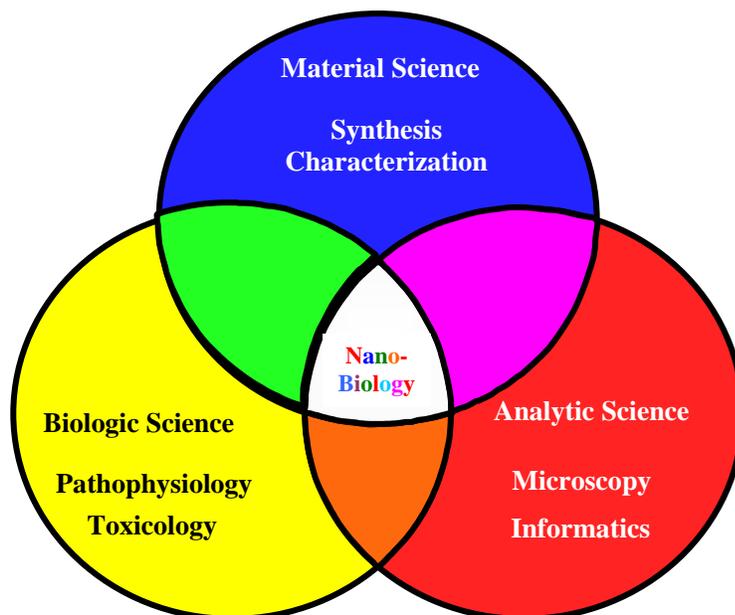


THE NANOBIOLOGY CERTIFICATE PROGRAM



The Nanobiology Certificate Program is offered through the Rackham Graduate School and aims to integrate students from a number of existing graduate programs within this interdisciplinary research structure and thereby provide a coherent strategy for educating students more broadly in nanobiology while still maintaining intellectual depth in their core discipline.

The nanobiology certificate program helps chemistry, pharmacy, physics, (chemical)engineering, and (bio)informatics students with integration of (nano)biology in their studies and facilitates the link to biologic or biomedical applications. Similarly, the program provides toxicology, medical, and biology students with increased knowledge of the materials sciences. The multidisciplinary experience helps students to bridge “cultural” differences that exist among different disciplines and fosters effective understanding of the biology/medical application connection.

The key features of the Nanobiology Certificate Program are the breadth of the required course work, a requirement for multidisciplinary research experience, and a multi-disciplinary seminar program:

- Complete a nanoscience class within Ph.D. area (3 credits).
- Complete two complementary nanoscience classes outside of Ph.D. area (6 credits).
- Perform collaborative research in a second laboratory or research group outside student’s core discipline.
- Participate in the NanoBiology Seminar (2 credits/semester, 3 semesters). *See attached description.*

Students who are interested in pursuing the NanoBiology Certificate degree can find more information about the program here: <http://www.nano.med.umich.edu/Student-Opportunities/Rackham-Certificate.html>
You will find a listing of sample nanoscience courses, a description of the required collaboration, and more information on the required seminar.

Students interested in the Certificate Program in Nanobiology should contact the Certificate Program Director, Professor Bradford Orr: orr@umich.edu to discuss enrollment and requirements.

Register for the NanoBiology Certificate Seminar by registering for:

Physics 517 – Nanobiology Certificate Seminar; cross-listed: Biophysics 517, Applied Physics 517

NANOBIOLOGY CERTIFICATE SEMINAR SERIES

Instructor: Dr. Dan McNerny (dmcnerny@umich.edu)

The Nanobiology Certificate seminar is one of the requirements for the Nanobiology Certificate program. The seminar is unique in that it offers the chance to interact with experts in a wide variety of disciplines, including many heavily involved in interdisciplinary research and nanobiology. The course is designed to be more informal than typical seminars, allowing open discussion with faculty speakers; past talks have been successful largely due to student-speaker interaction and the exchanging of insightful questions and ideas with university members within and across fields, departments, and colleges.

Goals for seminar:

- Professors discussing basic science research and clinical translation
- Academic and industrial career related
- Tools for multidisciplinary research (effective communication skills, CV/research plan)
- Advanced students will present material from their own research experiences to the group.

Past speakers are diverse and included:

Prof. Mark Banaszak Holl, Chemistry, Biomedical Engineering, Macromolecular Science & Engineering
Prof. Mark Burns, Chemical Engineering
Prof. Xudong (Sherman) Fan, Biomedical Engineering
Prof. Rachel Goldman, Material Science and Engineering
Dr. Chad Hershock, Assistant Director, Center for Research on Learning and Teaching
Prof. Peter Hitchcock, Medical School Office of Postdoctoral Studies
Dr. Aileen Huang-Saad, College of Engineering Center for Entrepreneurship, Biomedical Engineering
Prof. Raoul Kopelman, Chemistry
Prof. Jens-Christian Meiners, Physics
Prof. Jan Stegemann, Biomedical Engineering
Prof. Nicholas Steneck, Director, Research Ethics and Integrity Program, UM Institute for Clinical and Health Research
Prof. Shuichi Takayama, Biomedical Engineering
Prof. Angela Violi, Chemical/Mechanical Engineering
Prof. Nils Walter, Chemistry/Biophysics
Dr. Nadine Wong, Office of Technology Transfer

Past students' comments on the seminar:

"I really enjoyed the atmosphere generated between the professors and the students, we felt totally free to ask any question and from time to time a very interesting dynamics of Q&A was developed."

"This is a seminar course to "open our minds" and get a broader understanding of science; that is not a regular "boring" class."

The certificate seminar is designed to complement the participant's excising workload, opening doors for collaboration and communication in evolving interdisciplinary fields without substantially increasing the course workload.

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The Seminar will be held in 4404 Randall

