Professional Science Master’s Programs (GRAD)

Contact Information
Professional Science Master’s Programs
Visit Program Website (http://psm.unc.edu)

Professional Science Master’s (P.S.M.) programs prepare graduates to thrive in science, technology, engineering, and mathematics (STEM) careers by providing both high-rigorous technical skills and the business fundamentals required to understand and navigate the science workplace. Three Professional Science Master’s programs are offered at UNC–Chapel Hill: Biomedical and Health Informatics (https://psm.unc.edu/bmihi/); Digital Curation and Management (https://psm.unc.edu/digital-curation/); and Toxicology (https://psm.unc.edu/toxicology/). 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.

Professional Science Master’s programs are available in

- Biomedical and Health Informatics (http://catalog.unc.edu/graduate/schools-departments/biomedical-and-health-informatics/)
- Digital Curation and Management (https://psm.unc.edu/digital-curation/)
- Toxicology (http://catalog.unc.edu/graduate/schools-departments/toxicology/)

All 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. Both the Biomedical and Health Informatics program and the Digital Curation and Management program can be completed entirely online. Courses for our residential and online programs 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), our 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.

GRAD

Graduate-level Courses

GRAD 710. Professional Communication: Writing. 1.5 Credit.
This writing-intensive, seminar-style course focuses on drafting 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.
Grading status: Letter grade.

GRAD 711. Professional Communication: Presenting. 1.5 Credit.
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.
Grading status: Letter grade.

GRAD 712. Leadership in the Workplace. 1.5 Credit.
Effective leadership begins with understanding your capacity to influence others positively. This course examines your current leadership style and addresses the relationship of that style to leadership development opportunities including influencing team dynamics, building productive relationships and managing change as a professional and a leader.
Grading status: Letter grade.

GRAD 713. Applied Project Management: Frameworks, Principles and Techniques. 1.5 Credit.
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.
Grading status: Letter grade.

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.
Grading status: Letter grade.

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.
Grading status: Letter grade.

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.
Grading status: Letter grade.
GRAD 721. Research Ethics. 1 Credit.
This class introduces current and 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. The course will give an overview of traditional ethical theories, such as utilitarian and Kantian theories, and challenge students to apply those theories to their own research and practice. NOTE: This course will not satisfy the NIH Responsible Conduct of Research (RCR) requirement.
Grading status: Pass/Fail.

GRAD 725. Build Your Professional Brand: Develop Job Search Skills and Materials to Make Employers Notice You. 1.5 Credit.
Building effective job search strategies, materials, and a strong online presence is essential for career success inside and outside the academy. Work with professionals with expertise in all areas of the job search process to develop your brand including a LinkedIn profile, resume/CV, cover letters and identify your job values and job skills and develop a Professional Development Plan. Interactive sessions will provide the setting to develop/refine your materials and your career approach.
Grading status: Letter grade.

GRAD 726. Business Fundamentals - Special Topics. 1 Credit.
This seminar series will introduce students to many of the topics essential to the workplace including the structure and culture of a variety of organizations, interpersonal skills in the workplace, and more. Broadly, the series will reinforce concepts taught in the GRAD business fundamentals/professional skills classes by placing them in the context of career paths that are of interest to students.
Grading status: Letter grade.

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.
Grading status: Letter grade
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.
Grading status: Letter grade.

GRAD 751. Consulting Fundamentals For Adv. Professional Degree Graduate Students. 1.5 Credit.
The course covers the fundamental skills required in consulting: defining the problem, gathering relevant information, analyzing data, synthesizing findings, drawing conclusions, developing recommendations, and communicating those recommendations.
Grading status: Letter grade.

GRAD 755. Fundamentals of Technology Commercialization. 1.5 Credit.
This course provides an overview of the fundamental first steps of technology commercialization, with a specific emphasis on university technology commercialization (aka technology transfer). The course will cover the following topics: Market Assessment, Intellectual Property, Technology Development, Licensing, Commercial Development, and University Startups. Permission from the instructor required.
Grading status: Letter grade.

GRAD 770. Introduction to Digital Transformation. 1.5 Credit.
The Digital Revolution is transforming the way we live and work - from technology-driven to human-centered; from point solutions to end-to-end; and from fragmented to integrated. The course is designed to provide an overview and introduction to transformational principles for individuals, organizations, and industry ecosystems. Students will explore new models of engagement, persona discovery, value mapping, and systems thinking to anchor them to the critical attributes of the digital revolution.
Grading status: Letter grade.

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.
Grading status: Letter grade.