PSM PROFESSIONAL SCIENCE MASTER'S

The Professional Science Master's: How to Catalyze Success: The Internship Component

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Introduction

- Internships common at the undergraduate level; rare at graduate level.
- In PSM programs, "close" relationship between program directors and internship providers.
- Majority of PSM programs have internships
- Role of Employer Advisory Boards in internships.
- Role of faculty who are connected to the PSM.

Traditional/standard Model

Middle Tennessee State University

- Three PSM programs – biostatistics, biotechnology and health care informatics.
- Three credit course, done at the end of the first semester of the second year.
- Strong commitment for student – 250 hours.
- Strong commitment for employer – each intern has a specialized project and a employer mentor.
- Considered a capstone course.

Traditional/standard Model

Oregon State University

- Four PSM programs – environmental science, applied physics, applied biotechnology and applied systematics.
- Students secure internship; program directors provide guidance. Previous work experience can not be used for the internship requirement.
- Three-six month internships, usually between first and second year of academic study. A minimum of 6 credits of internship.
- Intern must maintain an internship journal.
- On-site supervisor must provide a written evaluation.
- Intern must write a final report.

Internship Variations

Pennsylvania State University

- Three PSM programs – applied statistics, forensic science, and biotechnology.
- Two internship models
  - Optional internship in applied statistics. Two required practica, but internship can be substituted for one.
  - Standard ones in biotechnology and forensic science.
    - Off-site
    - Two credits given

Internship Variations

North Carolina State University

- Three PSM programs – microbial biotechnology, financial mathematics and geospatial information.
  - Microbial biotechnology has three components of the professional skills development. One component is the internship.
  - Financial math requires internship or pre-approved project.
  - Geospatial information requires internship and/or employer project.

Internship Variations

University of Dayton

- Recommended, not required. Seek Paid Internships.
- Generated through their Employer Advisory Board.
- Designed by the business manager since the internships are “paid jobs.”
- No report required.

Breaking New Ground!

University of Maryland University College

- Virtual internship provided in the capstone class.
- Semester-long group project working with biotechnology company in DC area.
- Key is planning
  - Projects solicited from companies.
  - Projects defined with overall goal and specific objectives.
  - Timeline developed with deliverables.
- Team members all assigned specific role.
- Challenges – logistics, management of team projects and awareness of time constraints.

Breaking New Ground!

California State University System

- "Pipeline" internship model.
- STEM undergraduates placed in rotating industrial assignments over 2-3 summers.
- Semester-long paid internships for PSM students.
- Extended duration internships 6-12 months.
- Still in design stage – shorter duration internships for PSM students coming in as a group/team.

Summary

- PSM internship fuses classroom skills with a guided industry experience at the graduate level.
- Majority of PSM internships are "standard," but variations exist.
- Four out of five PSM programs require an internship.
- PSM programs without an internship require a capstone project.

Summary

- Some internships are paid, others are not.
- Most PSM programs award academic credit for internships. Amount of credit varies.
- Faculty coordinators have primary responsibility for assigning credit.
- Successful internships require pre-planning and supervision.
- NO ONE INTERNSHIP MODEL FITS ALL PSM PROGRAMS

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