Shasta College is committed to supporting innovation ideas that enhance student learning and success. As a result of the 2015 Governor's Innovation Award, there is now a designated fund (up to $100,000 per year for the next four to six years) to support faculty and staff projects that ultimately result in increased goal attainment for students. In accordance with the criteria for the Innovation Award, practices that enhance transfer and four-year degree completion while reducing time to degree are the highest priorities.

Please complete this application and submit it to the Innovation Office by February 28, 2017. For questions, please contact Theresa Markword, Director of Innovation and Special Projects, at tmarkword@shastacollege.edu or 242-7699.

Submitted by:	Cliff Gottlieb
Division/Dept. Name:	SLAM/Chemistry
Project Name:	Video Enhancement: Tutorials and Lectures for Online and Hybrid Courses (as well as Face to Face)
Project Overview	Please provide a brief overview of the project.
For my online and hybrid classes, I feel the need to enhance these classes with videos of tutorials, lectures and written examples of real time problem solving all of which I provide for my face to face students. I already have provided hundreds of page of personal written notes as well as numerous practice worksheets and answer sheets for these online and hybrid classes. Video enhancement, especially for the current generation of students who read less and watch vidoes more, would be invaluable	
Student Impact	The main focus of the Innovation Award funds is to positively impact student learning and success. Please describe how your project will: • Improve one or more Student Learning Outcomes (SLOs) • Increase student engagement and/or success • Reduce the amount of time for a student to complete a Certificate, Associates Degree or Bachelor's Degree • Document measurable results (consult with the Research Office)
I teach 5 different courses each year with a total of 16 different sections, two of which are part of the ACE program. Of the 16 sections, 4 are totally online; two are hybrid where students attend only the lab portion of the class. These sections serve about 200 students. The remainder are face to face sections which serve about 250 students.. Intermittently I teach up to 3 additional online classes. I was one of the very first in the country to put a chemistry course online and my personal webpage (cliffschemistry.com) still has a high internet search ranking. For my online and hybrid classes, I feel the need to enhance these classes with videos of lectures and written examples of real time problem solving all of which I provide for my face to face students. I already have provided hundreds of page of personally written notes as well as numerous practice worksheets and answer sheets for these online and hybrid classes. Video enhancement, especially for the current generation of students, would be invaluable. I have started to provide some screen casts of my reading the lecture notes and the students have found these very helpful when I polled them anonymously. Student feedback indicates that they would like more enhanced videos to further their understanding. Unfortunately the current equipment that I have at my disposal limits my ability and create such videos and any such creation is hugely time consuming. Currently to draw structures I have to use a special ChemDraw program which takes a long time to do for each structure. For word and equation problems I have to use the equation editor in word which again takes a long time. Furthermore, I have to do this all before I start the	

video, not doing it while I am explaining. Students have told me that they would like videos of my explaining and doing the problem simultaneously. I have tried for years to use a tablet (like a Waycom) that is just a piece of plastic that does not show on the tablet what one is writing but only appears on the computer screen. I have not been able to coordinate my writing to what appears on the computer screen. It is just a messy scrawl. The ability to draw directly on a screen would exponentially increase my ability to provide educational material for my students. So I am requesting a Surface Pro 4 which will allow me to quickly draw chemical structures and perform chemical calculation quickly with its ability to write directly on the screen. I also need to update my video editing program. I currently use Camtasia 2 which was provided to me as part of a CCCConfer grant that I received in 2005 but it has serious limitations due to its age. The most recent version is Camatasia 9. It is both a screen capture and video editing program with which I am very familiar. The combination of a Surface Pro 4 and Camtasia would allow me to screen capture live lectures and problem solving sessions. Furthermore, I would create videos that would show step by step problem solving. These videos would be a tremendous enhancement especially for my online and hybrid classes not to mention my face to face classes for review. I would also offer my online and hybrid class students videos of my live lectures and or screen casts of lecturing off my online notes. I would ask them to evaluate which they find more effective in increasing their understanding of the material. In addition, these would be available for my face to face students for review at home. I am sure this project would greatly increase student success. It would also benefit students achieving the course student learning outcome (Students will be able to find, interpret, analyze and apply information and data to solve problems and answer questions in chemistry) and institutional student learning outcomes of Critical Thinking, Information Competency and Quantitative Reasoning.I plan to continue to poll my students to discover their use and evaluation of these enhancements. I will also work with the research office to document changes in student success.

Collaboration	Mini-grant projects often involve collaboration between multiple divisions/departments and/or outside entities (K-12, CSU/UC, or community partnerships). Please: • List any internal and/or external collaborative partners • Confirm that the partners are aware of the project

I am aware of other science and math instructors using or asking for Surface Pro's (or similar divices). I would actively try to form a users group to discuss the ways we have used these devices including successful and not so successful activities. I have dicussed this with the chemistry instructors

Future Possibilities	The Shasta College mini-grants initiative provides the testing ground for innovative ideas to determine successful outcomes that may be used on a broader scale. Please discuss if the project is: • Replicable (easily shared with other campus programs) • Scalable • Cost-Effective (e.g., through number of students served; through District efficiencies increasing service to students; or if scaling up will prove cost-effective)

I would be happy make all of my videos available to all students and instructors and to share my insights with any instructor. I would invite other instructors to see how I use these devices and would be amenable to offering a short workshop on their use. COST EFFECTIVE: This year I will have served over 400 students which generates over 38 thousand WSCH's and over 300 thousand dollars in revenue.

Logistics	The mini-grant cycle—to include planning, implementation, and evaluation—is a maximum of 18 months (Fall-Spring-Fall), and all funding sources should be considered. Please confirm that: • The project phases can be completed within an 18-month cycle • No other funding sources are available for the project • A Budget Proposal form has been completed and is attached.

I can complete this project and no other funding sources are available. The budget proposal form is attached.