



LETTER OF RECOMMENDATION

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Mechanical Engineering

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Dear UC Berkeley Mechanical Engineering Graduate Admissions Committee,

I am writing to recommend [REDACTED] for your graduate program. I have known [REDACTED] since January of 2014 when he was a student in my honors Freshman Engineering Clinic II class. In Fall 2014, [REDACTED] was enrolled in Sophomore Engineering Clinic I (SECI), which I co-taught and he was a student in my Mechanical Engineering Lab class in Spring 2015. [REDACTED] also completed an honors equivalent project under my supervision during the summer of 2015, which resulted in two new projects being implemented in SECI and a conference presentation. I am currently advising Joe and three teammates on a Senior Engineering Clinic Project that Joe designed. [REDACTED] **is a truly outstanding student and independent, dedicated learner who has gone above and beyond in every pursuit that I have witnessed.** I am confident that he will not only be successful in graduate school, but will also leave a lasting positive impact on the research group he joins.

The courses I teach are very hands-on and focused on teamwork and [REDACTED] has excelled at both aspects. In FECE students worked in teams to reverse engineer an aquarium through a series of experiments ranging from water quality testing to heat transfer experiments. In SECI students worked in teams to learn different facets of design and technical writing. [REDACTED] has consistently turned in excellent work and puts in more effort than any other student I have encountered to ensure his assignments are top-quality. His teammates consistently praised him in peer reviews with comments like "worked hard and went above and beyond".

[REDACTED] grades reflect his innate intellectual abilities and the effort he puts into his coursework, however they cannot reflect that he is truly dedicated to learning and understanding material rather than simply getting the correct answer. During the last several weeks of SECI, Joe was working on a project for the course that involved optimizing a wind turbine design using only Matlab. He spent hours in class and in my office working on the code not only to make it work, but also make it elegant. He always checks the modeled results against what makes physical sense, which indicates to me his grasp of one of the most important roles of engineers: interpreting data and making decisions based on models.

As part of his honors equivalent project, [REDACTED] took the lead on the project development of two modules to be integrated into my Sophomore Engineering Clinic sections. Joe accomplished everything from brainstorming project ideas to fully developing and disseminating the two projects we chose. This included conducting research on the two projects, learning/understanding the math and physics behind the two projects, designing prototypes, taking test data, writing user guides for future students, and sourcing and organizing the

materials students needed to participate in the project. The two projects that were developed are a wave energy converter design project and a paper helicopter design project. These projects were implemented in Fall 2015 and 2016 with a total of 150 students and three faculty members participating in the experience.

To complete the project, [REDACTED] and I wrote a paper that Joe presented at the American Society for Engineering Education's annual conference in June 2016. He traveled to the conference on his own while I was on medical leave and two of my colleagues who were able to attend his presentation later wrote to me: "He really knocked it out of the park. Really good presenter." and "Joe did an excellent job presenting yesterday. He had one of the most engaging presentations I saw all day... those in attendance were jotting down a lot of notes. He did a great job representing the work." As a faculty advisor, there is almost nothing more rewarding than receiving this type of feedback from colleagues about a student you mentored. And yet, **all of the credit for the success of the presentation and project belongs to [REDACTED]—he approached me looking for a summer project, he chose the projects to develop, and he took the projects to completion.** I simply acted as an advocate and guide.

Finally, [REDACTED] approached me prior to the Fall 2016 semester to ask if I would advise a Senior Engineering Clinic Project that he wanted to pursue, which involved designing and building a medium-scale Wave Energy Converter. Given my past experiences with [REDACTED] and his proposed teammates I agreed and have been meeting with the team weekly to guide and gauge their progress. Based on these meetings, it is clear that they spend much of their free time thinking about the project, challenging each other's ideas and plans, and brainstorming solutions. Once again, [REDACTED] has shown an unprecedented commitment to the success of a project. **[REDACTED] has not only spearheaded the mechanical design of the wave energy converter, but he has also diligently pursued funding for the project.** This pursuit has resulted in \$2500 in institutional and private funding.

[REDACTED] passion for learning and willingness to work hard are unrivaled in my experience. I hope that it is clear from my narrative that he is unique in his ability to work independently, his dedication to the pursuit of knowledge and his commitment to excellence. I believe he will make a valuable addition to your program.

Sincerely,



Kaitlin Engle Mallouk, PhD
Instructor, Tenure-Track