



# Santiago Canyon College

## DEPARTMENT PLANNING PORTFOLIO

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DEPARTMENT PLANNING PORTFOLIO  
DEPARTMENT: Physics and Engineering  
DIVISION: Mathematics and Sciences  
ACADEMIC YEAR: 2008-2009

### Department's Vision:

The Physics and Engineering Department envisions a comprehensive general education and transfer program for students in chemistry, physics, and engineering. The courses offered encourage students to pursue lifelong learning and interest in the physical universe, engineering, and, technology.

### Department's Mission:

The mission is to help students understand and appreciate the physical universe by promoting scientific literacy and encouraging curiosity, involvement, and enthusiasm in science and to apply that knowledge to future technology.

GOALS/TASKS/ACTIVITIES	WHO'S RESPONSIBLE	ESTIMATED TIMELINE/COMPLETION	RESOURCES NEEDED	PROGRESS
<b>Improve the problem solving skills of students taking calculus based physics.</b>				
1. Purchase 13 Tablet Computers	rutan_craig	August 2007	\$23,500 for all required equipment	Completed
2. Purchase SynchronEyes software for tablet computers	rutan_craig	August 2007	\$779 for permanent lab license	Completed
3. Configure tablet computers to communicate via the network using the SynchronEyes software.	rutan_craig	October 2007	Assistance from ITS	Completed
4. Create new example problems to be solved by students during lecture, in pairs, on the tablet computers.	rutan_craig	Ongoing	None	In Progress
5. Integrate the use of tablet computers into course lectures.	rutan_craig	Ongoing	None	In Progress

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6. Set up required networking for tablet computers in B-204.	rutan_craig	October 2007	Assistance from ITS. Additional Networking Equipment as needed.	Completed
7. Purchase additional 13 Tablet computers for second physics lab.	rutan_craig, swift_cynthia	August 2009	\$25000	In Progress
<b>Increase the maximum number of lab groups for each class section to 8.</b>				
1. Purchase two additional sets of Pasco equipment for Halliday, Resnick, and Walker (base and extended)	rutan_craig	June 2009	\$10,000	In Progress
2. Purchase 4 student spectrometers.	rutan_craig	June 2009	\$3200	In Progress
3. Purchase 4 student radiation kits from Pasco scientific.	rutan_craig	June 2009	\$6000	In Progress
4. Purchase 4 centripetal force kits and 4 rotational motion accessory kits from Sargent Welch.	rutan_craig	June 2009	\$3500	In Progress
5. Purchase additional electronics test equipment (oscilloscopes, function generators, DC power supplies, DMMs).	rutan_craig	June 2009	\$5500	In Progress
<b>Add student learning outcomes to all physics courses.</b>				
1. Write student learning outcomes for all engineering physics courses.	rutan_craig	November 2007	None	Completed
2. Create student learning outcomes for physics 279 and 289.	swift_cynthia	November 2008	None	In Progress
3. Create student learning outcomes for Physics 210 and 211.	rutan_craig	February 2009	None	In Progress
4. Write student learning outcomes for physics 109 and all physical science courses.	swift_cynthia	December 2008	None	In Progress
5. Include student learning outcomes in all physics course syllabii.	rutan_craig, swift_cynthia	Ongoing	None	In Progress
6. Collect and organize student results to evaluate the effectiveness of all courses based upon student learning outcomes.	rutan_craig, swift_cynthia	Ongoing	None	In Progress
<b>Create additional modern physics labs.</b>				
1. Purchase 8 Photoelectric Effect Systems	rutan_craig	June 2009	\$16,000	In Progress

from Pasco Scientific.

2. Create labs on the photoelectric effect and the measurement of Planck's constant.	rutan_craig	September 2009	None	In Progress
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**Create additional electrostatics lab.**

1. Purchase 8 Coulomb balances from Pasco scientific.	rutan_craig	June 2009	\$10,000	In Progress
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2. Purchase 8 kilovolt power supplies from Pasco scientific.	rutan_craig	June 2009	\$6000	In Progress
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3. Create a Coulomb's law lab for physics 227, 211, and 289.	rutan_craig	August 2009	None	In Progress
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Number of active session(s): 3