

The University Senate of Michigan Technological University

PROPOSAL 18-11

(Voting Units: Academic)

“FRAMEWORK FOR PROFESSIONAL SCIENCE MASTERS DEGREES: GUIDELINES FOR OBTAINING PROFESSIONAL SCIENCE MASTERS RECOGNITION FOR MICHIGAN TECH PROGRAMS”

This proposal replaces Senate Proposal 21-01.

According to the Council of Graduate Schools, “The Professional Science Masters or PSM degree is a unique professional degree grounded in natural science and/or mathematics and designed to prepare students for a variety of career options in industry, business, government, or non-profit organizations. The degree combines advanced coursework in science and/or math with an appropriate array of professional skill-development activities to produce graduates highly valued by employers and fully prepared to progress toward leadership roles. The PSM is designed to be self-contained and prepares students for direct entry into the workforce; it is not a traditional master’s degree or a degree earned automatically en route to or from a PhD degree.” (www.sciencemasters.com)

Only programs affiliated with the PSM network are allowed to use the trademarked title and logo “PSM”. Affiliated programs are listed on the sciencemasters.com website and may use the official PSM logo on their website and other marketing materials. In order to qualify as an affiliate, PSM programs must adhere to guidelines set by the network and must apply for affiliation.

A Master’s program that is affiliated with the PSM degree program can choose to use PSM as a designation or as a degree type. For example, for a Masters degree in subject A, the degree awarded can be a Masters of Science in A, a Masters of A or a Professional Science Masters in A. The first two of these can indicate that the degree is a Professional Science Masters without having this term as the degree type. Similarly, the degree may involve coursework only, a report or a thesis. However all degrees that are PSMs must focus on preparing the student for a career in industry, business, government or non-profit organizations.

RELATED PROGRAMS:

As of February 10, 2011, there were 233 PSM Program and 110 PSM-Affiliated Institutions. The fields of study that currently offer affiliated PSM degrees include “natural science, mathematics, or engineering programs that have professional skills content. Professional skills refers to courses, workshops, and experiences that prepare students to function in leadership positions within industry”. Examples include, but are not limited to:

- Biology/Biotechnology
- Chemistry
- Computational Molecular Biology/Bioinformatics
- Computational Sciences
- Environmental Sciences
- Forensic Sciences
- Mathematics and Statistics
- Medical-Related Sciences
- National Defense
- Physics and Geological Sciences

RATIONAL AND NEED

PSM graduates are highly valued by industry. PSM designation provides recognition and assurance that a program conforms to nationally recognized standards.

POTENTIAL APPLICANT POOL

PSM students are typically self-supported students of science or mathematics who plan to pursue a career in industry, business, government, or with a non-profit agency. PSM students receive advanced training in their primary or core discipline along with a professional skills component (which may include an internship). PSM programs must have a process in place for quality assurance and are overseen by an employer advisory board.

PROGRAM OPTIONS

Professional Science Master's Programs at Michigan Tech must conform to the current guidelines for Professional Science Master's or PSM) programs outlined by the PSM network. The guidelines are currently (as of October, 2010) available at: www.sciencemasters.com

All proposals for establishing new Professional Science Master's degree programs must go through the normal university review and approval process and must be recognized as an affiliate of the PSM network by the Council of Graduate Schools (or by any successor which assumes responsibility for granting affiliate status).

CURRICULUM DESIGN

PSM students must complete the number of credits normally required for a master's degree. In addition students must receive advanced training in their primary or core discipline along with a professional skills training (which may be accomplished in part through an internship). PSM programs must have a process in place for quality assurance and must be overseen by an employer advisory board. Complete guidelines for the development of programs are currently (as of October, 2010) available at:

www.sciencemasters.com

ADMISSION AND DEGREE REQUIREMENTS

Students wishing to enter a Professional Science Master's degree program option are subject to Michigan Tech's general Graduate School admissions requirements for master's students. Prior to receiving their degree, students must complete all requirements for their program.

PLANNED IMPLEMENTATION DATE

Fall 2011

ACCREDITATION REQUIREMENTS

Recognition as an affiliate of the PSM network (see www.sciencemasters.com) is required.

REFERENCES

More information about the PSM, including publications, is available at: www.sciencemasters.com

Introduced to Senate: 02 March 2011

Adopted by Senate: 23 March 2011

Approved by Administration: 31 March 2011