NATURAL SCIENCES EDUCATION 198 (PLAN TO BE OFFERED IN FALL 2011)

Retention of talented and motivated math and science students is a very challenging issue. Analysis of past student academic retention data have shown that 15% of first-time freshman students in the School of Natural Sciences voluntarily withdrew from the University of California, Merced before entering their third-year (as shown in Table A). Of those students, approximately 33% of students had a cumulative grade point average of 3.0 or better before their departures from the university. There are many reasons for their departure, some of which include financial challenges, incongruence in academic environment, and/or intellectual dissatisfaction.

Table A. First-time Freshman Retention

Cohort Year	Initial NS Enrollment	Retention after 2nd Year		Attrition by the beginning of 3rd Year		
				Academic Dismissal	Voluntarily Withdraw	
		Still NS Majors	No longer NS Majors		GPA Less than 3.0	GPA 3.0 or better
2005	241	144	35	28	25	9
2006	118	69	17	15	11	6
2007	204	103	39	23	20	19
2008	245	145	42	24	27	7
Annual Average	**202**	**115**	**33**	**23**	**21**	**10**

One of the solutions to this challenge, particularly in reducing intellectual dissatisfaction, is to offer a pathway course to encourage students make use of the broad range of intellectual resources available to them. To establish an educational roadmap to support students to navigate their undergraduate experiences, a new course will be introduced in Fall 2011.

NSED 198 will enable students to have a smooth transition to the research culture of our university by identifying specific educational success tools and techniques for persistence and retention. This course is designed to:

- Offer students resources to develop a richer, more intense and challenging academic experience.
- Identify factors that enhance graduate and professional school admission and strategies to better prepare for a post- baccalaureate degree and science career

Students will be introduced to the many aspects of the modern research university within the context of the School of Natural Sciences at University of California, Merced, so they will be prepared to initiate and engage in authentic research experiences in Applied Mathematics, Chemistry, Biological Sciences, Physics, and Earth System Sciences. NSED 198 is also designed to provide a platform for future success and the opportunity for students to learn not only investigative skills, but also leadership, mentoring skills, and internship development as well.

The course will also facilitate dialogue and opportunities to develop a strong educational blueprint. Course topics will include research journal reviews, scholarships/fellowships, internships, navigating majors, research ethics, and post-baccalaureate planning. Community College transfer students will also be encouraged to take this course.