Professional Science Master’s Programs (GRAD)

Contact Information
Professional Science Master’s Programs
http://psm.unc.edu

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Professional Science Master’s (P.S.M.) programs prepare graduates to thrive in science, technology, engineering, and mathematics (STEM) careers by providing both high-rigor technical skills and the business fundamentals required to understand and navigate the science workplace. Two Professional Science Master’s programs are offered at UNC-Chapel Hill: Toxicology (http://psm.unc.edu/toxicology) and Biomedical and Health Informatics (http://chip.unc.edu/mps-bmhi).

Students participate in advanced, graduate-level STEM coursework to enter the workforce understanding the cutting edge of their scientific field. Students also gain a breadth of business knowledge in areas such as professional communication, leading and managing, financial accounting, and project management. A 400-hour internship is required and provides an opportunity to work within a real-world team environment and participate in projects that incorporate the STEM and business knowledge of each Professional Science Master’s program.

The STEM coursework is led by world-renowned UNC-Chapel Hill faculty who understand the most up-to-date advances in their field. Kenan–Flagler Business School faculty and experienced professionals teach the business fundamentals. There is opportunity to engage in interdisciplinary team projects and interact with business leaders in your degree field. Additional details can be viewed at the Professional Science Master’s program’s Web site (http://psm.unc.edu).

Professional Science Master’s programs are available in

- Biomedical and Health Informatics (http://catalog.unc.edu/graduate/schools-departments/biomedical-and-health-informatics)
- Toxicology (http://catalog.unc.edu/graduate/schools-departments/toxicology)

Both programs can be completed in 16 months of full-time study. Part-time options are available if students would like to continue working while enrolled. Courses can be selected from a variety of participating departments to tailor the degree to students’ professional needs.

Affiliated with the National Professional Science Master’s Association (http://www.npsma.org), the toxicology and biomedical and health informatics programs meet the highest requirements of a P.S.M. program. External boards for both programs consist of leaders within industry, nonprofit, and government organizations. These leaders inform the curriculum and keep the programs responsive to workforce needs.

Graduate-level Courses

GRAD 710. Professional Communication: Writing. 1.5 Credit.
Permission of The Graduate School. This writing-intensive, seminar-style course focuses on crafting effective email messages, short reports, and executive summaries in professional settings. Key topics include content selection, organization, accessibility, plain language, clarity and conciseness, tone, and graphic displays of information. This course requires a strong command of English.

GRAD 711. Professional Communication: Presenting. 1.5 Credit.
Permission of The Graduate School. This speaking-intensive, seminar-style course focuses on presenting complex topics using plain language in professional settings. Key topics include selecting and organizing content, developing audience-centered visual aids, incorporating storytelling, projecting a professional image, and managing Q & A. This course requires a strong command of English.

GRAD 712. Leadership in the Workplace. 1 Credit.
Leadership is a fundamental skill necessary for success as a professional scientist. Effective leadership begins with understanding your capacity to positively influence others. This course examines your current leadership style, team dynamics, change management, and intrapreneurial thinking (entrepreneurial thinking within organizations) for professional scientists.

GRAD 713. Applied Project Management: Frameworks, Principles and Techniques. 1.5 Credit.
Permission of The Graduate School. This course focuses on practical project management principles and techniques, demonstrating their effectiveness in the workplace. Key topics include frameworks and methodologies, planning and monitoring projects, risk management, stakeholder management, managing your team, and time and cost management. This course will include group work.

GRAD 714. Introduction to Financial Accounting. 1.5 Credit.
This course will teach the basics of Financial Accounting, including the Balance Sheet, the Income Statement, and the Statement of Cash Flows and Budgeting. The final presentation will incorporate financial skills and knowledge that can be used to support a future project proposal to business managers in an organization.

GRAD 715. Building Your Leadership Practice. 0.5 Credits.
Building on the development plan established in that program, students explore unique opportunities for practice available in their work environments. They will identify two areas of focus, based on their identified strengths and areas for growth, to map out a long-term practice schedule.

Requisites: Prerequisite, GRAD 712.

GRAD 720. Team-based Consulting for Technology Commercialization. 3 Credits.
Permission of PSM Program Director is required. Course matches student teams with a small business that has received a phase 1 SBIR. Students will be guided through development of a commercialization plan. Topics include: conducting market research and analysis of findings, intellectual property protection, team selection, and business model alternatives.

GRAD 721. Research Ethics. 1 Credit.
This class introduces future researchers to the rewards of and obstacles to research: the causes and consequences of misconduct, the rights and obligations of professionals; the habits of excellent mentors.
GRAD 725. Master of Professional Science Seminar Series. 1 Credit.
Intended for M.P.S. students. Emphasis on professional skills and career development; weekly presentations by invited professionals about the nature, challenges, and rewards of their chosen careers. Group assignments will require integration of ideas and concepts toward solving a problem, followed by in-class presentations and discussions.
Repeat rules: May be repeated for credit. 3 total credits. 3 total completions.

GRAD 735. Regulatory Toxicology-Interacting with regulatory agencies & approval for drug, device, and chemical. 3 Credits.
Regulatory agency fundamentals, regulatory process for drug, medical device, cosmetic and agrochemical products. Industry, regulatory agency representatives and consultants will be invited to speak directly about their regulatory policies, challenges, and expectations. Students will develop and present a regulatory submission package as part of a group project.
Same as: TOXC 735.

GRAD 750. Innovations to Impact: The Translation of Scientific Research into Societal Benefit. 1.5 Credit.
Most scientific research takes place in major academic universities. The knowledge, discoveries, and innovations emanating from breakthrough research can have societal impact by many avenues, namely translated into public policy, programs, products and services. This course provides an understanding of the value of translating science and processes involved in translation.

GRAD 989. Professional Science Master's Internship/Practicum. 1-3 Credits.
A PSM internship is a planned, individualized, mentored, evaluated, experiential learning opportunity that serves as a bridge between a student's academic training and non-academic practice. Students complete the practicum/internship and accompanying paper and report in their first year of study as a substitute for the master's thesis and comprehensive exam.