



SMI CONNECTIONS

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Directors' Corner

Welcome to the spring edition of *SMI Connections*. Many exciting developments involving the SMI program occurred in Winter 2007. A wide range of efforts were implemented to bring teaching careers in Mathematics and the Sciences to the forefront.

In collaboration with UCR's University Extension (UNEX), a new professional development program for current science and mathematics teachers was recently approved by the Academic Senate. By successfully completing this new training curriculum, science and mathematics teachers will receive their Mentor Teacher certificates, which will allow them to participate as mentor teachers to pre-service (undergraduate students) and intern teachers in their mathematics and science classrooms. This new program will further ensure opportunities for SMI students to participate in exemplary and rigorous classrooms experiences.

To further enrich SMI upper-division students' preparation for a career in teaching science and mathematics, MATH 192 (Careers in Mathematics Teaching) is on the path to becoming a college-wide seminar course - NASC 192 Careers in Mathematics and Science Teaching. During Winter 2007, several guest-panel seminars were hosted as part of NASC 192. Although NASC 192 students were automatically invited to these informative panel discussions, all interested Science, Technology, Engineering, and Mathematics (STEM) majors were also welcome. Topics spotlighted at these panel seminars included: High School Teaching, Financial Aid for Credentialing Programs, Admission to Graduate Schools of Education, Resume Writing and Interview Skills, Community College Teaching, School District Hiring Practices, and Careers Beyond the Classrooms (Principals, Counselors, and Curriculum Development). We hope to invite our guest panelists back next year as these insightful sessions were very well-received by UCR students interested in teaching careers. Also through NASC 192, students synthesized their understanding for the 5E Instructional Model through a brief classroom demonstration. The next offering of NASC 192 (1-unit) will be Fall 2007.

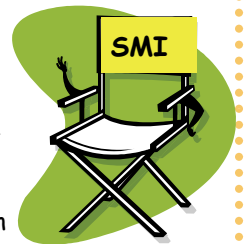


Dr. Fred Eiserling:
 Lead Faculty Director for UC's SMI

For students in their early stages of field exploration, EDUC 3 and EDUC 4 were offered in Winter 2007. Enrollment for the combined courses soared to 75 students compared to 21 enrolled in Spring 2006. This specially-developed course sequence for STEM majors explores teaching as a career by placing the students in mathematics and science classrooms. The early field experience was made available to all STEM majors, including freshmen. Students who satisfactorily completed the course gained valuable perspective about the profession and earned a \$600 stipend.

Included in the midst of our activities were important visitors who observed our program. One of our special visitors was Professor Fred Eiserling (pictured left) from UCLA. Professor Eiserling is the lead faculty director for the entire system-wide SMI program.

We eagerly anticipate our continued growth and look forward to updating you again in the next academic year.



~ Bradley C. Hyman (Faculty Director) & Leslie Y. Bushong

In This Issue:

Message from the Directors.....1	CMST and ISIS Experiences.....3	Scholarship and Apprenticeships.....4
EDUC 3 & 4 Experiences.....2	Student Club for Future Teachers.....4	School Administrators' Perspective.....4
Reminders		4

Early Exploration in Science and Mathematics Teaching

Through EDUC 3 and EDUC 4, Ms. Janet Brown guided, trained, paced, and instructed over 70 undergraduate students in their exploration of teaching science and mathematics. With over 20 years experience at Riverside Unified School District, her passion and expertise were evident in her instruction.

In Ms. Brown's own words:

"Teaching is an extremely rewarding profession, filled with intellectual challenges and complex issues that run deeper than a quick glance at a classroom can reveal. The SMI courses, EDUC 3 and EDUC 4, have been designed to give insights into this complexity in order to understand the educational process from the other side of the desk. By observing and participating in the exemplary

programs of the local public schools, SMI students have had a chance to demystify aspects of the subtleties of a teacher's program. This was then explored further in their college class where topics centered around researched-based learning strategies, student behaviors, and the effects of outside influences. By experiencing key concepts related to the profession, they are now better able to assess their feelings about the career of teaching."

Reflections from EDUC 3 and 4 Students

"As a student of the Education 4 course, the experience that I gained was incredible. In my first week as a student mentee, I was introduced by my mentor to every mathematics teacher on campus. While I was being introduced, I could see in the eyes of the math teachers a sense of urgency for future mathematics educators. However, the best experience I had as a student mentee was when the principal came in the classroom for observation. As I was assisting my mentor teacher with the lab, the principal approached me and began to question me as if it were a mini-interview. I was highly encouraged, knowing that doors were being opened to me and that I did not need to go far since schools are searching for candidates like me. Being asked to go back to the school with a degree and credential, I now know that there are available positions for math teachers, and that reinforced my thoughts of becoming one. To be a math teacher in a middle school or high school is praiseworthy. Before entering the Education 4 course, I was expecting to teach only in the high school range. Through Education 4, I have now opened my eyes to include not only high school students, but to include students at the middle school level. Our master teacher, Janet Brown, has taught us to keep our options open and not have our eyes only set upon one thing. There are great benefits in taking the Education 4 course, and because of this program that SMI (Science Mathematics Initiative) has set up, it has definitely influenced my decision as to my pursuit to become a math teacher. I am positive that I will be an educator in the subject of mathematics."

~Kevin Hu (mathematics)

"In my Education 4 class I've had the opportunity to actually present a lesson to the freshmen Earth Science class at Vista Del Lago High School, and it was the most amazing feeling to be able to teach a group of students. It was the highlight of the course because I was able to experience what the teacher experiences throughout the day. The greatest part of that day was that a few students approached me and said, "Thank you, Ms. Ramos. I learned so much from your presentation!" I was almost in tears because of the overwhelming feeling of accomplishment."

~Imaya Ramos (physics)

"Janet Brown presents teaching and its components in a simple yet interesting way and she provides us with many great resources to help us in our future career as math or science teachers. She gets me excited to get out in the field and try new things!"

~Kimberly Raffanti (mathematics)

"The highlight of EDUC 3 was seeing the information that we learned in class being applied in our fieldwork classrooms. It was as if being backstage and then watching the performance."

~Joann Valencia (biology)



Sample Journal Topics Discussed in EDUC 3 and 4:

- Personal Learning Experience
- California Teaching Standards in the Classroom
- Classroom Climate
- Conceptual vs. Procedural Knowledge
- Instructional Strategies/Pedagogy
- Lesson Design & Teaching Models
- Classroom Materials and Resources
- Student Behaviors
- Technology in the Classroom & Instruction
- Student Assessment

Continue Your Field Experience...

... **CMST** is a program designed to provide undergraduate mathematics and science majors with "early field experiences" in public school classrooms with exemplary teacher mentors. The UCR-CMST philosophy is that *achievement in mathematics and science begins with teachers who know.* We understand that excellent teachers have to know BOTH the subject matter AND how to communicate it to students in interesting and engaging ways. This means *what* excellent teachers know is learned both in the university



classroom as well as "on the job." Therefore, we believe that the more classroom experience we can provide prospective teachers, the better prepared they will be to successfully complete a credential program and take over a classroom of their own. We also hope that CMST apprentices will use this experience to make educated decisions about pursuing a career as rewarding as being a teacher.

As we begin recruiting for next year, we will look for students who are

enthusiastic about their subject matter as well as about working with K-12 students in all their diversity and ability levels. We will require new CMST apprentices to attend a summer institute at UCR (June 25th - 29th). Once the academic year begins, apprentices are required to work with mentor teachers in classrooms a minimum of 5 hours per week and attend quarterly CMST meetings at UCR. When accepted to the program, apprentices are awarded a fellowship which is disbursed monthly, and is dependent on the completion of program requirements.

Download CMST or ISIS application at

http://www.alphacenter.ucr.edu/CMST_PROG.htm#application

... **ISIS** (I Strive ~ I Succeed) is a highly interactive collaborative project of women-helping-women in pursuing educational opportunities and careers in mathematics. ISIS provides an educational foundation and establishes a support structure that motivates, encourages, and develops mathematics education for middle school girls along with professional development

opportunities for female undergraduates who are interested in teaching as a career or pursuing advanced degrees in mathematics related fields. ISIS has been implemented in the Ontario-Montclair School District. The program provides opportunities for female undergraduate students to gain classroom experience in tutoring and teaching lessons while providing support



and mentoring for participating middle school girls. They attend special events that include field trips to college campuses, provide hands-on activities in mathematics to students, parents and interested community members, and meet positive female role models that currently hold positions in mathematics related fields.

CMST & ISIS Experiences

"CMST offers a year-long field experience with one cooperating teacher for each CMST student. This year helps the CMSTer to begin to understand what it will be like to have a class of his or her own. In this program, my semi-weekly interaction with students has re-invigorated my passion for teaching and has created opportunities to grow as an educator. "

~Alexia Olson (mathematics)

"My ISIS experience...has allowed me to work with different types of students at different levels and realize what type of impact I can have on them. Since I'm a Chemistry major, I want to teach science; however, math plays a large role so while teaching math I think about ways to tie the concepts into science. My mentor teacher has been able to show me how to inspire the more apathetic students into wanting to achieve. This experience, while showing me that my opinion of teaching might be slightly optimistic, has still shown me that I can teach. I've wanted to teach high school and this experience has cemented that."

~Rachel Hissey (chemistry)

"CMST is a great opportunity to develop teaching skills before actually becoming a teacher. It allows me to practice teaching, interacting with students, and developing my own teaching plans which really shapes me to become an effective teacher later on in the future. Before CMST, I feared being a first-year-teacher...but with the help of CMST, I know I can do it. "

~ Jennifer Su (mathematics)

"My participation in ISIS has given me a profound work experience where my confidence as a well-prepared and influential teacher has blossomed. This year has provided me with a strong base of useful ideas and confidence that I can use to become a successful first year teacher; and the best part is I get paid for participating in something that helps accelerate my abilities in a career field I love."

~Monica Smith (mathematics)

Student Club for Future Teachers

Business majors have their fraternities, pre-meds have their clubs, but what about teachers? Tomorrow's Teachers in Science and Math (TTSM) is a newly formed student group created to unify UCR students interested in a career in teaching Science and Math! TTSM has three main purposes: 1) to create a venue where future educators are able to form a community and build both personal and professional relationships; 2) to prepare members for a career in education by providing opportunities to

develop leadership and other skills required for the profession; and finally, 3) to channel their passion for education by working with disadvantaged high school students in their studies and encouraging them to pursue a college degree following graduation. With over 40 students already signed up, plans are underway to start this club within the first few weeks of Spring 2007! If you are interested in joining, or if you just want more information, contact Steven Wang at swang011@ucr.edu.

Reminders

- **SMI Resource Center Conference Room:** Pierce 1104 is a friendly room for prospective teachers to study and gather in small groups, such as for review sessions.
- **Update Your Resume:** Contact the experts at the UCR Career Center, (951) 827-3631, for further assistance.
- **Quarterly SMI Advising:** Stay on track. Plan ahead. Schedule your one-on-one SMI advising appointment by e-mailing smi@ucr.edu.
- **Subscribe to SMI Listserv:** Receive up-to-date information to prepare for your future career in teaching. Log on to: <http://lists.ucr.edu/mailman/listinfo/cateach-smi>.

Scholarship and Apprenticeship Opportunities

- **Teacher Apprenticeship Programs:** Juniors and seniors, apply to California Mathematics & Science Teachers Initiative (CMST) or I Strive I Succeed (ISIS). For more information, please visit www.alphacenter.ucr.edu. *Deadline: April 27, 2007.*
- **Assumption Program of Loans for Education (APLE):** The APLE program is a competitive teacher incentive program designed to encourage outstanding students, district interns, and out-of-state teachers to become California teachers in subject-areas where critical shortage has been identified, often in designated schools meeting specific criteria established by the Superintendent of Public Instruction. Under the APLE program, college students may qualify up to \$19,000 of student loan forgiveness from the California Student Aid Commission (CSAC). Visit <http://www.csac.ca.gov> for more information.
- **National Council of Teachers of Mathematics (NCTM):** The purpose of this grant is to provide financial support to college students preparing for teaching secondary school mathematics. For 2007-08, up to two scholarships, with a maximum value of \$10,000 each, will be awarded. Eligible students are currently completing their sophomore year of college and scheduled for full-time study at a four- or five-year institution in the next academic year and pursuing a career goal of becoming a certificated teacher of secondary mathematics. Please contact Alicia Chavez, UCR Scholarship Coordinator, at alicia.chavez@ucr.edu, to help you prepare a strong and competitive application packet. Application deadline is May 11, 2007.

School Administrators' Value...

- The ability to make a difference in a student's life
- A variety of life experiences
- Managing a classroom
- Student teaching experiences
- Academic preparation
- Personal Preparation
- Personal Appearance
- A sense of humor
- Adaptability
- Maturity
- Involvement
- Enthusiasm for education & for students
- Interpersonal relationships
- Professional awareness