

PSM Update: The Internship Component

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Before the Professional Science Master's was developed, co-op programs – alternating work semesters with study semesters – were already common at a number of institutions (such as Northeastern which became a PSM locale in 1998). But co-ops and internships tended to be aligned with undergraduate programs. For many undergraduates, it was the road to a job, while for employers it was the most effective method for recruiting new college graduates.

Indeed, of the 2009 graduating seniors who have already landed a job, 73 percent had an internship at some point in their college careers (2009 Student Survey, National Association of Colleges and Employers, accessed May 26, 2009, www.nacweb.org/spotlight/2009/c051309a.htm#1). What characterizes the PSM internship and makes it somewhat unique is its place in graduate science programs and the far more intimate and intentional relationship between math and science program directors and off-campus internship providers.

Innovation does not stop with invention. Highly-skilled science professionals are essential to the nation's competitive advantage. In the spirit of sustaining creativity, the PSM internship fuses classroom skills and industry demands without

MEETING THE NATION'S WORKFORCE NEEDS
'Innovation doesn't stop with invention'

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PSM
PROFESSIONAL
SCIENCE MASTERS

The Standard Models
Middle Tennessee State University

Traditional internships take place between first and second year of master's program. Students are primarily in the traditional college-age population (18-22) with little experience in a tech business environment. It is regarded as a 3-hour credit capstone course, culminating in a single day of formal presentations. This model has a very engaged advisory board and high commitment on the part of internship providers who assign a manager to provide the intern's project and mentor the intern.

Oregon State University

PSM students in environmental science take 3-6 month internships. The PSM Program Coordinator provides guidance during exploration of internship sites, but the student must formally initiate and secure the internship with an industry supervisor. Internships can vary from 6-12 credits and students must present results from experiences at a seminar open to all graduate students and faculty.

Internship Variations
Pennsylvania State University

The PSM program in applied statistics requires two one-credit statistical consulting practices. Off-site internships can be used as the second practicum requirement and are individualized so no two students ever take the same internship. These internships are closely monitored. Site supervisors provide an interim report, and at the end, the student reports in detail on the internship experience. The PSM program in applied biotechnology at Penn State requires a more traditional internship with two credits awarded.

North Carolina State University

The PSM in Microbial Biotechnology has three components of the professional skills development through industry-academic relationships. One component requires each student to do an internship at a pharmaceutical or biotechnology company, usually between the first and second year of the program. The conclusion is a presentation to classmates, faculty and industry professionals.

Breaking New Ground
University of Maryland University College

A virtual internship experience is completely online in the biotechnology program. The capstone course curriculum integrates a semester-long group project working on problems solicited from biotechnology companies in the DC metro area. The final deliverables are a report and a presentation to the company based on the report. Three credits are given for the project.

California State University System

"Pipeline internships" range from those for undergraduates who are placed in rotating industrial assignments over two or three summers, to semester-long paid internships for PSM students, to "extended duration recruitment internships" designed to give PSM students in depth work experience over 6-12 months as a pathway to permanent employment. Still in the design stage are internships of shorter duration for PSM students coming in as a group or a team.

What You Should Know

- PSM internships fuse classroom skills with a guided industry experience at the graduate level.
- The Majority of PSM internships are "standard," but variations exist.
- Four out of five PSM programs require an internship.
- Most PSM programs which do not include an internship require a capstone project done in conjunction with employers.
- Some internships are paid; others are unpaid.
- Most PSM programs award academic credit for internships.
- Successful internships require pre-planning and supervision.
- Faculty coordinators have primary responsibility for assigning credit.
- NO ONE MODEL FITS ALL PSM PROGRAMS.

sacrificing the integrity of either. Essential to the success of the PSM internship is that, however involved business may be in internship planning and supervision, the faculty coordinator has responsibility for assigning credit. Finally, it is important to note that no one internship model fits all PSM programs.