #5** determined if students feel that the current projects in the CM building labs provide them with the enough building experience to be confident and satisfied with their physical construction abilities. The general consensus (83.9%) between survey participants was that students are not satisfied with the experience gained from the current building projects within the curriculum.

Question #5: Do you feel that the Building Projects in the SST from the lab courses (Resi, Commercial, etc.) alone provided you with enough building experience?

31 responses



*Figure 5:* Response to Question #5: Do you feel that the Building Projects in the SST from the lab courses (Resi, Commercial, etc) alone provided you with enough building experience?

**Question #6** asked survey participants if they believe that more projects should occur in the SST lab during the Cal Poly curriculum. All survey participants (100%) concurred that there should be more projects done in the SST building. The results imply that students would like more hands on building experience out of the CM classes, and adding another course that features building activities may be the answer.

Question #6: Do you feel that there should be more construction projects done in the SST during your 4-5 years at Cal Poly?

31 responses



Figure 6: Response to Question #6: Do you feel that there should be more construction projects done in the SST during your 4-5 years at Cal Poly?

**Question #7** was a write in section where participants could type out trades that they wish the CM curriculum had given them building experience in. Various trades were given as responses, but there was a recurring answer of MEPF trades. Specifically: Electrical, Plumbing, and Mechanical were mentioned fifteen different times out of the thirty one survey responses in different forms of write in answers.

Question #7: Are there any trades that you wish CM had given you building experience in?

30 responses

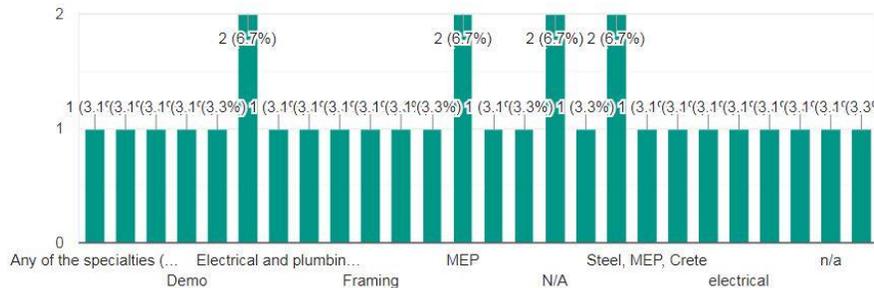


Figure 7: Response to Question #7: Are there any trades that you wish CM had given you building experience in?

**Question #8** examined the participant’s thoughts if a class such as the “Intro to SST” course discussed in this survey would be a viable option for increasing building time in the SST, and covering the topics that students desired more building experience with. Most of the participants (93.5%) agreed that this type of course would be a good way to cover the student’s needs.

Question #8: Do you see a topics course with small weekly building projects as a viable option for increasing CM students building confidence, safety, and experience?

31 responses

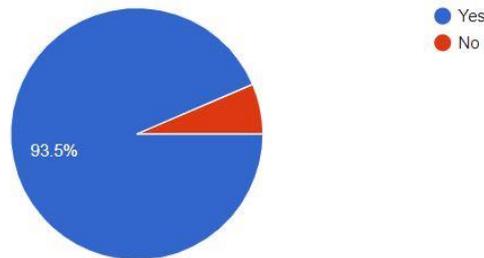


Figure 8: Response to Question #8: Do you see a topics course with small weekly building projects as a viable option for increasing CM students building confidence, safety, and experience?

**Question #9** proposed that the “Intro to SST” course discussed would meet for two hours and twice a week, as a standard Cal Poly course. Question #9 also asked if students felt this was enough time to complete the components of this course. The results were fairly mixed, but a more than half of participants (56.7%) felt that this would be enough time for the courses weekly meetings.

Question #9: This course is proposed to meet for 2 hours, twice a week. Do you feel that this is enough time to hold brief lectures and complete building activities?

30 responses

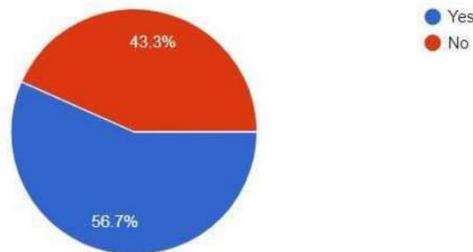
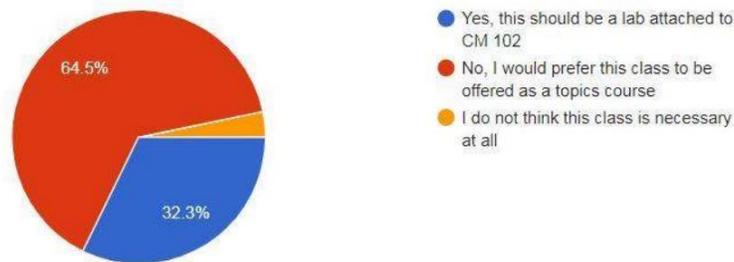


Figure 9: Response to Question #9: This course is proposed to meet for 2 hours, twice a week. Do you feel that this is enough time to hold brief lectures and complete building activities?

**Question #10** proposes an alternate solution to address the building experience needs of CM students. Question #10 asks if the Intro to SST course would be better suited as a lab attached to the CM 102 course. In response to this last question a majority of participants (64.5%) said that they did not like this option. This result concurred with the idea that this course would be better accepted by students as a topics course.

**Question#10:** Do you think this proposed “Intro to SST” topics course would be better suited as a (1) unit lab attached to CM 102?

31 responses



*Figure 10:* Response to Question #10: Do you think this proposed “Intro to SST” topics course would be better suited as a (1) unit lab attached to CM 102?

The results of the survey are very clear in that the student participants are interested in a course such as the proposed “Intro to SST”, and would like more building experience in the SST during their time at Cal Poly. The interview conducted with CM 102 Professor Tom Kommer yielded similar results as well. In response and discussion of the survey questions, Tom agreed that an “Intro to SST” lab would greatly benefit younger CM students. Tom also felt that trade lectures would be very beneficial for younger students as they generally do not have any knowledge of the trades. In terms of feasibility, Tom felt that his trade contacts would happily come in and give lectures and activities for students to educate them on the daily activities in MEPF trades. However, in contrast to the survey results, Tom felt that this course would be best suited as a lab attached to CM 102 instead of offered as a topics course. Tom liked the idea of CM students working with the trades early on, as well as completing hands on activities earlier in their time at Cal Poly. With this in mind he believed that this course should be required of everyone and not left up to choice.

## Conclusion

This study took into account the interest level of current Construction Management students on the addition of a new topics course called “Intro to SST”. This course would meet twice a week for two hours, and feature guest lectures from tradesmen as well as small building activities completed during class time. The idea for this new class comes from the general desire to complete hands on building activities by the CM students. And through the detailed survey conducted and analyzed within this study, it is clear that CM students do not feel content with the amount of building currently incorporated into the CM curriculum. The survey results revealed that a majority of students surveyed (83.9%) do not feel that the current building activities in the Residential and Commercial labs meet their hands on building needs. And due to this statistic, a large percentage of surveyed students would be interested in a course that features more building projects in the SST (87.1%). When asked what trades students would like more knowledge and building experience of, MEPF trades were a common theme (15 out of 31 surveys expressed the need for more MEPF building activities) brought up in the survey results. Through the interview with Professor Tom Kommer, these results were exemplified when he agreed that students would benefit from a class that features MEPF building activities. Tom also stated that it would be easy to have his trade contacts come in and give guest

lectures in a course such as this, making the course seem very feasible to set up regularly with multiple teachers and their trade contacts.

It is through analysis of the results of the detailed survey of Construction Management students, and the interview with Professor Tom Kommer, a conclusion can be successfully drawn and new information can be presented to the CM department of Cal Poly. This information being that students feel the need for more information and experience with the MEPF trades and building activities associated with these trades, and that an appropriate way to serve these needs is through an additional course that features guest trade lectures and MEPF building activities such as the proposed “Intro to SST” topics course discussed in this study. Alternatively, this course could also be approached as a one unit lab attached to CM 102, and taught by the CM 102 professors using their trade contacts for supplemental lectures. If the option for this course to be proposed as a one unit lab attached to CM 102 is pursued, required topics course units could be reduced back down to seven units, as they were previously, keeping the total units of the CM major the same.

### **Future research**

Students surveyed felt that an “Intro to SST” topics course was a class that they would have been interested in taking. And CM 102 professor Tom Kommer was enthused upon the idea of more MEPF lectures and building activities for young CM students. This information gathered provides the opportunity for future research in the form of a course curriculum. Based off the student interest in the proposed course, a fellow student could meet with possible professors for this course and create a course curriculum that would satisfy student and teacher needs for the “Intro to SST” course. This future research would provide a concrete course design that the CM department could evaluate and use to consider implementing the course into the curriculum.

## References

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