

UCDAVIS



Student Affairs Research & Information

How Effective are Undergraduate Educational
Enrichment Experiences Designed to Increase
Minority Graduate and Professional Participation?

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Biology Undergraduate Scholars Program (BUSP)

- Enrichment program for disadvantaged and underrepresented undergraduates interested in careers in the life sciences.
- Sponsored by the Division of Biological Sciences, emphasizes working in small groups to help develop strong problem-solving and study skills.
- BUSP students, enroll in a specially designed academic program. Throughout the program during their freshman and sophomore years, they meet regularly with skilled advisers who offer academic guidance and personal support.
- They may begin working in a biology, medical, or veterinary research laboratory during the freshman year.
- A BUSP Honors Research program extends into the junior and senior years.
- Student funding is variable depending on program component (e.g. BUSP S/HR \$2,500 summer, \$700 quarter).



Clínica Tepati bringing medicine to the community
UC Davis School of Medicine

- Clínica Tepati is a non-profit, student-run clinic founded to address the need for culturally sensitive care for the underserved Latino population of Sacramento.
- Undergraduate volunteers must be registered UCD student, have 3 quarters left at UCD, make a 2-quarter min commitment, have proof of required immunizations, attend mandatory classes on Mondays all quarter 6-7 p.m., and attend a mandatory orientation meeting each quarter.
- Students must work 4 Saturdays their first quarter and 3 Saturdays each quarter thereafter. They must also serve on one committee and participate in one fund-raiser.
- Students receive academic credit of 3 units per quarter.

welcome
to the **math**
department



Emerging Scholars Program (ESP)

- For students, primarily freshmen and sophomores, enrolled in first-year calculus (Math 21ABC). Those students selected to participate in ESP are given special instruction and support during the entire first year of calculus.
- The Department of Mathematics fully supports this effort and has assigned a Director of the ESP laboratories. There are mandatory 4 hour a week labs for all students in the program. Labs have about 40 students each. The lab focus is on collaborative, small-group problem solving and on mastering calculus.
- ESP students are expected to complete regular homework before coming to the lab. They assist other program members as the need arises.
- While there is no student funding, former ESP students may be given paid TA positions in the program.



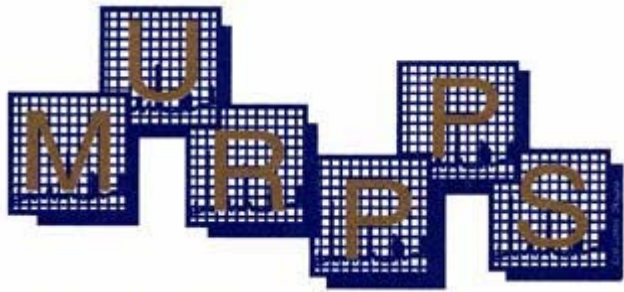
UCDAVIS
SCHOOL OF MEDICINE

- Imani Clinic is a student-run clinic providing preventative and primary health care to an underserved population without regard to address (or lack of one), national/ethnic origin, immigration status, language, religion or ability to pay.
- Undergraduate volunteers must make a 3-quarter commitment, have proof of required immunizations and attend mandatory Monday classes (6-7 p.m.). However, summer students are only committed for the summer in which they apply.
- Students attend a 2-week training session, work 3 Saturdays/quarter and complete at least 1 community service.
- Students receive academic credit of 2 units per quarter. Transcript notation is optional.



Mentorships for Undergraduate Research in Agriculture, Letters and Science (MURALS)

- Sponsored by Student Affairs to enrich the research experience of students situationally disadvantaged in their access to graduate school. Mentorships may take two forms: a collaborative project with the faculty member or an independent student project developed in consultation with the faculty mentor.
- Includes students from all disciplines. Two quarter commitment to the program, attend one seminar a quarter and present their own research in the second quarter of participation. Upon completion, students must write an exit paper, including an abstract of their research project, as well as a statement explaining how participation in the MURALS Program was beneficial to their research experience.
- Must be a Jr or Sr, with a GPA of 3.0 and 90 units and meet one of the following criteria: be a financial aid recipient; be a first generation college student (neither parent achieving a BA or BS); be a reentry student; or have been in a "pre-college" outreach program.
- Students in the program receive academic credit and a \$500 award for each quarter. Faculty receive \$250.



Mentorships for Undergraduate Research Participants in the Physical and Mathematical Sciences (MURPPS)

- Undergraduate mentoring program to increase the number of disadvantaged students who pursue graduate studies in the physical and mathematical sciences by offering students the chance to work with faculty on research projects relevant to their major.
- MURPPS runs seminars which introduce students to faculty and research projects, offers academic guidance and access to the tutoring at the Learning Skills Center.
- MURPPS is open to freshmen through senior students. There is no minimum GPA requirement.
- Students are paid a quarterly stipend of \$500 and \$2,000 in summer.

PROGRAM	BUSP	CLINICA TEPATI	ESP	IMANI CLINIC	MURALS	MURPPS
Full Title	Biology Undergraduate Scholars Program	Same	Emerging Scholars Program	Same	Mentorships for Undergraduate Research In Agriculture, Letters and Science	Mentorships for Undergraduate Research Participants in the Physical and Mathematical Sciences
Target Group	Underrepresented and EOP students	Undergraduates interested in health professions	First year calculus students	Undergraduates interested in health professions	Fin. Aid, 1st generation, reentry and previous outreach programs	Disadvantaged students
Eligibility	Selected during STEP	Reg UCD student w/3 qtrs left. Proof of required immunization.	MPscore of 40. Grade of C/better in MATH 21A,B to continue in prog.		EOP or Financial Aid, 90 units, 3.0 GPA	Must place in Math 12 or 21A. Except transfer students, most come through STEP.
Class Level	Any	Any	Any	Any	Juniors and Seniors	Any
Duration of Program	Academic program during first two years, BUSP Honors Research Junior and Senior	Minimum 2 quarter commitment	Three quarters	Three quarter commitment or summer commitment	Two quarters	
Amount of Funding	Variable depending on program (e.g. BUSP S/HR \$2,500/summer \$700/quarter)	None - volunteer program	None. Possibility of paid TA positions for former program participants	Volunteer internships	\$500 per quarter	\$500 per quarter and \$2,000 in summer
Program Requirements	Fresh: BIS 11A/B, Soph: BIS 98. Support and prep work in CHEM, MAT, BIS	4 Sat. first quarter and 3 ea quarter there-after. 1 hr/wk class. Serve on 1 comm. & 1 fundraiser	Four hours/week lab	Prior 2-week training, wkly class all qtr, work 3 Sat. ea qtr & 1 comm svc proj/qtr	Attend quarterly seminars. Present research 2nd quarter	7 - 10 hours per week academic year. 40 hours per week summer
Discipline	Life Sciences	All Majors	All Majors	All Majors	All Majors	Phys. And Math. Sci.

Four data sources

- Institutional records
- Records maintained by programs
- National Student Clearinghouse records
- Responses to periodic alumni surveys

Students included were all University undergraduates beginning enrollment from fall 1993-1999 and program participants were identified by program directors

Three Critical Questions

- First, was the likelihood that program participants continued to graduation higher than would be expected?
- Second, were program participants more likely than expected to attend graduate or professional school?
- Third, were program participants more likely to be attracted to or retained as SEMCS majors?

Correlations with Graduation

	Degree Completion	N
Degree Completion	1.00	
HSGPA	0.14	23,267
SAT Math	0.06	23,267
SAT Verbal	0.05	23,267
SAT2 English	0.06	23,267
SAT2 Math	0.06	23,267

Correlations with Graduate School Attendance

	Grad School Enrollment	N
Graduate School Enrollment	1.00	
HSGPA	0.05	18,291
SAT Math	-0.01	18,291
SAT Verbal	0.01	18,291
SAT2 English	-0.07	18,291
SAT2 Math	-0.01	18,291

Graduation Rate and Progression to Graduate School by Admissions Measures Decile

Decile	Graduation Percentage Yes	Graduate School Percentage Yes
Lowest 10%	66%	24%
Second	73%	24%
Third	77%	23%
Fourth	81%	24%
Fifth	81%	25%
Sixth	81%	24%
Seventh	83%	25%
Eight	81%	25%
Ninth	82%	28%
Highest 10%	81%	30%
Total	79%	25%

Progression to Degree by Minority Status

	A	B	C	D	F	G	No Program	All
	656	55	531	52	584	349		
Underrepresented Minority	78%	84%	78%	89%	97%	81%	71%	73%
Other Students	76%	100%	86%	94%	99%	96%	82%	82%
All Students	78%	89%	84%	92%	97%	86%	81%	81%

Progression to Graduate School by Minority Status

	A	B	C	D	F	G	No Program	All
	656	55	531	52	584	349		
Underrepresented Minority	33%	41%	28%	41%	41%	28%	26%	28%
Other Students	26%	31%	24%	26%	40%	42%	25%	25%
All Students	31%	38%	25%	31%	41%	33%	25%	25%

Progression to Degree Completion By Sex

	A	B	C	D	E	F	No Program	All
	656	55	531	52	584	349		
Female	80%	85%	88%	90%	98%	88%	83%	83%
Male	73%	95%	80%	100%	97%	83%	78%	78%
All Students	78%	89%	84%	92%	97%	86%	81%	81%

Progression to Graduate School by Sex

	A	B	C	D	E	F	No Program	All
	656	55	531	52	584	349		
Female	32%	39%	25%	33%	38%	34%	27%	27%
Male	27%	35%	24%	25%	47%	32%	22%	22%
All Students	31%	38%	25%	31%	41%	33%	25%	25%

Interest and Persistence in Science, Engineering, Math and Computer Sciences

Final Major			
All Students			
Initial Major	Other	SEMCS	Sum
SEMCS	25%	75%	49%
Other	90%	10%	51%
Total	58%	42%	

Underrepresented Minorities			
	Other	SEMCS	Sum
SEMCS	34%	66%	43%
Other	94%	6%	57%
Total	68%	32%	

Interest and Persistence in Science, Engineering, Math and Computer Sciences by Minority Status

	Overall	A	B	C	D	E	F	No Program
All Students								
Persistence	75%	66%	71%	85%	69%	64%	91%	75%
Attraction	10%	32%	62%	38%	42%	4%	26%	10%
Number	52,060	656	55	531	52	584	349	49,939
Underrepresented Minority								
Persistence	66%	62%	63%	85%	50%	58%	88%	65%
Attraction	6%	32%	57%	30%	55%	3%	54%	5%
Number	6,995	449	38	170	19	300	184	5,945

Interest and Persistence in Science, Engineering, Math and Computer Sciences

Final Major			
Men			
Other			
Initial Major	Majors	SEMCS	Sum
SEMCS	20%	80%	56%
Other	88%	12%	44%
Total	50%	50%	

Women			
Initial Major	Other	SEMCS	Sum
SEMCS	31%	69%	44%
Other	91%	9%	56%
Total	64%	36%	

Interest and Persistence in Science, Engineering, Math and Computer Sciences by Sex

	Overall	A	B	C	D	E	F	No Program
	Men							
Persistence	80%	78%	87%	90%	57%	68%	92%	80%
Attraction	12%	39%	100%	48%	40%	8%	61%	11%
Number	24,015	208	21	288	12	116	151	23,283
	Women							
Persistence	69%	59%	58%	78%	74%	62%	90%	69%
Attraction	9%	33%	50%	33%	43%	5%	71%	9%
Number	27,744	430	33	231	40	333	112	26,637

Agreement/Disagreement Between NSC and Survey of Recent Alumni

Between NSC and Survey of Recent Alumni

2,487 in all

Responded to survey	1,098	44%	
Reported in grad/prof school		413	38%
Survey yes, NSC no		322	78%
Survey yes, NSC yes		91	22%
Institution agreed			55 60%
Institution disagreed			36 40%
No grad info from survey	685	62%	
NSC found grad school		83	12%
Did not respond to Survey	1,389	56%	
NSC said in grad school		273	20%
NSC Did not find grad school		1,116	80%

Agreement/Disagreement Between NSC and Local Program Records

Between NSC and Local Program Records

824 in all

Had a NSC Hit	230	28%	
Matched local record		56	24%
Does not match local record		13	6%
No local record		161	70%
No NSC Hit	594	72%	
Local record found		90	15%
Neither local nor NSC		504	85%

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