

The Need for a Real Estate Development Capstone Course

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Cal Poly has extremely well-known programs in Construction Management, Business, Engineering, and Architecture. All of these programs have contributed multiple leaders to the building industry every year yet have neglected to integrate the different disciplines that overlap within the industry. The research the author has collected to support the need for a real estate development capstone course included in-person interviews, online research, personal experience, and team surveys. The research concluded the need for a real estate development capstone course that would integrate students from the school of Business, Architecture, and Construction Management. In order to build a successful project, all disciplines generally should work together to help navigate the different stages of a project. The creation of the real estate development capstone experience would allow students to graduate with a better understanding of all parties' roles associated with a given project. In addition, students would be able to demonstrate to industry leaders a complete understanding of the built environment while they would have the ability to show a tangible real-world example of work in their specific field.

Keywords: Capstone Course, Real Estate Development, Student Competition, Construction, Business

Introduction

Cal Poly's College of Architecture and Environmental design is the largest program of its type in the nation and won Best in the West for the 27th consecutive year for number one public, masters-level university (Lazier, 2019). The school of Business, CAED, and Engineering contribute multiple leaders to the building industry every year. Building a project within the industry acts similarly to a bicycle wheel. The spokes on the wheel consist of Architects, Engineers, Contractors, Banks, Pension Funds, Brokers, Capital Markets, Interior Designers, Political Involvement, City Planning, and many more players in the industry. At the center of the wheel is the owner of the project. All of these different "spokes" overlap and work together to support the owner and create a successful project (D. Cropper, personal communication, December 21, 2018). To be successful within one's industry, it is recommended to have an understanding and ability to communicate and work with the other disciplines. Students applied to Cal Poly under a specific major and some jump into major specific classes during the first quarter of their freshman year. In construction management, students gain industry experience early on. The author views this as a positive because it provides personal confirmation if he or she chose the right major. However, after the author's four years at Cal Poly, he observed a flaw in the system due to the lack of connectivity and overlap between the College of Architecture and Environmental Design and the College of Business. Students did not work with students from other majors unless they sought out this experience and added additional work to their course load.

In a field where collaboration and overlap between industries is helpful to succeed, Cal Poly neglects to demonstrate this to their students. This report is developed to encourage integrating students from the College of Architecture and Environmental Design with the College of Business. By connecting CAED and College of Business, Cal Poly graduates would leave with a better understanding of the industry and connections between disciplines. This report used research to support the need for a capstone course that creates the opportunity for Cal Poly to start harmonizing these separated colleges and majors. The author recommended that Cal Poly adds an intensive Capstone Project Class that covers a development project from start to finish and encompasses College of Architecture and Environmental Design as well as Real Estate Finance concentrations from the College of Business.

The senior project is the culminating capstone project for Cal Poly undergraduates and was originated as a 5,000 word “senior thesis” in 1941. In 1953 the thesis was renamed “senior project” to reflect a learn by doing philosophy. “Students typically spend two quarters exploring an idea through design or construction, an experiment, self-guided study or research, a presentation, or a portfolio display or performance.” (Sorveti, The Capstone). Students work as an individual or in groups, have access to faculty advisors, and at the end have a tangible representation of their undergraduate work (Sorveti, The Capstone).

Due to the nature of a real estate development project, it is clear that a single discipline cannot manage it in its entirety (Chan et al, 2002). In order to be a successful construction/project manager it is necessary for the construction industry to understand activities before and after their phase of work (Olbina, 2008). In order to create a confident and more effective student, a “capstone” course must emulate a real-life culminating experience (Desai, Tippins, Arbaugh, 2014). To understand project planning and feasibility/site development their needs to be a collaboration of multidisciplinary material relevant for construction and real estate students. The evolution of a capstone course not only provides gained knowledge in all disciplines, but also requires growth in student collaboration and communication skills. The method of a capstone course encourages both critical thinking and self-learning. (Olbina, 2008).

In competitions like the ULI Hines Student Competition, student participation allowed the opportunity to combine knowledge gained from prior coursework while started to form a holistic, tacit knowledge of real estate development. In addition, the integration of team-based learning and project-based learning is a combination where student greatly benefit from collaboration, leadership, and the application of course content to real-world examples (Charles, 2016).

Methodology

The research supporting the need for a capstone course are:

- Face-to-face interview with program expert
- Online resources
- First-hand experience
- Student survey from case participants

Interview with John Day

John Day has a master’s degree in Real Estate Finance and Development from New York University. John ran his own development company for 15 years from 2003 until 2018. John purchased existing assets as well as doing adaptive reuse projects by using historic tax credits. He also invested in urban

office, structured and surface parking, ground up residential, and retail. During that time John was involved as a principal in the purchase and development of a portfolio with a value in excess of \$100,000,000. John oversaw all aspects of the purchase, sale, financing, asset and property management, partnership management, and development and construction of the portfolio. Prior to that he was an acquisitions and finance associate at Time Equities, Inc. in New York for five years. His responsibilities included sourcing deals and closing transactions around the country and Canada, doing analysis of potential transactions as well the financing of an internal portfolio valued at more than \$3,000,000,000.

USC Real Estate Development Curriculum

The University of Southern California offers one of the most comprehensive undergraduate real estate educations in the country. This curriculum covers all facets of real estate development, finance, and investment at the undergraduate level. The university requires an Undergraduate Capstone Experience which allows students to apply their track skills and knowledge to complete an analysis of a specific real-world project. Students pride themselves on the ability to graduate with a degree as well as tangible experience to showcase to potential employers.

Online Sources on Innovating Together

The University Innovation Alliance published an article titled, “Innovating Together: Collaboration as A Driving Force to Improve Student Success.” The University Innovation Alliance is the national coalition of public research universities that commit to increasing diversity and amount of college graduates in the United States. At the UIA, they share which innovations are most effective at helping students and pride themselves on transferring good ideas from one institution to another.

Participating in ARGUS and NAHB Student Competition

By participating in the NAHB Student Competition and ARGUS University Challenge, the author became aware of the importance of being involved in activities that integrated and incorporated students from different majors.

The NAHB team was made up of students from Construction Management, Business, Architecture, and Environmental Management and Protection. Students were given a piece of land in Coweta Oklahoma and created a 100-page proposal for a 507-home master plan. The Cal Poly team presented to a panel of judges in February and placed 3rd overall against schools across the Nation.

The ARGUS University Challenge is made up of Business students with the exception of the author and one other Construction Management Major. In total there were 5 students on the team. This competition enabled the team to learn and practice a leading financial modeling software. At the end of the competition the team delivered a packet to a panel of judges and placed third 3rd overall.

ARGUS and NAHB Student Competition Survey

In order to obtain feedback from fellow students who competed in either the ARGUS University Challenge or NAHB Student Competition, the author created a survey that all participants on both teams answered. The survey asked the following three questions:

- Do you feel it was beneficial to participate in the contest?
- In comparison to class, did you feel like you learned much more, less, or about the same from participating in the contest?
- How much did you learn from and value the collaboration between majors?

The students who participated in both competitions have first-hand experience of the value and importance participating in these group competitions as it complimented their Undergraduate Education experience. It is critical that students demonstrate their desire and interest in the following programs to gauge the demand.

Results and Discussion

The following information was gathered through interviews, relevant research, similar curriculums, and a survey. The goal of collecting these results was to extract information needed to support the need for a capstone course at California Polytechnic State University.

Interview with John Day

The author sat down with Cal Poly's College of Business new hire John Day on March 7, 2019 to discuss his goals and vision for the program moving forward. This interview was conversational and did not have specific questions outlined prior. John's role is to strengthen the Real Estate Finance program and create connectivity between the College of Architecture and Environmental Design with the College of Business.

In the authors interview with John Day, the future of the real estate program at Cal Poly was discussed. John emphasized that the key to growing the program is to work backwards; by first understanding the industry needs and expectations. Next, the program will be able to fulfill all industry needs through developed classes, projects, networking, and career building events. John's main goals are to help students create a wider knowledge base of the real estate industry, have access to practical industry-based education, and access to a vibrant network within the real estate community.

John emphasized that the biggest room for improvement in Cal Poly's program lies within further developing underwriting skills and deal specific knowledge. The only way to create and improve upon these skills is to create a project or class that simulates realistic development projects within the industry. Underwriting has been briefly spoken about in some real estate finance classes, though is not a requirement upon graduation. This is an issue as it is known that most graduates will need to understand underwriting while entering into their careers.

John recognized both the College of Business and CAED programs willingness of cater towards industry needs. By understanding what leading companies are looking for, Cal Poly could create students who are not only ready for the work force but sought after as the top of their class. By creating strong relationships with industry professionals, students would see an increase in hiring straight into real estate, and companies would become more involved both financially and contributory with Cal Poly.

USC Real Estate Development Curriculum

For over 30 years, USC's Price School has been on the forefront of real estate education. The Price School offers a Bachelor of Science in Real Estate Development that puts an emphasis on the fields of finance and capital markets, regional and city planning, environmental regulation, architectural design, and public policy.

A graduation requirement for USC's Real Estate Development Curriculum is either a Capstone project or a Senior Thesis. The Capstone project allows students to implement skills learned to complete an analysis of a specific real-world project. Students work with organizations and agencies on planning, policy, health, and the development process. An example of a past group project was how to diminish health disparities and increase quality of life in South LA, a site of economic disinvestment and poor food resources. The capstone project created collaboration with students studying public policy, planning, health, real estate development, and nonprofit management. By integrating a variety of fields, students are able to apply skills from all areas of study and strengthen communication skills between separate industries. Upon graduation students graduating from this program are able to speak to their capstone course while networking in order to demonstrate the skills learned and needed to start their careers off to a strong start.

Integrating Majors

The author assumed that the majority of professors that teach higher education courses recognize the value of collaboration. While attempting to integrate collaboration the following are obstacles to be considered:

1. Competition discourages collaboration
2. Current structures encourage exclusivity
3. Colleges and Universities need a more effective way to share ideas
4. Higher education needs a more useful method for scale

The biggest challenge for leaders in higher education is to create a program that incentivized collaboration behavior in order to drive innovation that meets the needs of the industry and students. "Developing a successful model for collaborative innovation—for innovating together—is thus the most sorely needed disruption in higher education" (Burns, B., Crow, M. and Becker, M. 2019). To capitalize on the quality of the college degree, the more students are exposed to industry standards, the more social and economic mobility would be achieved.

Participation in ARGUS and NAHB Student Competition

By working together towards a common goal, students were able to effectively apply knowledge gained from their specific major and collaborated with each other. After working on the NAHB and ARGUS competitions, the author was amazed at all the knowledge the author was able to gain from other students. After working with fellow Construction Management, Business, and Architecture students the author was able to form relationships and most importantly learn what it takes to collaborate and come to conclusions that work for both parties. Being exposed to different aspects within the industry help changed the authors professional focus from construction management to real estate development. The competitions allowed the author to improve and learn the necessary skills to do so. In addition to gaining the proper knowledge, participation in the two extra-curricular competitions, the author has concrete evidence of applicable real estate knowledge that can be shown and demonstrated to real estate professionals. As a Construction Management major, the author had a desire to improve the authors skills and understanding in financial underwriting. After being

disappointed in the lack of knowledge the author gained in Real Estate Finance, the author sought out participation in these competitions to fill a lack of curriculum. Although, the skillset of underwriting is not desirable for all construction management majors, by combining the skillsets captured from different majors and working in a collaborative environment, the author was able to drastically improve the authors understanding of the built environment.

ARGUS and NAHB Student Competition Surveys and Interviews

The attached figures demonstrated the appreciation and desire of students who have participated in the ARGUS University Challenge or NAHB Student Competition. The majority of students demonstrated that these experiences were worth their time, added to their education experience, and found it to be beneficial to work with students from different background.

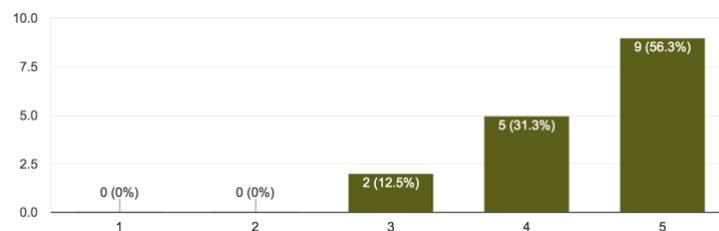


Figure 1. Do you feel it was beneficial to participate in the contest?

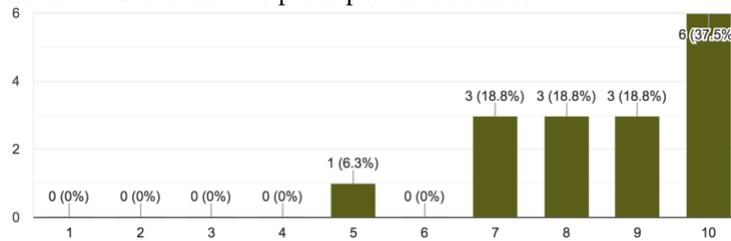


Figure 2. In comparison to class, did you feel like you learned much more, less, or about the same from participating in the contest.

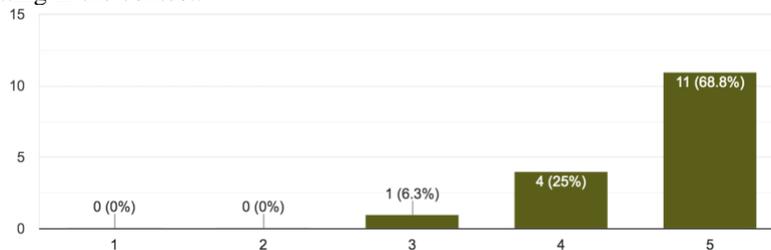


Figure 3. How much did you learn from and value the collaboration between majors?

Conclusion

After the following research was analyzed, it is clear that Cal Poly has the need to expand and grow the real estate program when it comes to development specific knowledge. This is a field of study that multiple majors would benefit from and be able to contribute to. The research that the author collected supports the need to create a course that takes a sample development from start to finish with students

from the College of Architecture and Environmental Design as well as Real Estate Finance concentrations. After participating in this rigorous capstone course, students would be able to receive senior project credit for the school of Construction Management.

Criteria

After the research above from multiple sources was analyzed, the author came to the conclusion highlighted below. These conclusions take into account the criteria given to the author by John Day. The criteria needed to integrate a capstone course includes a (1) credible professor with thorough industry experience in multiple product types, (2) research supporting the benefit of integrated classes amongst separate majors, (3) the recommended class or competition must fulfill industry standards and provide skills needed upon hiring.

1. Finding a credible professor to teach the proposed Capstone course and/or assist a project will not be a problem. The professor recommended to teach the capstone course would be John Day. Professor Day has extensive industry knowledge in Real Estate Development. He specializes in underwriting skills which will be a main focus of the course. John oversaw all aspects of the purchase, sale, financing, asset and property management, partnership management, and development and construction of the portfolio. In addition to John Day, Pratih Patel teaches the current Underwriting course and has extensive knowledge to teach and/or assist in the creation of this course. Teachers that could help manage the construction managements role in this project are Scott Kelting. Scott leads the NAHB development competition and Real Property Development Minor, making him the most experienced in leading development case studies.
2. The benefit of integrating majors gives students a broader and more diverse education experience. This allows students to collaborate with classmates and encourages peer to peer communication. Figure 3 demonstrated how much students valued major to major collaboration during the project by using a scale of one to five. Eleven out of the sixteen students responded with a five, stating the strongest value possible, and four students rated the benefit of collaboration as a 4. It is clear from the survey given that students learned from their work with other majors and feel like these skills are necessary to participate in real world projects.
3. The final course the author am suggesting would be a senior group project that could incorporate students from all of the CAED majors as well ones from the business school's real estate finance concentration. The project teams would have to take a sample development from start to finish. The various tasks needed to complete the development (entitlement, design, CM, etc.) would be done as a group, not just by the student who specializes in that part. However, that student would act as a team leader during the phase involving his or her specialty. This format would allow the students to understand the development process as a whole and hopefully make them better at their specialty. Projects would be pulled from real world listings and professors would apply expectations current to industry professionals.

The recommendation is properly supported by the research provided and should be strongly considered. There is no reason why a capstone course would not be implemented at Cal Poly. The capstone course would benefit all graduates of Cal Poly and give them an advantage and head start in their professional careers.

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