

Affiliation as a Professional Science Master's (PSM) Program

In January 2006, the Council of Graduate Schools (CGS) assumed primary responsibility from the Alfred P. Sloan Foundation for growing and promoting the Professional Science Master's (PSM) degree. Among the many activities in which CGS is engaged in working on this goal is to "brand" the PSM as a recognizable degree by establishing and disseminating guidelines for PSM affiliation and thereafter reviewing and approving programs that meet the PSM guidelines under a license from the Sloan Foundation.

With the work of the CGS PSM team promoting the PSM to the academic and policy community and the establishment and subsequent work of the National Professional Science Masters Association (NPSMA), the number and diversity of PSM programs being developed are growing more rapidly than originally anticipated. Additionally, the decision of the Sloan Foundation to facilitate moving from the "concept" stage to the "scale-up" stage by funding system-wide and state-wide PSM initiatives is bringing additional PSM programs online more quickly. The strong endorsement by the National Research Council to develop professionally-oriented master's degree programs in the natural sciences as an important ingredient of U.S. competitiveness further legitimized the PSM and stimulated the development of yet more programs. And, with the \$15 million in federal funding at the National Science Foundation (NSF) through the ARRA stimulus bill, we anticipate that many more PSM programs will be developed and will seek PSM affiliation. When CGS assumed primarily responsibility for promoting the PSM, there were about 100 PSM programs in existence. By the end of 2010 there will be more than twice that many.

By accepting responsibility for ensuring that all new PSM programs meet standard criteria, CGS assumed a leadership role in creating a recognizable brand. As part of this effort, CGS established and regularly convenes a National Advisory Board composed of graduate school deans, PSM program directors, employers, and others involved in the PSM initiative. This board developed a set of guidelines which programs must fulfill for formal recognition as a PSM program (see Figure 1 on page 8). These guidelines are found at www.sciencemasters.com.

Other information and resources available on www.sciencemasters.com that are valuable to institutions as they develop PSM programs include sample PowerPoints for presentation to faculty or employer groups, relevant PSM related articles and reports, including "Professional Master's Education: A CGS Guide to Establishing Programs," and contact information for current programs. Help for developing programs is also available from the Council of Graduate Schools PSM project team and the NPSMA (www.npsma.org).

In order to be formally recognized as a PSM, a program must submit an application demonstrating compliance with the guidelines since the "PSM" name and logo has been trademarked by the Sloan Foundation and licensed to CGS. The CGS staff reviews the application and makes a

determination of whether or not the program has fulfilled each of the criteria, and if so, programs are approved as part of the PSM community, listed on the Sciencemasters.com website, and provided with promotional materials and support. In cases where there is some question as to whether a proposed PSM program meets the guidelines, an independent Affiliation Review Committee conducts a secondary review of the program application. To date, in every case but one where the PSM designation was not approved, the institution made the requested adjustments in order to bring the program in line with the PSM initiative and gain the designation.

However, the increase in both the quantity and diversity of applications has meant that the application review process has become a much more intensive activity with higher resource demands and significantly greater stakes than originally anticipated. Therefore, to ensure and subsequently maintain the quality of PSM programs into the future, CGS believes that the PSM affiliation process must move to a more formal, sustainable, widely recognized and accepted review process.

Throughout 2010, CGS will be conducting a project which will produce recommendations on quality standards and a process for formal recognition of PSM programs. We will start by researching policies and procedures associated with affiliating/recognizing/approving programs, and to the extent possible, their history in other academic fields. In order to formulate a widely accepted set of standards for PSM program recognition/affiliation, informed by best practices developed by others who have gone through a similar process, we will hold a series of in-depth discussions among key stakeholders including graduate deans, current PSM program directors, employers from the business, nonprofit, and government sectors, professional society leaders, PSM alumni, policymakers, as well as appropriate individuals from CGS and the Sloan Foundation. We anticipate that the standards will be similar to the guidelines that are currently utilized to recognize new PSM programs, but may also include other requirements such as outcome measures. We will convene a series of three face-to-face meetings that will take place over the period of one year, culminating in a Standards and Procedures document. The expected outcome of this activity is that a stronger PSM brand will emerge and a sustainable process for quality control will be developed that will have broad acceptance in the academic and professional community. By the end of the year, we expect to have a fully articulated set of criteria and a transparent and effective process for reviewing programs, as well as a set of criteria and recommendations for an appropriate body or organization to be responsible for the expanded PSM recognition process.

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Figure 1: Guidelines for CGS Recognition as a Professional Science Master's Program

- Total credits equivalent to a standard master's degree (approximately 2 years, full-time equivalent, including projects and internships).
- A majority of program course work in graduate-level science and/or mathematics courses in one or more disciplines. An interdisciplinary curriculum is highly desirable.
- A professional skills component (often called the “plus” component of a “science-plus degree”) that may consist of a variety of relevant courses and activities developed in consultation with prospective employers. Examples include business basics, legal and regulatory issues, finance and marketing, communication and teamwork, and are often developed in collaboration with appropriate academic units outside the sciences or taught by adjunct faculty from the targeted employment sector. In addition to courses and workshops, professional skills are usually enhanced by internships and problem-based projects sponsored by employers. The professional component should result in a portfolio of experiences recognized by and involving the client employers.
- Program quality assurance should be provided using the faculty-based mechanisms normally used by the institution for graduate programs to ensure institutional integration and sustainability. It is understood that the professional nature of the program may lead to substantial participation by non-academic practicing professionals, for example as adjunct faculty course instructors or student internship mentors.
- An active and engaged client advisory board. Examples of board and/or individual-member functions include providing advice on the program curriculum, assisting with internships and placement, assisting with project-identification, and/or interacting individually with students.
- A commitment to report enrollment and degrees annually and an attempt to track the employment history of every graduate to help assess program outcomes and success.
- Agreement to use the name “Professional Science Master's” and the PSM logo on websites and advertising brochures. In turn the program will be listed on the CGS national PSM website and databases, and will be included in CGS PSM promotional activities.

Communicator

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