



Mini-Grant Poster Session

**External Advisory Board
Annual Meeting**

**December 7th, 2012
Lilly Atrium
University Library 0124**





TITLE.

FROM STUDIO TO STUDENT:
E-MENTORING IN COMPUTER
GRAPHICS TECHNOLOGY

Jan Cowan and
Dan Baldwin

INVESTIGATORS.

OBJECTIVES.

1. Develop a modern, adaptable model of STEM education delivery that will be a leader in its approach within the Purdue School of Engineering and Technology, and disseminate these findings to other programs on the IUPUI campus, and to the academy at large.
2. Attract, retain and recruit new and existing technology students to the CGT program at IUPUI.
3. Attract highly talented industry professionals to the CGT program at IUPUI whose association will immediately elevate the reputation of the program, the school and the university.



TITLE.

DEVELOP A RIGOROUS TWO-YEAR MATHEMATICS DEGREE

Janet Dalzell and
Victor Roeske

INVESTIGATORS.

OBJECTIVES.

1. Offer four 200-level courses in a higher math sequence (Math 213, 261, 264 and 235)
2. Articulate said classes with IUPUI
3. Create a two-year degree incorporating these courses along with Calculus 1 and Calculus 2



OUTCOMES.

In Spring '10 Math 211 had 13 students enrolled, math 212 had 7. Current enrollment for next semester is 36 in math 211 and 28 in math 212



TITLE.

SUMMER INDUSTRIAL PROJECTS PROGRAM

Robert Durkin INVESTIGATOR.

OBJECTIVES.

1. Promote student retention and persistence in ET by providing real-world engineering experiences.
2. Strengthen the relationship between IUPUI and the Industrial community.
3. Provide future employment by the Industrial community.

PROGRESS.

Nine students were assigned to four projects at three industrial partners. Projects included a pressure test fixture design, design of an electronic interface to a bend-test fixture, design and implementation of an assembly production department layout. All students participating in the program are still attending IUPUI and working toward graduation in MET or ECET.





TITLE.

USING INDUCTIVE LEARNING
METHODOLOGY TO REDUCE
STUDENT DWF RATES IN MET 220,
HEAT AND POWER

Paul Yearling

INVESTIGATOR.

OBJECTIVES.

1. Reduce DWF rates in MET 220
2. Replicate successful interventions in all classes within MET program

ACTION PLAN.

For Spring MET 220 the intended interventions include:

- Online delivery to reinforce certain learning objectives
- Use of Simulation in the learning experience
- Peer mentoring for students prior to tests and providing extra help with homework
- Using Felders Inductive learning methods in the classroom



TITLE.

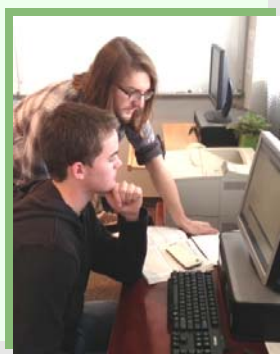
IMPROVING THE RETENTION OF FRESHMAN ENGINEERING STUDENTS THROUGH PRO-ACTIVE PEER MENTORING

Stanley Chien, Karen Alfrey, Hazim El Mounayri and Danny King

INVESTIGATORS.

OBJECTIVES.

1. Increase the retention of freshman engineering students as engineering majors.
2. Increase the rate at which freshman engineering students complete their first year coursework.



RESULTS.

No significant difference was seen between sections that had a mentor and those that didn't. Next semester will compare students within the same class that visited the mentor and those who did not.



TITLE.

TRANSFER STUDENT RECRUITMENT AND SUPPORT

Terri Talbert-Hatch
and Marilyn Mangin

INVESTIGATORS.

OBJECTIVES.

1. Recruit transfer students to study within engineering and technology fields of study.
2. Retain transfer students currently studying within engineering and technology fields of study.
3. Build resources at IUPUI and within the School of Engineering and Technology.

ACTION PLAN.

More attention is being paid to transfer students from the School. Students participation in the activities increases their chances of success. More students are being advised to transfer to IUPUI.



TITLE.

CREATING A PHYSICS LEARNING SPACE

Andy Gavrin

INVESTIGATOR.

OBJECTIVES.

1. Decrease attrition in all introductory physics courses (218/219, 152/251 and P201/P202).

RESULTS.



For the period Sept. 1-Oct. 30 there were 730 visits to the PhyLS. A preliminary survey of users was conducted after approximately 6

weeks of operation. 141 students were surveyed and 36 responses were received. Responses were positive on all items with the exception of the question “in my opinion the size and layout of the space were adequate.” Many students noted that the space is too small and is often over crowded.



TITLE.

ENHANCING STUDENT COM- PREHENSION IN GENETICS THROUGH RECITATION

Mariah Judd and
Brittiniey Reese

INVESTIGATORS.

OBJECTIVES.

1. Decrease DFW rates in Genetics K322
2. Increase content knowledge level and depth
3. Increase student comprehension of material and better prepare them for future courses in their sequence.



PROGRESS.

To date, a peer mentor has been in K322 for 2 semesters and is currently in their 3rd. Feedback from students is very positive and there are plans to sustain a peer mentor in this course.



TITLE.

ENGINEERING AND TECHNOLOGY—ALLIANCE FOR RETENTION FOR MULTICULTURAL STUDENTS (ET-ARMS)

Patrick Gee

INVESTIGATOR.

OBJECTIVES.

1. Create a sense of “I can succeed in Engineering and Technology courses” with the help of using campus resources such as faculty, peers, tutoring resources such as Math Assistance center, Physics Tutoring, Chemistry Tutoring, Freshman Engineering Mentoring,.
2. Create an awareness of “time management/creating a fixed schedule” revolving around interactions of students school, work, and home schedule.
3. Create an environment where students will be motivated to attend and complete the seminar. Provide an environment of retention and mentoring that will increase the success of minority students by providing an oversight seminar.



TITLE.

C341 ORGANIC CHEMISTRY WORKSHOP SERIES

Pratibha Varma-
Nelson, Robert Minto
and Sarah Wilson

INVESTIGATORS.

OBJECTIVES.

1. Decrease the DFW rate for C341
2. Increase performance on the ACS Organic Chemistry final exam
3. Increase student perceptions of the course

RESULTS.

Since implementing the workshop series, the DFW rate has decreased from a five-semester level of 23-30% to a sustained 15-18% level. Furthermore, there has been a statistically significant increase in students' performance on the American Chemical Society Organic Chemistry final exam. Students have communicated through focus groups and surveys that they think that their participation in the small group discussion during the workshops has aided their understanding of organic chemistry more than any other course component.





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