Andrew R. Kline

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Construction Management Department
College of Architecture and Environmental Design

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EDUCATION

Arizona State University – Tempe, Arizona
Doctor of Philosophy in Construction Management
Currently Enrolled - ABD Spring 2023, expected graduation Fall 2024

Sam Houston State University – Huntsville, Texas
Master's in business administration
Concentration in Management
Graduated August 2017

California Polytechnic State University – San Luis Obispo, California
Bachelor of Science in Construction Management
Graduated March 2011

ACADEMIC EXPERIENCE

California Polytechnic State University, San Luis Obispo, CA

2021 - Present **Assistant Professor** - Construction Management Department
2017 – 2021 **Full-Time Lecturer** - Construction Management Department

PROFESSIONAL EXPERIENCE

2014 – 2017 **Construction Project Manager –** Snyder Langston, Irvine, CA
Snyder Langston is a professional construction management company specializing in Commercial and Multi-Family construction. The company has been ranked as a top-5 builder in Orange County more than 20 years. My responsibilities included preconstruction and construction services on Multi-Family projects including a $70M, 435 unit apartment development and a $15M, 58 Unit Retirement community. I managed the project team onsite, meet regularly with owners and design team regarding cost and schedule control, as well as managed our 40+ subcontractors on each project.

2011 – 2014 **Assistant Superintendent, Senior Project Engineer, and Project Engineer –** Snyder Langston, Irvine, CA

Worked as an Assistant Superintendent and as a Senior Project Engineer at Tustin Legacy, which was an $85M 533-unit apartment development owned by the Irvine Company. I worked as a Senior Engineer throughout the buyout process, successfully buying out and contracting 45 subcontractors. I oversaw four engineers onsite and reported directly to the Project Manager. I oversaw cost management as well as managed the engineers who were dealing with project document control and schedule management. As the project progressed, I oversaw the owner and city punchlist process for the entire project and worked as an Assistant Superintendent. We turned over 533 units consisting of 14 individual buildings, one pool facility, three amenity areas, and 20-acres of site work in less than six months.

I worked as a Project Engineer directly onsite at Bella Riviera, a $40M Multi-Family Condo/Affordable Housing project in Santa Barbara, CA. The project consisted of two podium decks with 115 condominiums. I worked directly with the site Superintendent and Project Manager and was in charge of schedule management, document control, RFIs, submittals, City and 3rd Party inspections, punch walk creation and implementation, and the overall project close-out.

2010-2011 **Project Engineer –** Sansone Engineering Co., San Luis Obispo, CA
As I was completing my education at Cal Poly, I worked for Sansone Engineering Co. The local San Luis Obispo company focuses mainly on federal and state civil engineering projects. I worked directly with the Chief Estimator and President of the company, organizing and submitting proposals ranging from $200,000 to $5M. I worked with several government agencies throughout the preconstruction and construction process.

PROFESSIONAL CONSULTING

2020 - Present **Largo Concrete**
Preconstruction consultation focused in the following areas: scheduling, estimating, project bidding and buyout.

2017-Present **Snyder Langston**
Construction Management consultation focused in the following areas: scheduling, cost management, project controls, buyout, and estimating

2017-Present **Belmar Construction**
Estimating, preconstruction services, and Project Management consultation

2019 **Wesley Thomas Construction**

Bluebeam consultation and software training. Prepared and taught four classes to different groups of the company including: upper management, Project Managers, Project Engineers, and Superintendents.

PROFESSIONAL LICENSURE & CERTIFICATES

LEED Green Associate (LEED GA)
United States Green Building Council (USGBC) – Attained March 2014

OSHA 30 Certification
Occupation Safety and Health Administration – Attained February 2017

PUBLICATIONS, PRESENTATIONS, AND EXTERNAL GRANTS

REFERRED CONFERENCE PUBLICATIONS AND PRESENTATIONS:

Kline, A., & Ayer, S. (2022). Student Perceptions of Construction Scheduling Teaching Methods. *EPiC Series in Built Environment*, *3*, 605-613.

Kline, A., Cleary, J., & Kelting, S. (2022). The Impact of Virtual Construction Field Trips on Students' Perceptions in Commercial Construction. *EPiC Series in Built Environment*, *3*, 416-424.

Morse, K., Kolegraff, S., & **Kline, A.** (2022). Initial Perceptions of Remote Virtual Inspections in the Residential Construction Industry Sector. *EPiC Series in Built Environment*, *3*, 624-632.

Cleary, J., Kolegraff, S., & **Kline, A.** (2022). Students' Perception of Instructional Delivery Methods Utilizing Various Teaching Modalities in an Integrated Construction Management Curriculum. Construction Research Congress 2022. American Society of Civil Engineers.

Kline, A., Kolegraff, S., & Cleary, J. (2021). Student Perspectives of Hands-on Experiential Learnings's Impact on Skill Development using Various Teaching Modalities. In V. Akerson & M. Shelley (Eds.), Proceedings of IConSES 2021 – International Conference on Social and Education Sciences (pp. 1-10), Chicago, USA. ISTES Organization.

Kolegraff, S., Cleary, J., & **Kline, A.,** (2021). Student Perceptions of Instructional Delivery Methods Utilizing Various Teaching Modalities in an Integrated Lab Curriculum. Associated Schools of Construction International Proceedings of the 57th Annual Conference.

Kline, A., Fernanda, L., & Isatto, E. (2020) The Perspectives of Three University's Building Information Modeling Course Development. American Society for Engineering Education (ASEE) 2020 Annual Conference Proceedings.

Kline, A., Kelting, S., & Kolegraff, S. (2020) Students Perspectives of Experiential Learning

in a Technical Education Program. IAFOR International Conference on Education 2020 Proceedings.

Kolegraff, S., **Kline, A.,** & Kelting, S. (2019) Hands-on Building as an Instructional Delivery Method in an Integrated Lab Curriculum. Associated Schools of Construction International Proceedings of the 55th Annual Conference.

EXTERNAL GRANTS

Associated Schools of Construction (ASC) Regions 6 & 7 Grant

The purpose for requesting the funding is to provide materials and equipment for a one-week construction boot camp for high school women at Cal Poly's campus is Summer 2022.
Funding Awarded = $5,000

Co-PI on NSF Grant (2020), Major Research Instrumentation Program

Acquisition of Multi-axial Actuator System to Simulate Earthquake Loading, with (PI) Dr. Anahid Behrouzi, (Co-PI) Dr. Charles Chadwell, (Co-PI) Dr. Dale Clifford, and (Co-PI) Dr. Peter Laursen.
Funding Awarded: $340,374

Associated General Contractors (AGC) Faculty Residency (Summer 2020)

Summer Internship grant, worked on-site with Largo Construction on the Cal Poly Science Technology and Research Center

- Gained valuable current professional experience to be utilized in the classroom and used to update current course curriculum. Provided quality feedback to Largo concrete and AGC to improve future internships and project engineer training.

PAPERS UNDER REVIEW & PUBLICATION (2022-23)

Kline, A., Ayer, S. (2023). Augmented Reality (AR) in Construction Education and Related Fields: A Systematic Literature Review. **Abstract Submitted** to the Canadian Society for Civil Engineering (CSCE) 2023 International Conference

PROFESSIONAL FEATURES, INVITED LECTURES, AND PEER REVIEWER

2022 Peer Reviewer - Associated Schools of Construction (ASC) Regional Conference

2021-22 Invited Guest Lecturer/Teacher for the Virtual Design in Construction (VDC) Faculty Boot Camp

- Worked with Bluebeam (construction technology company) to prepare course materials and presented this material with Bluebeam's Technology Director.

- 20 faculty members from across the country were selected , each had to submit proposals to attend this three-day VDC teaching seminar.

2021 Featured in Touchplans Blog Series - *College Students Prepare for Their First Construction Job with Hands-on ConTech Training*
https://touchplan.io/blog/college-students-prepare-for-their-first-construction-job-with-hands-on-contech-training/

2020 Featured in BUILT – The Bluebeam Blog
Featured faculty: Bluebeam Office Hours: Cal Poly's Andrew Kline
https://blog.bluebeam.com/bluebeam-office-hours-cal-polys-andrew-kline/

2020 Featured in Construction Educator Podcast – Sponsored by Procore (11 Faculty featured in U.S.), *Construction Management Professors Weigh in on Educating the Next Generation.*
https://www.procore.com/jobsite/construction-management-professors-weigh-in-on-educating-the-next-generation/

2020 Featured in Applied Software website article
Cal Poly Introduces Future Project Mangers to Bluebeam
https://www.asti.com/cal-poly-introduces-future-project-managers-to-bluebeam/

2020 Featured in Autodesk Education Webinar Series, presented on Cal Poly's CM 280 course

PROFESSIONAL CONFERENCES & WORKSHOPS

2022 **IConSES 2021 – International Conference on Social and Education Sciences**

2018-22 **International Conference of the Associated Schools of Construction (ASC)**

2018-21 **Autodesk University** – Sponsored by Autodesk to attend

2019-21 **Bluebeam XCON – Master Track Faculty,** sponsored by Bluebeam to attend

2021 **CTLT eLearning Addendum Workshop**

Aug 2018 **Center for Teaching, Learning, and Technology (CTLT) – Cal Poly SLO**
Flipping Your Classroom Workshop

2020 **American Society for Engineering Education (ASEE) Annual Conference**

2018-19 **AEC Next Technology Conference**

2018 **Carpenters Union Training Center Visit – Cal Poly Intern Event**

Oct. 2018 **Procore Faculty Training Workshop**

Nov. 2018 **Autodesk Faculty Training Workshop**

TEACHING RELATED ACTIVITIES

COURSES TAUGHT & COURSE DEVELOPMENT

CM 102 – Introduction to Construction Management

- Worked with the faculty coordinator to update the existing course packets and lectures. Improvements and developments included:
  - Updating the BIM, scheduling, and takeoff learning modules. Enhanced the lectures to include current industry practices and upcoming trends, and updated the tests to reflect this current information.
  - Created a Polylearn course module, providing students access to course material 24/7, including: lectures, homework assignments, and study guides.

CM 114 – Construction Materials and Assemblies Lab

- Worked with the faculty coordinator to update the existing course packets to include current industry practices and material testing techniques. Improvements & Developments included:
  - Created a Polylearn course module, providing students access to all course material 24/7, including: course packets, flashcards, quizzes, and lectures.

CM 115 – Fundamentals of Construction Management

- Created over 50 hours of instructional videos, videos included:
  - Quantitiy Takeoff and scheduling lectures
  - Revit and Autocad detailed instruction and walkthroughs
  - Bluebeam introduction and takeoff walkthroughts
  - Created a Canvas course shell, providing students access to all course material 24/7, including: course packets, flashcards, quizzes, lectures, and software resources.

CM 280 – Building Information Modeling

- Responsible for course delivery, as well as serving as faculty coordinator for all sections offered (typically 3-4 sections per quarter). Made improvements to the course to increase student engagement and overall learning. Improvements & Developments included:
  - Created a fully asynchronous course made up of 15+ hours of video lectures and software system instruction
  - Enhanced the Canvas portal, this class is now completely paper-less. Implemented a number of Canvas features to enhance the course: weekly quizzes, training videos, final exam, discussion boards (for lessons learned), homework assignments, and lecture notes.
  - Updated four new software modules: Revit, Sketchup, Bluebeam, and Excel, in order to be more current with industry standards and practices.

CM 313 – Commercial Construction Management

- Faculty member responsible for course delivery, made improvements to the course to increase student engagement and overall learning. Improvements & Developments included:
  - Created 12 new Lab Activities to further develop the students understanding and overall aptitude in commercial construction. Some of the Lab topics included: historical cost estimating, unit cost estimating, precon project scheduling, RFI & submittal processing using Procore, and Request for Proposal submission.
  - Created two new project based learning "construction projects" for in-class use. Worked with Snyder Langston who provided project documents, including: plans, specifications, RFI's, Submittals, and BIM models. I then used this information, to create in-class activities and lab exercises that were completed throughout the quarter.
  - Created a leadership module, made up of 5 Polylearn reading quizzes (2-3 chapters each) and a final oral presentation to further develop the students understanding of leadership techniques.
  - Fully integrated Procore into our in-class project, students were responsible for completing the following: creating and posting RFI's, creating and updating a project budget, creating bid packages, posting project documents, creating a safety plan and project start-up checklist, and creating and closing out a punchlist.
  - Implemented current software to expand on the project-based learning of commercial construction practices. Softwares included: Primavera, SureTrak, Sketchup, Procore, Bluebeam, and BIM 360.
  - Created a new hands-on lab portion of the class, utilizing the Simpson Strong Tie steel structure. With this 2 week activity, students gain an understanding of foundation systems, concrete shoring, metal framing, scaffold safety, and exterior façade systems that are typical in commercial construction.
  - Created 3 new in-class pull planning exercises, which increased students engagement in overall planning/scheduling, also used to increase the understanding of lean principles used on a jobsite.
  - Developed a flipped classroom learning module for introductory scheduling, including online videos, recent industry articles, and self-check quizzes.

CM 413 – Jobsite Construction Management

- Created a fully asynchronous course made up of 30+ hours of video lectures and technology instruction
- Created a new Summer section of the course
- Created 3 new labs focusing on the current technology industry uses on jobsites, these labs included: running a Clash Detection using Navisworks, creating a cash flow Schedule

using P6, and utilizing BIM360 for Model and Design coordination.

CM 422 – Advanced Scheduling

- Created a fully asynchronous course made up of 15+ hours of video lectures and scheduling demonstrations, average class size was 35 students.
- Created 12 new scheduling labs, using current or past construction projects and phasing as reference. An example of a few of the labs included: Precon & Design, Concrete Pour Sequence, Closeout and Punchlist, and MEP Pull planning.
- Utilized industry contacts to ensure current software and jobsite practices were taught, including: Touchplan (pull planning software), Primavera P6, and Procore scheduling.

INDUSTRY SOFTWARE GRANT(S)

Worked with Stacy Kolegraff (technology committee), Jeong Woo (Department Head) to ensure our students had current and up-to-date software licenses. I have personal relationships with a number of these companies and utilized these relationships to receive free and discounted software to benefit our students' academic rigor and success. I also coordinate and communicate with these industry representatives every quarter to ensure software is current.

2017-Present **Autodesk Software(s) Grant – BIM360, Revit, Autocad**
2018-Present **Procore Software Grant**
2018-Present **On-Screen Takeoff Software Grant** (utilized by student competition teams)
2018-Present **Synchro Software Grant**
2019-Present **Fuzor 4D Modeling Software Grant** (utilized by student competition teams)

STUDENT RESEARCH AND SUPERVISION

Senior Project Faculty Advisor Fall '17 – Present
Projects supported have focused on my subject areas of expertise, including: Building Information Modeling in pre-construction and construction, virtual technologies in construction, lean project scheduling, innovative concrete design, and service projects. I have served as a subject matter expert (SME) for 62 projects for Cal Poly CM students.

SERVICE

DEPARTMENT SERVICE

2017-Present **Curriculum Committee**
Serve on the committee, continue to develop and improve the department's current curriculum. Help review proposed elective courses, as well as provide feedback to the faculty member proposing the course.

2017-Present **Technology and Facilities Committee**
Serve on the committee to evaluate the technology needs and improvements within the department. Also work with industry and software representatives to ensure our students receive current and relevant software and program exposure.

2019-Present **California Center for Construction Education Executive Committee**
Serve on the committee to evaluate how the industry advisory group can best support our department. Also served on various CMAC committees as the faculty liaison.

2021-Present **Diversity and Inclusion Committee**
Serve on the committee, continue to develop, and improve the department's diversity and inclusion goals. Meet with student groups, developed department survey, reviewed and analyzed findings as a committee to improve our current department culture.

Jan 2020 **Belize Service Learning Trip**
Led a trip with five Construction Management and one Landscape Architect students' to Belize during winter break on a service learning trip. The team successfully fundraised over $15,000, designed, and built two soccer stadium structures.

Sept 2018 – Present **Academic Year – Student Advising**
As an academic advisor I promote students success by being supportive during their academic careers, focusing on their personal success, well-being, and individual goals at Cal Poly while pursuing their desired career. Yearly advisees range from 40-50 students.

Sept. 2019 - 2020 **Associated Schools of Construction (ASC) Student Competition Co-Faculty Chair**
Have currently served as the faculty co-chair with Stacy Kolegraff and Paul Weber to ensure a successful competition trip to Reno in February. Planning and coordinating the travel, lodging, team logistics, and industry sponsors. Prior to the competition, met weekly with the student captains to finalize and plan competition logistics. Also provide support by scheduling field trips and practice problems for a number of teams.

2017-Present **ASC Regional Student Competition – Commercial Team Faculty Coach**
Head coach for the ASC regional student competition team, provided support during weekly team meetings, helped prepare and work through practice problems. Also helped coordinate industry support, provided support during a practice problem, and served as judges during a practice presentation.

2017-Present **ASC Regional Student Competition – Mixed Use Team Faculty Coach**
Head coach for the ASC regional student competition team, provided support during team meetings and worked one-on-one with individual members, working through

specific portions of practice problems. Also helped coordinate industry support, and set up a field trip in L.A. for the entire team in November 2018.

2017-Present **ASC National Student Competition – VDC Team Faculty Coach**
Co-coached the student team for the ASC national competition, provided support during team meetings and practice problems. Helped coordinate industry support at Autodesk University and reaching out to CTAC members.

2017-Present **AGC Club – Faculty Advisor**
Attended club meetings, and provided the officers support planning for future events and service activities.

2017-Present **BIM Club – Faculty Advisor**
Attended club meetings, and provided the officers support by coordinate with industry representatives to provide guest lectures. Also work with the club members to provide support to the entire department, by providing software training and mentoring.

2017-2020 **Autodesk University Visit**
For three years (hope to continue when Autodesk reps approved to travel, post COVID), successfully coordinated with Autodesk campus relations representative (John Herrige) to visit Cal Poly for a week and provide training workshops and demonstrations to all interested classes. Last year, I helped coordinate eight classroom workshops.

COLLEGE & UNIVERSITY SERVICE

2022-Present **University Committee - Learning and Research Technology Workgroup**
Serve on the committee, committee's goal to continue to develop and improve the college's current technology and address upcoming needs of students, faculty, staff, and the university

July 2022 **Girls Build Summer Academy**
Volunteered and supported colleague Stacy Kolegraff during the hands on building workshops throughout the week, also taught on upcoming trends of technology in construction

2020-Present **CO-PI on NSF Equipment Grant awarded to the College**
Major Research Instrumentation Program Acquisition of Multi-axial Actuator System to Simulate Earthquake Loading
Funding Awarded: $340,374

2019-2021 **Architectural Engineering Graduate Project Advisor**

Co-advising on a graduate study project dealing with concrete shear wall construction and testing. Was approached and asked to help support the formwork design and construction of this project.

Nov. 2018 **Partner Preview Workshop Program**
Served as a CM faculty ambassador, with one other CM professor, to prepare and provide a department tour. The workshop was for 12th grade students interested in the CAED college at Cal Poly.

May 2017 **Elementary Field Trip** (Lucia Mar School District, Arroyo Grande)
Served as a Faculty advisor, and worked with a number of Lucia Mar Elementary school teachers to prepare for and successfully tour 60+ students from the district.