

# BASIC MEDICAL SCIENCES (M.S.)

Office: 1128 Scott Hall

Program Director: George S. Brush, Ph.D.

The Basic Medical Sciences (BMS) program offers a didactic, multidisciplinary (broadly-based), and human biology-oriented curriculum. The BMS program can enhance the academic preparation of individuals holding a bachelor's, master's or professional degree who are seeking to subsequently matriculate into human or veterinary medical, dental, or pharmacological professional degree programs. The curriculum can facilitate career advancement of individuals employed in the areas of biomedical research and science education. The curriculum is NOT for individuals holding M.D., D.D.S., Pharm.D. or equivalent degrees; such individuals interested in medical or biomedical research are referred to the M.S. in Medical Research program (see below).

The curriculum involves courses from several basic science departments and programs, each one representing a unique discipline within the Wayne State University School of Medicine. At least one BMS CORE course from each of at least four different disciplines is required. The curriculum also has advanced basic medical science electives. The Master of Science in Basic Medical Sciences degree is a Plan B master's essay curriculum that requires an original critical evaluation of a specific topic in current biomedical science commonly based on analysis of current biomedical literature; original experimental research is not required.

## Admission Requirements

**Admission** to the BMS program is contingent upon admission to the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/admission>). A minimum of a bachelor's degree or equivalent is required. A major in a biological or chemical science is preferred; applicants with other majors will be considered. Applicants must have completed at least one year of general biology, two years of chemistry (inorganic and organic), and one year of physics at the undergraduate level or above. An earned cumulative Grade Point Average of 3.0 together with strong science grades are required for regular admission. Applications must be submitted online (see url at the end of this paragraph). A complete application requires submission of the basic application form, a statement of purpose, three letters of recommendation, transcripts from all prior academic institutions in which the applicant is/was enrolled, and a recent standardized test score (original or copy): either MCAT, DAT, GRE or PCAT. Copies of transcripts may be submitted for application review; however, the Graduate School will require submission of an official transcript showing degree awarded prior to enrollment.

The Master of Science in Basic Medical Sciences is offered only as a Plan B master's degree that requires completion of thirty-four credits in the BMS curriculum and must include a graded Master's essay (BMS 7999). All course work must be completed in accordance with the regulations of the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/academic-regulations>) and the School of Medicine (<http://bulletins.wayne.edu/graduate/school-medicine/programs>) governing graduate scholarship and degrees.

## Required Core Courses

A minimum of four CORE courses, each one from a different basic science discipline/subject area (as reflected in the different two- or

three-letter course prefixes), must be chosen from the following (a few alternative Core courses are available with Program Director approval):

Code	Title	Credits
BMB 7010	General Biochemistry Lecture	4
CB 7210	Fundamentals of Cancer Biology	3
IM 7010	Fundamentals of Immunology	2
IM 7020	Fundamentals of Microbiology	2
IM 7030	Molecular Biology of Viruses	2
IM 7520	Molecular Mechanisms of Bacterial Pathogenesis	2
MGG 7010	Molecular Biology and Genetics	4
PHC 6500	Drugs and the Addictive Process	3
PHC 7010	Pharmacology Lecture	4
PHC 7410	Principles of Toxicology	3
PSL 7010	Basic Graduate Physiology Lecture I	4
PSL 7030	Basic Graduate Physiology Lecture II	4
PTH 7500	Systemic Pathophysiology	3
PYC 7010	Molecular Neuropsychopharmacology	3

## Elective Courses

Elective credits, from selected BMS elective courses, sufficient to complete the thirty-four earned cumulative credit degree requirement must be approved by written consent of the Program Director.

## Plan of Work Requirement

The Plan of Work is developed and filed in association with the Program Director or his/her designee. The deadline is specified by the Graduate School and enforced by the Registrar.

## Essay Requirement

BMS 7999 – Essays in Basic Medical Science: Cr. 3

The Essay Advisor, Committee, and *essay topic* are selected with the advice and approval of the BMS Program Director. The committee must be composed of three graduate faculty members, including the Essay Advisor who may also be appointed as the student's academic advisor. The Essay Outline must be approved by the BMS Program Director. The Essay document must be presented to all Committee members for evaluation, approval and final grading. At the discretion of the Essay Advisor and Committee the evaluation may require an oral presentation and defense of the essay.

### BMS 6010 Responsible Conduct in Biomedical Research Cr. 1

Nature, motivation and ethics in biomedical science situations liable to fraud, misconduct, conflicts of interest, and plagiarism in research, in peer and editorial review, and in authorship. Methods of safe laboratory practice and ethical human and animal use as research subjects in science. Offered for graduate credit only. Offered Spring/Summer.

**Restriction(s):** Enrollment is limited to Graduate level students.

### BMS 6550 Medical Anatomy for Health Professionals Cr. 4

Basics of human anatomy for BMS and selected graduate students. Offered Spring/Summer.

**Course Material Fees:** \$15

### BMS 7100 Introduction to the Business of Biotechnology Cr. 3

Translation of biomedical innovation from bench to bedside, with focus on interplay between healthcare needs, regulatory agencies, and commercialization pathways. Offered Winter.

**Equivalent:** IBS 7110

**BMS 7115 Special Topics in Biotechnology Commercialization Cr. 1**

Designed to provide practical experience in defining the relationships between academic discovery science and business development, with a focus on best practices for presenting basic research-commercial products to external, interested individuals. Offered Winter.

**Restriction(s):** Enrollment is limited to Graduate level students.

**Equivalent:** IBS 7115

**BMS 7880 Special Topics/Projects Cr. 1-4**

Up to four credits in research, laboratory, discussion, or field work, in any combination; for students in Basic Medical Sciences or Medical Research program. Offered Every Term.

**Restriction(s):** Enrollment is limited to Graduate level students.

**BMS 7999 Essays in Basic Medical Science Cr. 3**

Methodologies in library research and critical evaluation of current biomedical literature. Written summary and report on a specific topic in current biomedical literature. Offered Every Term.

**Restriction(s):** Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.