



Division of Graduate Medical Sciences
Boston University School of Medicine

**THE MASTER OF ARTS IN MEDICAL
SCIENCES**

PROGRAM GUIDELINES

2009-2010 ACADEMIC YEAR

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**DIVISION OF GRADUATE MEDICAL SCIENCES
BOSTON UNIVERSITY SCHOOL OF MEDICINE**

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PROGRAM GUIDELINES**

2009-2010 ACADEMIC YEAR

Table of Contents

Introduction.....	4
Faculty Advisors.....	4
Faculty.....	5
The Program and Specialization Opportunities.....	6
Degree Requirements.....	7
Course of Study.....	7
Required Courses	7
Required Courses for the Oral Health Sciences Curriculum Track	8
Elective Courses.....	8
Fall Semester Electives.....	9
Spring Semester Electives.....	10
Summer Semester Electives.....	11
Concentrations.....	11
Concentration in Mental Health Counseling and Behavioral Medicine.....	12
Concentration in Clinical Investigation.....	13
Concentration in Medical Nutrition Sciences.....	15
Cross Registration.....	16
Directed Study/Research Electives.....	16
Dual Degree Programs	16
Academic Policies.....	17
Thesis Requirement	18
Expectations for Thesis.....	19
Selection of Thesis Mentors (First and Second Readers).....	19
Library Thesis.....	19
Laboratory Research Thesis.....	20
Thesis Format Guidelines.....	20

Thesis Forms and Important Deadlines.....	20
Important Thesis Considerations.....	21
Thesis Grading Policy.....	21
Commencement and Diplomas.....	22
Communication	22
Advising Resources.....	22
Volunteer Opportunities.....	23
MCAT and MCAT Policies.....	24
Division Letter File Service/Letters of Recommendation.....	24
Completing the Biographical Sketch and AMCAS Application.....	25
Transmission of Letters of Recommendation to Professional Schools.....	25
Life After the M.A. in Medical Sciences Program.....	27
M.A. Medical Science Matriculates in American Medical Schools.....	27
M.A. Medical Science Matriculates in Foreign Medical Schools.....	29
M.A. in Medical Science Matriculates at Osteopathic Medical Schools	30
M.A. in Medical Science Matriculates in Dental Schools	31
M.A. in Medical Science Matriculates in Podiatry Schools	31
M.A. in Medical Sciences Matriculates in Physicians’ Assistant Programs and Nursing Schools.....	31
M.A. in Medical Sciences Matriculates in Law Schools	31
Appendices.....	32
1. M.A. in Medical Sciences Concentration Declaration Form.....	33
2. Thesis Title Approval Page.....	34
3. Thesis Agreement Form.....	35
4. Special Service Appointment Form.....	36
5. 2010 Student Biographical Information Form ("Biosketch").....	37
6. Biographical Update Form ("Biosketch Update").....	48

Introduction

Welcome to the Division of Graduate Medical Sciences at Boston University School of Medicine. These guidelines have been developed to assist you as you enter our flexible Master of Arts in Medical Science Program. The majority of students complete the Program in a twelve to twenty-four month time period. In order for you to succeed in your career goals, it is imperative that you both do well academically, and take advantage of the advising resources available in the Division of Graduate Medical Sciences. We hope these guidelines will pave your way to a successful course of study at BUSM and, ultimately, to a rewarding career.

Faculty Advisors

Each student in the M.A. in Medical Sciences Program is assigned a faculty advisor who will have regular office hours in Room L-315 or in their own office and will be available to meet on a regular basis. The advisors are available to assist you with course selection and registration, career guidance, medical school selection process, medical school applications, mock interviews, and thesis guidance among many other areas of concern and interest. Your advisor, along with your professors, is dedicated to helping you succeed and may very well be your most valuable mentor and advocate. We urge you to take the “professional route”, and meet regularly with your advisor.

You should plan to meet and consult with your advisor during this academic year on a regular basis:

- Introductory meeting with advisor in the early part of the semester (***before first set of exams in September – early October***)
- After you have completed your first set of exams (***October***)
- During class registration for Spring 2010 semester (***beginning Wednesday, November 4, 2009***)
- ***After first set of exams in Spring 2010 semester***
- ***January to April 1, 2010*** to discuss your biosketch for Dean’s/Advisor’s Letter (All students must meet with their advisor to discuss their biosketch by April 1, 2010 to assure that your letter is completed in time for the 2010 medical school admissions cycle). This is also a good time to meet to discuss your thesis plans if you have not done so already.
- ***April*** – course registration for Summer sessions and/or fall. Discussion of AMCAS application; personal statements; thesis plans. Note: Do not postpone working on your AMCAS/personal statements!

Students will receive advisor assignments during the Program Orientation. To schedule an appointment with your advisor, please contact Ms. Dianna Rivera in Room L-315 (638-5255, dianna@bu.edu).

The M.A. in Medical Sciences Faculty Advisors for 2009-2010 are:

Dr. Linda Hyman, Program Director and Associate Provost (lhyman@bu.edu,
Please contact Ms. Kayleigh Klegraefe 638-5744,
kayleigh@medsci.bumc.bu.edu to schedule an appointment)

Dr. Gene Blatt (gblatt@bu.edu)

Dr. Selwyn Broitman

Dr. Theresa Davies (tdavies@bu.edu)

Dr. J. Fernando Garcia Diaz (fgarcia@bu.edu)

Dr. Simon Levy (simonl@bu.edu)

Dr. Ana Karina Mascarenhas (karinam@bu.edu – for Oral Health concentration)

Dr. Matthew Nugent (mnugent@bu.edu)

Dr. Gwynneth Offner (goffner@bu.edu)

Dr. Hee-Young Park (hypark@bu.edu)

Dr. Carla Romney, Advisor for study skills and test taking, MCAT preparation
and testing accommodations (romney@bu.edu)

Dr. Phillip Stone (stone@bu.edu)

Dr. Karen Symes (symes@bu.edu)

Dr. Paul Toselli (toselli@biochem.bumc.bu.edu)

Dr. Abdulmaged Traish (atraish@bu.edu)

Dr. Vickery Trinkaus-Randall (vickery@biochem.bumc.bu.edu)

Faculty

Boston University School of Medicine and Goldman School of Dental Medicine faculty from the Departments of Anatomy and Neurobiology, Biochemistry, Microbiology, Pathology and Laboratory Medicine, Pharmacology and Experimental Therapeutics, and Physiology and Biophysics; and from the Programs of Behavioral Neuroscience, Bioimaging, Biomedical Forensics, Forensic Anthropology, Medical Anthropology, Molecular Medicine, Medical Nutrition Science, Clinical Investigation, Genetic Counseling, Genetics and Genomics, Health Policy, and Mental Health and Behavioral Medicine, all contribute to the program by teaching or serving as research mentors to students in the Program. The list of faculty below represents only a limited sampling of current course managers and faculty who teach in the program. Many other basic science faculty and clinical faculty at BUSM teach and serve as faculty research mentors to students in the M.A. in Medical Science Program.

Carmela Abraham, Ph.D., Associate Professor of Medicine

Stephen Brady, Ph.D., Director, Program in Mental Health Counseling &
Behavioral Medicine

Jori Berger-Greenstein, Ph.D., Program in Mental Health Counseling &
Behavioral Medicine

Selwyn Broitman, Ph.D., M.A. in Medical Sciences Program,
Assistant Dean of Admissions, and Professor of Microbiology and
Pathology and Laboratory Medicine

Thomas Christensen, Ph.D., Associate Professor of Pathology and Laboratory
Medicine

Susan Fish, Ph.D., Director, Program in Clinical Investigation

Carl Franzblau, Ph.D., Professor of Biochemistry
Susan Fried, Ph.D., Director, Program in Medical Nutrition Sciences
J. Fernando Garcia-Diaz, Ph.D., Associate Professor of Physiology and Biophysics
James Head, Ph.D., Professor of Physiology
Ronald Killiany, Ph.D., Associate Professor of Anatomy and Neurobiology
William Lehman, Ph.D., Professor of Physiology and Biophysics
Simon Levy, Ph.D., Associate Professor of Physiology and Biophysics
Paul O'Bryan, Ph.D., Assistant Dean of Student Affairs, and Professor of Physiology and Biophysics
Stephanie Oberhaus, Ph.D., Assistant Professor of Microbiology
Gwynneth Offner, Ph.D., Associate Professor of Biochemistry
Marlene Oscar-Berman, Ph.D., Professor of Psychiatry
Douglas Rosene, Ph.D., Professor of Anatomy and Neurobiology
Barbara Schreiber, Ph.D., Associate Professor of Biochemistry
Jacqueline Sharon, Ph.D., Professor of Pathology and Laboratory Medicine
Abdulmaged Traish, Ph.D., Professor of Biochemistry
Vickery Trinkaus-Randall, Ph.D., Professor of Biochemistry, Director of Program in Cell & Molecular Biology
Deborah Vaughan, Ph.D., Professor of Anatomy and Neurobiology
Carol Walsh, Ph.D., Professor of Pharmacology

The Program and Specialization Opportunities

The M.A. in Medical Sciences provides students with the background essential to the pursuit of a variety of careers in the health professions. Although the M.A. in Medical Sciences is a broad-based program, opportunities to specialize at an advanced level are available by:

- 1) Completing a concentration in Clinical Investigation
- 2) Completing a concentration in Mental Health Counseling and Behavioral Medicine
- 3) Completing a concentration in Medical Nutrition Sciences
- 4) Completing the Oral Health Sciences curriculum track
- 5) Completing a Master of Arts in Mental Health and Behavioral Medicine through the Combined M.A. in Medical Sciences/M.A. in Mental Health and Behavioral Medicine Program.
- 6) Completing a Master of Public Health (M.P.H.) through the Combined M.A./M.P.H. Degree Program with the School of Public Health (SPH)
- 7) Completing a Master of Business Administration (M.B.A.) in health care administration through the Combined M.A./M.B.A. Degree Program with the Graduate School of Management (GSM)
- 8) Preparing the way to doctoral programs in research and medicine. Graduates of our program have also entered law school, pharmacy, dental, osteopathic, nursing, and Ph.D. programs in the basic sciences.

Degree Requirements

The program for the M.A. degree in Medical Sciences consists of the equivalent of two semesters of fundamental course work and two semesters of directly supervised research. The latter two semesters may be completed during the summer. **Students in the program must be registered for 4 semesters.** Candidates are required to complete the equivalent of a minimum of eight semester courses (32 credits) at the graduate level.

Students who wish to complete the requirements of the M.A. program in 12 months must register full-time (12-16 credits in the fall and spring semesters and at least 2 credits in both summer sessions) or register as a continuing student for each of the two summer semesters.

Note: *If you wish to complete your program of studies in 12 months, you must register for Summer Session I and II 2010, and complete all degree requirements, including the submission of your final thesis project by the published September 2010 graduation deadline of August 5, 2010. (Please consult the Division of Graduate Medical Sciences 2010 Graduation Calendar. A copy of this calendar is included in the Student Guidebook section of your orientation flash drive).* **If you are accepted for admission to Boston University School of Medicine for the Fall 2010 semester, you must complete all degree requirements, including the completion of the final thesis project, by August 1, 2010.**

Course of Study

Required Courses

The Program features a structured set of core course requirements and several groups of courses from which electives may be chosen.

The **core courses required** of all students (except the students completing the Oral Health curriculum track, please see below) in the M.A. in Medical Sciences Program are:

1. **GMS BI 751* Biochemistry & Cell Biology**
(Fall Semester, 6 credits)
2. **GMS MS 700 Elementary Biostatistics**
(Fall or Spring Semester, 2 credits)

-OR-

GMS CI 670 Biostatistics with Computer
(4 credits - Fall Semester)

3. **GMS PH 740* Physiology** (Spring Semester, 6 credits)
--OR--
GMS PH 730 and PH 731 Human Physiology A, B (Fall and Spring Semesters, 3 credits each semester)
4. **GMS MS 640 Introduction to Biomedical Information** (Spring, 2 credits)

Note: A Biostatistics course offered by the Division of Graduate Medical Sciences (GMS MS 700 or GMS CI 670) must be taken; it is not possible to substitute an equivalent SPH course. [If you have taken an undergraduate Biostatistics course and received a grade of B or higher within the past five years, students may opt to place out of the course by submitting a Petition to Waive Biostatistics Form. However, waiving this requirement does not reduce the 32 credit hour requirement to complete the Program.]

Only combined degree students may fulfill the Biostatistics requirement by taking SPH or GSM courses. Dual MA/MPH students may fulfill this requirement by taking the SPH course required for completion of the MPH curriculum. Dual MA/MBA students may fulfill the Biostatistics requirement by taking GSM QM 716 Quantitative Decision Making (4 credits). However, please be aware that fulfilling this requirement at SPH or GSM does not reduce the total number of credit hours required in the Division of Graduate Medical Sciences (GMS).

Required Courses for the Oral Health Sciences Curriculum Track

1. **GMS OH 751 Biochemistry/Dental** (Fall Semester, 6 credits)
2. **GMS OH 730 Physiology A/Dental** (Fall Semester, 6 credits)
3. **GMS OB 700 Biostatistics** (Fall Semester, 2 credits)
4. **GMS OH 731 Physiology B/Dental** (Spring Semester, 2 credits)
5. **GMS OH 750 Prevention and Health Promotion in Dentistry** (Spring Semester, 3 credits)
-or-
GMS OH 760 Prevention and Health Promotion (Summer II, 2 credits)

Elective Courses

The electives are divided into three groups according to semester (Fall, Spring, and Summer) and are to be selected as indicated. Students who have completed a course equivalent to Biostatistics may substitute one of the following electives after consultation and approval by their faculty advisor.

Elective Courses

Fall Semester Electives - At Least Four Credits must be Taken

GMS AN	705	Medical Histology A (3 credits) <i>[This is the first part of a two-semester sequence; GMS AN 706 (3 credits) will be taken in the Spring Semester.]</i>
GMS AN	720	Introduction to the Neurobiology of Education (2 credits, with permission of instructor)
GMS BN	777	Beginning Basic Neuroscience (3 credits, for Mental Health Concentration)
GMS BN	779	Beginning Basic Neuroscience (2 credits, with permission of instructor)
GMS BN	798	CNS Functions (4 credits)
GMS BN	893	Child Clinical Neuropsychology (4 credits)
GMS BC	600	Natural Hazards (3 credits)
GMS BC	610	Technological and Man-made Hazards (3 credits)
GMS BC	620	Psychology and Sociology of Disaster and Methods of Risk Communications (3 credits)
GMS BC	630	Ethical and Policy Issues in Health and Medical Services (3 credits)
GMS CI	640	Regulatory & Compliance Issues (4 credits, with permission of instructor)
GMS CI	675	Designing Clinical Research Studies (4 credits, with permission of instructor)
GMS FS	703	Forensic Chemistry (3 credits, with permission of instructor)
GMS FS	705	Forensic Anthropology (2 credits, with permission of instructor)
GMS GC	603	Embryology, Teratology and Prenatal Genetics (3 credits, with permission of instructor)
GMS GC	605	Clinical Applications in Human Genetics (4 credits, with permission of instructor)
GMS CM	753	Cell Biology (4 credits, with permission of instructor)
GMS GE	701	Principles of Genetics and Genomics (4 credits, with permission of instructor)
GMS IM	600	Bioimaging Foundations (4 credits, with permission of instructor)
GMS IM	610	Magnetic Resonance: Principles, Methods, & Applications in Biomedical Research (4 credits, with permission of instructor)
GMS IM	660	Radiation Protection, Safety, and Ethics (2 credits, with permission of instructor)
GMS MA	720	World Religions, Medicines, and Healing (4 credits, with permission of instructor)
GMS MA	740	Cultural Formation of the Clinician: Its Implications for Practice (3 credits, with permission of instructor)
GMS MH	701	Counseling Theory (3 credits, with permission of instructor)
GMS MH	703	Counseling Techniques (3 credits, with permission of instructor)
GMS MH	705	Psychopathology (3 credits, with permission of instructor)
GMS MH	708	Human Growth and Development (3 credits, with permission of instructor)

GMS	MM	701	Genetics & Epidemiology of Disease (2 credits, prerequisite BI 751 and permission of instructor. Should only be taken by second-year students)
GMS	MM	703	Cancer Biology (2 credits, prerequisite BI 751 and permission of instructor. Should only be taken by second-year students)
GMS	MM	707	Organ System Diseases (2 credits, prerequisite BI 751 and permission of instructor. Should only be taken by second-year students.)
GMS	MS	610	Ethico-Legal Issues of Bioscience (3 credits)
GMS	MS	706	Introduction to Computer Applications in Health Care and Biomedicine (4 credits, with permission of instructor)
GMS	MS	783	Molecular Basis of Neurologic Diseases (2 credits, with permission of instructor)
GMS	NU	600	Medical Nutrition Sciences (4 credits, with permission of Instructor)
GMS	NU	610	Research Methods in Medical Nutrition Sciences (4 credits, with permission of instructor)
GMS	NU	700	Medical Nutrition Sciences Seminar (4 credits, with permission of instructor)
GMS	PM	730	Introduction to Medical Pharmacology (4 credits)
GMS	PM	800	Advanced General Pharmacology (2 credits, with permission of instructor)

Spring Semester Electives - At Least Four Credits must be taken

GMS	AN	700*	Medical Histology (6 credits with permission of instructor)
GMS	AN	706	Medical Histology B (3 credits, with permission of instructor) [Note: This class is the continuation of GMS AN 705.]
GMS	BN	779	Beginning Basic Neuroscience (2 credits, with permission of instructor)
GMS	BN	782	Forensic Practice in Neuropsychology and Neuroscience (4 credits, with permission of instructor)
GMS	CI	631	Clinical Trials Management, (4 credits, with permission of instructor)
GMS	CI	790	Seminar in Clinical Research (2 credits)
GMS	MH	704	Group Work Dynamics & Process (3 credits, with permission of instructor)
GMS	MH	708	Human Growth & Development: Knowledge & Skills (3 credits, with permission of instructor)
GMS	MH	711	Health and Exercise Psychology (3 credits)
GMS	MI	518*	Virology (4 credits, with permission of instructor)
GMS	MS	552	Presenting Data in Biomedicine (4 credits)
GMS	MS	703*	Neurosciences (4 credits, with permission of instructor)
GMS	NU	620	Research, Clinical and Public Policy Applications in Medical Nutrition Sciences (4 credits, with permission of instructor)
GMS	OH	730	Microbiology/Dental (4 credits, with permission of instructor, for Oral Health track only)
GMS	PA	600	Introduction to Pathology of Disease (4 credits)
GMS	PA	510*	Medical Immunology (2 credits)

GMS	PM	810	Current Topics in Pharmacology (2 credits)
GMS	PH	748*	Endocrinology (4 credits, with permission of instructor)

Summer Semester Electives

GMS	MH	810	Psychopharmacology (3 credits, with permission of instructor)
GMS	MS	506	Clinical Laboratory Genetics (4 credits)
GMS	CI	660	Good Clinical Practices in Clinical Research (4 credits)

Note: * Indicates courses that are equivalent to medical school courses or portions of medical school courses.

Other courses in the Division of Graduate Medical Sciences may be taken as electives with consent of the course instructor and after consultation you're your faculty advisor.

Oral Health Sciences Curriculum Track

The Oral Health Sciences Curriculum Track is designed for students who are interested in Dentistry. The majority of courses in this track are taken at the School of Dental Medicine.

Concentrations

Students in the M.A. in Medical Sciences Program can direct their elective course selection and final thesis project to one of the three concentrations:

- Mental Health Counseling and Behavioral Medicine
- Clinical Investigation
- Medical Nutrition Sciences

To declare your intention to complete a concentration, please complete an *M.A. in Medical Sciences Concentration Declaration Form* (located on page 34 of this document), obtain your Faculty Advisor's signature, the Concentration Advisor's signature, and submit the form to Ms. Millie Agosto, Registrar, Room L-315.

In addition to completing your final thesis project in a topic related to your concentration, the requirements for each of the three concentrations follow:

Concentration in Mental Health Counseling and Behavioral Medicine

The renewed emphasis in most medical education programs on primary care demands that physicians become adept at the assessment, treatment and prevention of mental disorders as well as physical disease. Increasingly, health care professionals are being asked to become experts in human behavior since the key to health promotion is prevention. The mental health curricula which includes course work in the Counseling Techniques, Health Psychology, Group Treatment Modalities, Psychopathology, Neuroscience and the Addictions provides a unique opportunity for a mental health specialty for medical science students.

The two required courses for the Mental Health Counseling and Behavioral Medicine Concentration are:

GMS MH 703 Counseling Techniques: Helping Relationships, Skills & Procedures. Prereq: Consent of instructor. Provides an overview of the skills and styles needed for building a healthy and therapeutic helping relationship, as well as techniques specific to a variety of psychological disorders and problems with living. Emphasis is placed on experiential exercises and skills-building. 3 cr, 1st sem.

GMS MS 707 Research and Evaluation. Prereq: Consent of instructor. Describes the language of experimentation, the development of psychological testing principles and the design of quasi-experimental and experimental research as they apply to counseling and therapy. 3 cr, 2nd sem.

Students who elect the Mental Health Counseling and Behavioral Medicine concentration must also take two of the following courses:

GMS MH 704 Group Work Dynamics & Process Prereq: Consent of instructor. Provides an overview of the basic principles of group treatment/counseling including how to recruit and treat group members, and modalities such as dynamic therapy groups, behavioral and skill-based groups for special populations. 3 cr, 2nd sem.

GMS MH 705 Psychopathology Prereq: Consent of instructor. This course provides students with an introduction to the etiology, presentation and treatment of the major mental disorders as classified in the Diagnostic and Statistical Manual of Mental Disorders. Students will become familiar with, identify and differentiate among a range of clinical presentations. 3 cr, 1st sem.

GMS MH 711 Health and Exercise Psychology Prereq: Consent of instructor. This course has been designed to introduce students to central concepts of applied health and exercise psychology which draw interdependently from psychology, behavioral medicine, exercise physiology, and psychoneuroimmunology. Students are introduced to common behavioral health interventions, emphasizing exercise promotion, smoking cessation, weight control, and stress management as they apply to chronic disease and pain. 3 cr, 2nd sem.

GMS MH 812 Addictions Prereq: Consent of instructor. This course provides the necessary knowledge base for understanding and treating addiction, emphasizing clinically useful knowledge and skills for recognizing and treating substance use disorders. Topics covered include: recognizing drug intoxication and withdrawal, assessment of Substance Use Disorders, Community Reinforcement Approach, Family Systems Treatment Models, Motivational Enhancement Therapy, Cognitive-Behavioral/Skills Building approaches, 12-Step Recovery/Mutual Support Groups, and Addiction Medicine. 3 cr. 2nd sem.

GMS MS 703 Neuroscience Prereq: consent of instructor. Integrated treatment of anatomy and physiology of the nervous system. In anatomy classes, brains and spinal cords are dissected and microscope slides examined to study cytology and projections of neurons. Other practical classes and demonstrations cover physiology, neurology, ophthalmology and otolaryngology. 1st sem, please refer to *BUSM schedule of classes*.

-OR-

GMS MH 709 Neuroscience for Mental Health Professionals Prereq: consent of instructor. This course is intended for M.A. and Ph.D. students specializing in the mental health delivery fields of mental health counseling, social work, and psychology. The course objective is to provide a foundation in the understanding of the central nervous system structure and function and the relationship of brain to behavior. 3 cr, 2nd sem.

Concentration in Clinical Investigation

"Clinical investigation" is research that involves humans as research subjects. This type of research is growing rapidly at many levels. The pharmaceutical and biotech industries are constantly discovering new disease "targets" and new compounds to attack these targets. The Human Genome Project will also expand the number of identifiable disease targets. In the medical device industry, the development of new and better materials for devices and the development of hybrid devices (implantable devices with a pharmaceutical or biotech component) has nearly limitless potential. These new technologies need to be tested in clinical research studies to document their safety and efficacy in humans. To conduct these clinical studies, we need well-trained professionals who know how to conduct human research. This need will continue to grow as the demand for clinical studies grows. The courses offered in the ***clinical investigation concentration*** provide a solid grounding in the technical and ethical aspects that make human research different from other types of research. Students will learn the elements of study design, trial management, human research regulations, and write a thesis about a clinical research topic.

Four courses (16 credits) are required to complete the concentration in Clinical Investigation.

The requirements for the Clinical Investigation Concentration are:

The three following courses are required:

GMS CI 640 Regulatory and Compliance Issues

Prereq: Premedical course requirements and consent of instructor. This course explains the regulatory requirements for healthcare products, that is, drugs, biologics, diagnostics, and devices. It is intended for those interested in regulatory affairs or in the clinical evaluation, development, manufacture, testing and/or commercialization of these products. Provides an in-depth review of the pertinent FDA regulations and guidelines and links these to the scientific and logistical activities involved in taking a product from research to market. Content and preparation of regulatory submissions, including an Investigation New Drug Application (IND), an Investigational Device Exemption (IDE), a New Drug Application (NDA), a Biologic License Application (BLA), a Pre-Market Approval Application (PMA), and a 510K Pre-Market Notification are described. International requirements for health care products are also reviewed. Gloff. 4 cr, 1st sem.

GMS CI 675 Designing Clinical Research Studies

Prereq: consent of instructor. This course covers important epidemiologic principles necessary for designing clinical research studies, various types of study designs with a focus on clinical trials, and practical issues related to designing clinical research studies. Topics include bias, confounding, developing the research question, defining an appropriate study population, choosing outcome measures, clinical research ethics and regulation, sample size determination, and statistical analysis issues. Students will design and present a clinical research study during the course. Fish and McNair, 4 cr., 1st sem.

GMS CI 790 Seminar in Clinical Investigation

Prereq: consent of instructor. The goal of this course is to provide students with experience in reading and evaluating recent basic science literature which may be pertinent to the origination and design of clinical trials. The course will be offered in a seminar format. It will consist of the evaluation of assigned readings of recent literature which may be relevant to the treatment of human diseases and which may be expected to lead to further animal experiments and culminate in human trials. This format will provide an opportunity to learn to critically evaluate basic science literature and to develop oral presentation skills essential to functioning as a manager of clinical trials. 2 cr, 2nd sem.

One of the following courses is required:

GMS CI 660 Good Clinical Practices in Clinical Research

Prereq: Consent of instructor. Introduces regulatory responsibilities of sponsors, monitors, and investigators conducting clinical trials. Practical information and exercises are designed on GCP compliance from an industrial perspective. Topics include: selecting qualified investigators; obtaining ethical approval for patients, and initiating sites successfully. Group discussions and guest speakers help students learn practical skills. Halloran. 4 cr, SS 2.

GMS MS 610 Ethico-legal Issues of Bioscience

Students examine the development and implementation of regulatory as well as ethical issues involved with conducting clinical trials. Topics include: use of human subjects, privacy and confidentiality, conflicts of interest, use of stem cells in research, federal laws affecting laboratories, genetic testing and gene therapy

trials. There will also be discussions on landmark legal cases affecting laboratory scientists. Yashon. 4 cr, 1st sem.

Concentration in Medical Nutrition Sciences

Recent research on the genetic, environmental, behavioral and social determinants of human diseases has focused attention on the integral role of medical nutritional sciences in disease epidemiology. Advances in basic nutritional sciences have identified new mechanisms of biological action of the essential nutrients and other components of foods. There is increasing evidence of the efficacy of a wide variety of medical nutrition therapies for the prevention and treatment of many chronic and infectious diseases and their complications. The importance of nutrition in individual and population health throughout the human lifecycle, particularly into advanced age, is increasingly recognized. New methods in nutritional epidemiology have expanded research on the relationship between diet, nutritional status, disease risk and health outcomes. Evidence is emerging that public health nutrition interventions and health communication campaigns, consistent with national health policies, are effective in promoting and improving the nation's health and that of vulnerable population subgroups. The concentration in Medical Nutrition Sciences will provide multidisciplinary training in nutrition sciences.

The following four courses are required to complete the concentration in Medical Nutrition Sciences:

GMS NU 600 Medical Nutrition Sciences Prereq: Organic Chemistry, Basic Nutrition, Cell Biology, Human Physiology, and consent of instructor. This course examines the interrelationship between cellular molecular biology, nutrient metabolism, and human clinical nutrition. It emphasizes the metabolic basis of nutrition as related to the maintenance of optimal nutritional status as well as health and well-being throughout the human life cycle. 4 cr, 1st sem.

GMS NU 610 Research Methods in Medical Nutrition Sciences Prereq: Medical Nutrition Sciences, Statistical Methods, consent of instructor. This course examines research approaches and techniques used in medical nutrition research in a variety of settings: basic and laboratory investigation; nutritional epidemiology; population and individualized clinical research trials; population-based nutrition promotion or educational campaigns; and community nutrition interventions and programs. 4 cr, 1st sem.

GMS NU 620 Research, Clinical and Public Policy Applications in Medical Nutrition Sciences Prereq: Medical Nutrition Sciences, Human Physiology, consent of instructor. This course examines how researchers, clinicians and public policy experts translate nutrition research into practice—into new directions for basic and clinical research; into public health nutrition policies, programs, and social marketing campaigns; and into guidelines for clinical nutrition practice. 4 cr, 2nd sem.

GMS NU 700 Medical Nutrition Sciences Seminar Prereq: Medical Nutrition Sciences, consent of instructor. This course provides a forum for discussion

between students and expert nutrition faculty who are leading scientists in the field of medical nutrition sciences. The seminar will enable students to develop critical inquiry skills related to the design and interpretation of nutrition-related research. Var cr, 1st and 2nd sem.

Cross Registration

A candidate for the M.A. in Medical Sciences may register for not more than 4 credit hours as part of the 32 credit hour requirement for the M.A. in Medical Sciences in either the School of Public Health (SPH) or the Graduate School of Management (GSM) electives. These electives must be approved after consultation your advisor.

Directed Study/Research Electives

Although all M.A. in Medical Science students are required to complete a thesis project, students are not required to register for Directed Study/Research Elective credits (GMS MS 971, 972). Students are required to complete a 32 credit hour course of study in at least four semesters and to submit a thesis. Up to 8 of the 32 credit hours may be taken as Directed Study/Research credits. In other words, a candidate for the M.A. in Medical Sciences may register for not more than a total of 8 credits in Directed Study/Research. Some students opt to take the entire 32 credit hours as courses, and not register for any research credits even though they still must complete a thesis.

Dual Degree Programs

Students considering application to dual degree programs, the M.A./M.P.H. or the M.A./M.B.A. in Health Care Administration, may take a maximum of one course in either the School of Public Health or the Graduate School of Management prior to acceptance the dual degree program. Students who are considering application to either dual degree program should schedule an advising meeting with their faculty advisor. The dual degree advisors at the School of Medicine, the School of Public Health, and the Graduate School of Management:

COMBINED M.A./M.A IN MENTAL HEALTH COUNSELING AND BEHAVIORAL MEDICINE PROGRAM

Students interested in the M.A. in Medical Sciences/M.A. in Mental Health Counseling and Behavioral Medicine should meet with Dr. Stephen Brady, Director of the M.A. in Mental Health Combined Degree Program. It is important to meet with Dr. Brady during Orientation, in addition to meeting with your primary faculty advisor.

Students have the option to complete this combined degree program in three years.

COMBINED M.A./M.P.H. DEGREE PROGRAM

School of Public Health
Dr. David Gagnon (617/638-4457)
Talbot Building

School of Public Health Application Deadlines:

January 2010 Admission: October 25, 2009
September 2010 Admission: Early Decision Deadline March 1, 2010 (April notification)
September 2010 Admission: April 15, 2010
After April 15, applications are reviewed on a space-available basis.

DUAL M.A./M.B.A. IN HEALTHCARE ADMINISTRATION DEGREE PROGRAM

Graduate School of Management

Mr. Mark Allan (617/358-4206)
595 Commonwealth Avenue
Room 110

Graduate School of Management Application Deadlines:

<u><i>If your completed application is received by this date:</i></u>	<u><i>Your admissions decision will be mailed no later than this date:</i></u>
January 5	March 1
February 15*	April 1
April 1	May 15

*Please note that scholarship funds may not be available to candidates who apply after the February 15 deadline. February 15 is the final deadline for all full-time international students.

Students applying to the M.B.A. program are also required to take the GMAT exam. Applications for this exam may be obtained at the Graduate School of Management, 595 Commonwealth Avenue.

If you decide to apply to either the M.A./M.B.A. or M.A./M.P.H. dual degree programs, you can request that the Division Office send a copy of your undergraduate transcript and the letters of recommendation that were used for your GMS application directly to the school to which you are applying. These requests should be made in writing to Ms. Millie Agosto, GMS Registrar, L-315.

Academic Policies

- 1) If a student receives a “C” or “C+” grade in a required course, the student does not have to repeat the course but may not use those credits toward the required 32 credit hours for the Master of Arts in Medical Sciences.
- 2) If a student receives a final grade lower than a “C” in a required course, s/he must re-take that course to fulfill the degree requirements in the Division of

Graduate Medical Sciences.

- 3) Grades below "B-" are interpreted as not satisfactory, and do not earn credits toward the degree. Any student who receives two grades below B- is **automatically terminated**.
- 4) Grades of "I" are interpreted as not satisfactory. Students have one year to make-up the deficit.
- 5) All students have the right to petition for redress of grievances at anytime. Appropriate forms are available in Room L-315.
- 6) In unusual circumstances, the instructor of the course may allow a re-take or additional work to improve grade. The instructor has one year from the end of the course to effectuate a grade change. The decision to allow a re-take or additional work is at the discretion of the instructor.

Thesis Requirement

A thesis is required, and is based on research carried out by the candidate under direct the supervision of a member of the Division of Graduate Medical Sciences faculty. The first reader is to be selected by the degree candidate. A second reader is also required and your advisor can help to recommend one.

Students completing concentrations in Clinical Investigation, Mental Health Counseling and Behavioral Medicine, and Medical Nutrition Sciences should complete thesis project related to their specific concentration.

Please be aware that the course GMS MS 640 Introduction to Biomedical Information will be held in the spring semester. This course was designed to assist students with formulating their final thesis project and is an invaluable resource. The course teaches you how to find, use, and contribute to the biomedical literature through lectures and hands-on instruction. Topics include the retrieval, evaluation and management of information, evidence based medicine, and the ethical use of research subjects.

Thesis advisors, since they will spend the most time with you as faculty, will ultimately be a good source for letters of recommendation. Insightful letters of recommendation written by people who know you well are an important aspect of the admissions process to medical or graduate school.

If you have an opportunity to complete research outside of Boston University with a mentor who will permit you to use the work as a thesis, please be aware that you will need to obtain a first reader of your thesis from the Division faculty. Your outside mentor may serve as a second reader once a Special Service Appointment for that mentor has been submitted and approved by the Division Office (Attn: Dr. Linda Hyman). Special Service Appointment forms may be obtained from the Division Office or from the Division website. The Special Service Appointment form provides a temporary faculty appointment for qualified mentors. The Division faculty member assumes responsibility that the work is conducted appropriately and satisfies University requirements.

Please remember that admission to Boston University School of Medicine is contingent upon successful completion of the thesis and its acceptance by the Division of Graduate Medical Sciences no later than August 1st of the year of your acceptance. No exceptions can be allowed.

Expectations for the Thesis

A thesis project is to be well-conceived and of modest scope. The research project may involve library research alone, a laboratory research project, or a combination of library and laboratory research. Although modest in scope, the project represents the culmination of your graduate work in the program and should represent a body of work beyond that required for a course term paper. Since the page length requirement is variable depending on the type of thesis, the following guidelines should be noted and observed.

Selection of Thesis Mentors (First and Second Readers)

Begin the process of selecting a mentor by consulting the *Division of Graduate Medical Sciences Faculty and Research Interests*, which is published annually and available from the Division Office. A copy of this document is included in this flash drive. It is advantageous to do this at the beginning of the second semester. A second reader is also required and your advisor can help to recommend one.

Library Thesis

Most library theses are between 45 and 60 pages in length; the minimum page requirement is 45 pages. This number does not include the pre-pages, but does include your vita, figures, and reference sections. The library thesis should have a novel conclusion. The format generally involves an introduction (10-25 pages), presentation of published data (which may include reproduced published figures or summary tables which have tabulated research from many investigators) (10-25 pages), a discussion of the presented data (5-15 pages) and finally conclusions (4-8 pages) which often include a proposal or suggestions for future studies.

Some suggested ideas are:

- Write a review paper discussing the advantages and disadvantages of a therapeutic approach and a plan for the future.
- Analyze a topic
 - where the current research field is rapidly changing and involves complex interpretation
 - where the results contain contradictory results and published data needs to be assessed
 - which is a currently very hot and controversial
 - that involves a current problem in the medical field that impacts on society as a whole.

Laboratory Research Thesis

A laboratory thesis may be conducted after an arrangement with the director of laboratory is reached that specifies the number of hours per week and the length of time that the project is expected to take. Both lab director and student agree to the terms. To avoid further misunderstandings by either party, a written agreement is suggested but is not mandatory. It is expedient to prepare an outline of the topic with your advisor and plan regular meeting times. A laboratory thesis may earn an honors grade (A) if the research mentor decides that the student's contribution and quality of work performed is deserving of an honors grade.

A laboratory thesis must be a minimum of 35 pages, with a range from 35-70 pages. Most laboratory theses are written in a traditional paper format including an introduction, methods, results, discussion and reference sections. You must add your vita as well as the pre-pages to comprise the thesis.

Between the introduction and the methods section, a section called "present study" or "specific aims" or "goals of study" helps with focus and is often included. It should clearly and concisely tell why and what you plan to do.

The only variable section in the thesis is the introduction since research topics are variable. If your topic is very broad you may have a long introduction. You may choose to write a shorter, more focused introduction, like a manuscript. Both are acceptable. Many students use their thesis as a draft of a future publication so they choose to use similar formats.

Tentative page guidelines are – introduction (10-20 pages), methods (3-6 pages), results (5-15 pages) and discussion (4-8 pages). The results section may be longer if there are a lot of figures and tables.

Thesis Format Guidelines

All theses must follow the format guidelines in *Research Guide for Writers of Thesis and Dissertations*. A copy of these guidelines are included in this flash drive. These guidelines are from Mugar Memorial Library.

The format of the main body of the text is up to you, but the prepages, references, vita and figures must follow the guidelines exactly. Many MA theses are available for review of format and presentation in the GMS conference room in L-315.

Thesis Forms and Important Deadlines

When you are nearing the completion of your course work and beginning your thesis work, you must complete certain forms. The submission dates for each graduation cycle (Sept, January or May) can be found on the Graduation Calendar which can be obtained from GMS Office in L-317.

- File a thesis title page with the Registrar. This is usually due 6 months before graduation.
- Submit a special appointment form, including your mentor's CV (for students doing a lab thesis at an institution other than BU or who have a mentor who is not a GMS faculty). This should be submitted at the same time as your thesis title page (6 months before graduation.)
- If you are completing a laboratory thesis, submit a thesis agreement form to earn honors. This is completed at the same time as your thesis title page (6 months before graduation.)
- Complete a diploma application and file with the Registrar. This is generally due 3 months before graduation.

Important Thesis Considerations

For those students performing theses under the direction of a non-BU faculty member, make sure to notify him/her of important dates and provide a timeline so that s/he is aware of BU's deadlines.

Most readers are willing to read early drafts of your thesis if you want input and suggestions. You should discuss this with your reader(s) early in the thesis process. These early drafts may include individual sections and will give you valuable feedback on writing style and content.

If you prefer to wait and send a more complete draft later, that is also acceptable. Please keep in mind that it will likely take a couple of exchanges between you and both of your readers before the thesis is in final form. Several weeks are needed for this editing/revision stage. Please manage your time accordingly.

PLEASE keep your readers informed of your progress, especially if you are running into roadblocks and anticipate problems. They can only offer advice if they are aware of that problem.

You CANNOT submit your thesis if you have an outstanding Incomplete in any course. Make sure that these are resolved and corrected on your transcript well in advance of the thesis submission deadlines.

If your plans change and you opt to change your graduation date, make sure you notify the registrar as well as your readers.

Thesis Grading Policy

As stipulated above, up to 8 credit hours may be taken as Directed Study/Research credits. All theses must be approved and signed by the first and second readers. Upon completion of the thesis, "J" grades (the grade initially awarded for "work in process") for Directed Study/Research credits are changed to "Pass" or "Fail". Under special circumstances, when a first reader has advised the Division of Graduate Medical Sciences Thesis Review Committee in writing that a student has completed his/her thesis project at an exceptionally high level of achievement, with concurrence of the Committee, the student will be awarded the honors grade of "A". This only applies to laboratory theses.

Upon the completion of your thesis, if your thesis advisor recommends the honors grade of "A", you will need to submit a letter from your advisor along with a copy of your thesis to Ms. Millie Agosto, GMS Registrar, in L-315. The Thesis Review Committee will then review your thesis. If the Committee concurs with the advisor's recommendation, the student will then receive the grade of "A" on that student's official academic record. Although it will not be noted as a specific notation on the official University transcript, the notation will be made on your letters of recommendation. These are submitted to Ms. Millie Agosto (L-315) and are finally approved by the Division of Graduate Medical Sciences Thesis Review Committee before they are forwarded to Mugar Library. Honors grades may not be requested nor recorded once a student has been certified as an "official" graduate.

Additional information regarding the M.A in Medical Sciences theses may be found on the [GMS website](#).

Commencement and Diplomas

The University Commencement is held yearly in May. Students who have completed their courses but have not completed the final thesis requirement in time for Commencement are eligible to participate in the All-University Commencement that is held at the Charles River Campus at Nickerson Field. Students who participate in this event are required to purchase regalia from the Barnes & Noble BU Bookstore at Kenmore Square. Students who would like to participate in commencement need to notify Susan Wilcox of their intent by March 30, 2010. Please watch your e-mail and the Division website in the future for specifics and deadlines.

It is imperative that you complete a Diploma Application and submit it to Ms. Millie Agosto (L-315). Diploma Applications may be obtained from the Division Office. If you wish to have your diploma mailed to you, please be sure to enter this request on the [Student Link](#). The Graduation Calendar that is published annually should be consulted for specific deadlines. Graduates of the Program receive their diplomas from the Boston University School of Medicine.

Communication

Important information will be sent to your Boston University e-mail account on a regular basis. In order to receive this information, you need to obtain an e-mail account at the library or at one of the library orientation sessions. **Please be sure to check your e-mail for important information on a daily basis.**

Advising Resources

We invite you take full advantage of the advising office resources available in the Division of Graduate Medical Sciences. Students are required to meet at least twice a semester with their assigned faculty advisor. It is recommended that you meet regularly with your faculty advisor. Appointments may also be scheduled with Dr. Carla Romney for MCAT preparation assistance and with Ms. Susan Wilcox for a variety of concerns. They will respond to any questions you may

have regarding the program, as well as assist and guide you through the medical school admission process. Advisors are available to help with selecting schools of application, writing your personal statement, the AMCAS application process, interview strategies, and the compilation of an effective letter of recommendation file.

In addition, a series of class meetings will be held to provide you with information about the application process.

Late October 2009/Early November 2009

Topic: Spring Registration Class Meeting and Discussion of Biosketches and Dean's Letters of Recommendation

December 2009

Topic: The Thesis/Discussion of MCATS

Mid-March 2010

Topic: AMCAS Application Process, Medical School Applications

Volunteer Opportunities

Students who wish to volunteer will find a wealth of opportunities at Boston Medical Center, as well as in Boston. Although many of you may wish to continue your previous volunteer activities, we recommend that you hold off on commitments such as community service until you have adjusted to Boston and the work load required in this demanding program.

The Outreach Van Project is a student run, student initiated project. It consists of students from the Division of Graduate Medical Sciences, Medical, Social Work and Public Health Schools. The Project seeks to connect student volunteers with experiences in community outreach, homelessness, and working with groups and individuals who are medically underserved in the Greater Boston area. No experience is required, only your dedication and your desire to help others.

The Outreach Van is a project that works to link homeless and other medically underserved people to services (i.e., medical, dental, eye care, social, and other necessary referral services). The Outreach Van is staffed by volunteer students and a physician two nights each week. The Project has been tremendously successful.

To get involved with the Outreach Van, watch for notices that will be distributed via the list serve. You must attend one of the Outreach Van training sessions. Please e-mail outreach@bu.edu for more information.

Boston Medical Center Volunteer Services – To obtain information and apply for one of many volunteer opportunities that are available at the Boston Medical Center, contact [Mr. David Hinchey](#), Director of BMC Volunteer Services, 414-7153.

MCAT and MCAT Policies

A handy link: <http://www.aamc.org/mcat>

The 2010 MCAT Exam Schedule may be found at:
<http://www.aamc.org/students/mcat/reserving/mcatschedule2010.htm>

The 2009 MCAT Testing Center Locations (2010 not yet released) may be found at:
<http://www.aamc.org/students/mcat/reserving/sitelisting.htm>

Test Format:

The format of the computerized MCAT is similar to the format of the paper and pencil test, but the number of questions and the time have been reduced by about 30%.

Students should use the old AAMC practice tests, especially 5R and later, as part of their preparation. Students should also go to www.e-mcat.com for a similar, though not precisely identical, format practice computerized MCAT. A new computer-based web practice test which format mirrors the operational MCAT exam is also available for purchase at this site.

The remaining time in each section is always visible on the computer screen. Unused time may not be used on subsequent sections of the exam. Optional 10 minute breaks are offered after section 1 and section 3. An optional 60 minute break after section 2 is also offered.

If a student feels that s/he did not do well on the computerized MCAT, s/he must void the test before the testing session ends. Voids are not reported to AMCAS/non-AMCAS medical schools, but do count towards the limit of three MCAT test administrations per year.

Re-testing Rules:

Students may take the MCAT exam up to three times per year (but may be registered for only one testing date at a time). No official policy statement to indicate whether a Dean's letter will allow a student to test more than three times per year.

Scores are reported in 30 days. AAMC plans to eventually reduce reporting to 14/15 days, but no definite date for this change has been reported.

Division Letter File Service/Letters of Recommendation

To assist you in your application to medical school or graduate school, you will need to meet with Susan Wilcox (L-317) at least once in the Fall semester to set up a letter file. Once you have registered and established a letter file, it is possible to have **graduate** studies letters of recommendation sent to this file. Undergraduate letters should be sent to medical schools directly from your undergraduate institution. These letters will ultimately be used when you apply to

medical/graduate school. Follow-up appointments with your faculty advisor should be scheduled during the Spring semester, at which time you should submit a completed Biographical Sketch so that a letter of recommendation may be drafted to assist you in the application process. **All Biographical Sketches must be submitted to the Division Office by February 1, 2010. Biosketch forms may be downloaded from the Division of Graduate Medical Sciences website, under “Graduate Student Forms.” Once you have submitted a completed Biosketch, please be sure to schedule an appointment with your faculty advisor to discuss your materials for the compilation of your Dean’s Letter of Recommendation.**

Biosketch Update Forms, AMCAS Letter Form, and copies of your completed 2010 AMCAS applications are due in the GMS office no later than July 15, 2010.

Completing the Biographical Sketch and your AMCAS Application

The Biographical Sketch is a 12-page document and cannot be completed quickly if you wish to present a well-rounded profile to assist us in the writing of your Dean’s Letter. Remember, we need your help so that we can present you in the very best light in your Dean’s letter! The questions included on the biosketch are also designed to assist you with your medical school application. You will find that many of these questions reappear on various secondary medical school applications. The questions will also assist you in gathering your ideas and thoughts, enabling you to write an effective and persuasive AMCAS personal statement. Since you will not want to work on your biosketch while you are studying diligently for Physiology and other classes, take your biosketch home with you during semester break and begin working on it bit by bit. Take advantage of the free time you will have before classes begin in the Spring Semester. Remember, if you are taking Physiology in the Spring semester, it will not begin until February! Use your time wisely! If you have done a good job with the biosketch questions, you will be able to complete your primary and secondary applications quickly and efficiently!

A copy of the Biographical Sketch Form and the Biosketch update form may be found on page 38 and on the Division website under graduate student forms (<http://www.bumc.bu.edu/gms>).

In summary, In order to finalize your Dean’s/Advisor letter in July, students should submit a copy of their submitted AMCAS (or TMDSAS or AADSAS), their biosketch update form and their letter transmission form which includes their AMCAS letter ID number.

Transmission of Letters of Recommendation to Professional Schools

Undergraduate letters need to be sent from your undergraduate institution. Letters must now be transmitted electronically to AMCAS and we subscribe to the national VirtualEvals Program.

INSTRUCTIONS FOR ALLOPATHIC AND OSTEOPATHIC MEDICAL SCHOOLS:

Of the 125 allopathic medical schools, 118 have agreed to receive letters electronically this year. Similarly, of the 21 osteopathic medical schools, 18 have agreed to receive letters electronically this year.

After you receive at least five secondary applications, please submit a Transmission Form on which you have listed the schools for which you will be submitting a Dean's/Advisor's Letter and/or Letters of Recommendation from our office. Please note that there are now separate forms for Allopathic (pink) and Osteopathic (yellow) schools. Make sure you specify the campus to which you are applying if there are multiple locations. If you are applying to MD/PhD or DO/PhD programs, you must indicate that next to those schools on the Transmission Form.

We will process your Transmission Form as soon as possible. After we have submitted your letters electronically, you will receive an email from VirtualEvals (the electronic submission center) notifying you that your letters have been submitted.

In addition to the Transmission Form, you must provide us with addressed mailing labels and stamps if you are applying to the following allopathic medical schools that do not participate in the VirtualEvals Program:

David Geffen School of Medicine at UCLA
University of California, San Francisco, School of Medicine
University of Missouri – Kansas School of Medicine
Northeastern Ohio Universities College of Medicine
University at Buffalo School of Medicine and Biomedical Sciences
Universidad Central del Caribe School of Medicine
University of Puerto Rico School of Medicine

or to any of the following osteopathic medical schools:

Michigan State University College of Osteopathic Medicine
New York College of Osteopathic Medicine
New York College of Osteopathic Medicine
University of North Texas Health Center
Texas College of Osteopathic Medicine.

As you receive secondary applications, you may notice that some schools **REQUIRE** specific letters of recommendation in addition to your Letters of Recommendations or Dean's/Advisor's Letter. Please attach a copy of the instructions, highlighting the specific **REQUIREMENTS**, to your Transmission Form and provide us with the appropriate mailing label(s) and stamps. These letters will be sent by postal mail and will not be uploaded to the VirtualEvals site. We will do our best to accommodate the specific **REQUIREMENTS** of schools; however, we will not send separate letters unless the schools designate them as **REQUIRED**.

INSTRUCTIONS FOR TMSAS SCHOOLS:

The Texas Medical and Dental Schools Application Service (TMDSAS) participates in the VirtualEvals Program. If you are applying to schools that participate in TMDSAS, list TMDSAS and the specific schools to which you are applying. Also provide us with your TMDSAS identification number on the appropriate Transmission Letter Form.

INSTRUCTIONS FOR DENTAL SCHOOLS:

The Division of Graduate Medical Sciences submits Letters of Recommendations and Dean's/Advisor's Letters to dental schools by postal mail. In addition to the Dental School Transmission Form (green), please provide us with the appropriate mailing label(s) and stamps.

All three transmission forms (Allopathic, Osteopathic, and Dental) may be downloaded from the GMS website, www.bumc.bu.edu/gms, in the Graduate Student Forms folder.

Life after the M.A. in Medical Sciences Program

Of the graduates of the program who apply to a medical school, more than of 80% have been admitted to medical schools in the U.S. Approximately 20 students this year are accepted to Boston University School of Medicine, although some of these students elect to attend other medical schools. Most of the graduates who do not apply to medical schools continue their careers in other medical science professions.

M.A. Medical Science Matriculates in American Medical Schools

Albany Medical School
University of Alabama School of Medicine
University of Arizona College of Medicine
Albert Einstein College of Medicine of Yeshiva University
Boston University School of Medicine (M.D. and M.D./Ph.D)
University of California, Davis, School of Medicine
University of California, Irvine, School of Medicine
University of California, Los Angeles, School of Medicine
University of California, San Francisco School of Medicine
Case Western Reserve University of Medicine
University of Chicago, Pritzker School of Medicine
University of Cincinnati, College of Medicine
University of Colorado School of Medicine
University of Connecticut School of Medicine
Cornell University Medical College
Creighton University School of Medicine
Dartmouth Medical School
Drexel School of Medicine, MCP and Hahnemann School of Medicine
East Carolina University, Brody School of Medicine
Eastern Virginia Medical School of the Medical College of Hampton Roads

Emory University School of Medicine
Finch University of Health Sciences, Chicago Medical School
University of Florida College of Medicine
University of Miami School of Medicine
George Washington University School of Medicine
Georgetown University School of Medicine
University of Hawaii at Manoa, John A. Burns School of Medicine
Harvard Medical School
Howard University College of Medicine
University of Illinois College of Medicine
University of Iowa College of Medicine
Jefferson Medical College of Thomas Jefferson University
University of Kansas School of Medicine
University of Louisville School of Medicine
Loma Linda University School of Medicine
Loyola University of Chicago, Stritch School of Medicine
Medical College of Georgia
Medical College of Ohio
Medical College of Wisconsin
Medical University of South Carolina
Meharry Medical College School of Medicine
University of Miami, Miller School of Medicine
Michigan State University College of Human Medicine
University of Minnesota Medical School - Minneapolis
University of Mississippi School of Medicine
University of Missouri - Columbia School of Medicine
Morehouse School of Medicine
Mount Sinai School of Medicine of the City University of New York
New York Medical College
University of Nebraska College of Medicine
University of Nevada School of Medicine
University of North Dakota School of Medicine and Health Sciences
Ohio State University College of Medicine
Medical College of Ohio
Oregon Health & Science University School of Medicine
University of Pennsylvania School of Medicine (MD/PhD Program)
Pennsylvania State University College of Medicine
Ponce School of Medicine, Puerto Rico
Rush Medical College of Rush University
Saint Louis University School of Medicine
University of South Florida, School of Medicine
University of Southern California, School of Medicine
State University of New York Health Science Center at Brooklyn, College of
Medicine
State University of New York at Buffalo, School of Medicine and Biological
Sciences
State University of New York Downstate Medical Center College of Medicine
State University of New York at Stony Brook, School of Medicine Health
Sciences Center
State University of New York Health Science Center at Syracuse, College of
Medicine

University of Pittsburgh School of Medicine
Temple University School of Medicine
University of Texas - Houston Medical School
University of Texas Medical School at San Antonio
University of Texas Southwestern Medical Center at Dallas Southwestern
Medical School
Texas Tech University Health Sciences Center, School of Medicine
Tufts University School of Medicine
Tulane University School of Medicine
Uniformed Services University of the Health Sciences, F. Edward Herbert School
of Medicine
University of South Alabama College of Medicine
University of South Dakota School of Medicine
University of South Florida College of Medicine
University of Massachusetts Medical School
University of Maryland School of Medicine
University of Michigan Medical School
University of North Dakota School of Medicine and Health Sciences
East Tennessee State University James H. Quillen College of Medicine
University of Tennessee, Memphis, College of Medicine
University of Toledo, College of Medicine
University of Virginia School of Medicine
University of Medicine and Dentistry of New Jersey, Robert Wood
Johnson Medical School
University of Utah School of Medicine
University of Vermont College of Medicine
Virginia Commonwealth University School of Medicine
University of Washington School of Medicine
Washington University School of Medicine
Wayne State University School of Medicine
West Virginia University School of Medicine
University of Wisconsin Medical School

M.A. in Medical Sciences Matriculates in Foreign Medical Schools

AUSTRALIA

Faculty of Health Sciences, University of Sydney

CANADA

Faculty of Medicine, University of British Columbia
Faculty of Medicine, Memorial University of New Foundland, St. John's
Faculty of Medicine, University of Toronto
Faculty of Medicine, University of Manitoba, Winnipeg

CARIBBEAN

Ross University, School of Medicine
St. George's University, School of Medicine
Saba University School of Medicine

CUBA

Latin American School of Medicine

IRELAND

Royal College of Surgeons in Ireland
University College Galway

ISRAEL

Ben-Gurion University School of Medicine
The Sackler Faculty of Medicine, Tel Aviv University

MEXICO

School of Medicine, Universidad Autonoma de Guadalahara

SWEDEN

Lund University

THAILAND

Faculty of Medicine, Chulalongkorn University

UNITED KINGDOM

University of Cambridge Clinical School
University of London
Royal Free Hospital and University and College Medical School
Royal College of Surgeons of England

***M.A. in Medical Science Matriculates at Osteopathic Medical Schools
(CUM GPA 3.4 , MCAT 8.3)***

Arizona College of Osteopathic Medicine
Chicago College of Osteopathic Medicine of Midwestern University
College of Osteopathic Medicine, Touro University
College of Osteopathic Medicine and Surgery, Des Moines University
Kirksville College of Osteopathic Medicine (MO)
Lake Erie College of Osteopathic Medicine
Midwestern University (AZ)
New York College of Osteopathic Medicine of New York Institute of Technology
Nova Southeastern University College of Osteopathic Medicine
Philadelphia College of Osteopathic Medicine
Rocky Vista University
University of Health Sciences, College of Osteopathic Medicine (MO)
Texas College of Osteopathic Medicine
University of New England, College of Osteopathic Medicine (ME)
Western University of Health Sciences, College of Osteopathic Medicine of the Pacific

M.A. in Medical Sciences Matriculates in Dental Schools

Boston University Goldman School of Dental Medicine
Case Western School of Dental Medicine
Harvard School of Dental Medicine
Howard University
New York University College of Dentistry
Tufts University School of Dental Medicine
University of California, Los Angeles
University of Pennsylvania, School of Dental Medicine
University of Rochester, School of Dental Medicine
University of Southern California, School of Dental Medicine

M.A. in Medical Science Matriculates in Podiatry Schools

Pennsylvania School of Podiatry
California Podiatric College

***M.A. in Medical Sciences Matriculates in Physicians' Assistant Programs
and Nursing Schools***

Thomas Jefferson University's Accelerated Pathway to the MSN
Yale University Physicians' Assistant Program
Yale University School of Nursing

M.A. in Medical Sciences Matriculates in Law Schools

Loyola School of Law
Pace School of Law
Florida University School of Law
Suffolk Law School

APPENDICES

M.A. in Medical Sciences Forms

- 1. M.A. in Medical Sciences Concentration Form**
- 2. Thesis Title Approval Page**
- 3. Thesis Agreement Form**
- 4. Special Service Appointment Form**
- 5. 2010 Student Biographical Information Form (“Biosketch”)**
- 6. Biographical Update Form (“Biosketch Update”)**



Division of Graduate Medical Sciences
Boston University School of Medicine

M.A. in Medical Sciences Concentration Declaration Form

Name _____

ID # _____ E-Mail _____

Please circle desired concentration, fill out requested information below, and obtain signatures. Completed forms should be submitted to GMS, Room L-315:

Semester/Year Course Taken or Plan to Take

Clinical Investigation (14 credit hours required)

GMS CI 675 Designing Clinical Research Studies (4 cr) _____

GMS CI 640 Regulatory and Compliance Issues (4cr) _____

GMS CI 790 Seminar in Clinical Investigation (2cr) _____

One of the following:

GMS CI 631 Clinical Trials Management (4 cr) _____

GMS CI 660 Good Clinical Practices in Clinical Research (4cr) _____

GMS MS 610 Ethico-legal Issues of Bioscience (4cr) _____

Medical Nutrition Sciences(16 credit hours required)

GMS NU 600 Medical Nutrition Sciences (4 cr) _____

GMS NU 610 Research Methods in Medical Nutrition Sciences (4 cr) _____

GMS NU 620 Res., Clinical and Public Policy Applications (4 cr) _____

GMS MS 700 Seminar in Clinical Research (var) _____

Mental Health Counseling and Behavioral Medicine (12-13 credit hours required)

Required 2 Courses:

GMS MH 703 Counseling Techniques (3cr) _____

GMS MH 707 Research & Evaluation (3cr) _____

Choose 2 of the following courses, also required:

GMS MH 704 Group Work Dynamics & Process (3 cr) _____

GMS MH 711 Health and Exercise Psychology (3 cr) _____

GMS MH 705 Psychopathology (3 cr) _____

GMS MH 812 Addictions (3 cr) _____

GMS MH 709 Neuroscience for Mental Health Profess. (3 cr) _____

OR

GMS MS 703 Neuroscience (two-year option)(4 cr) _____

Student's Signature _____ Date _____

Faculty Advisor's Signature _____ Date _____

Concentration Advisor's Signature _____ Date _____



BOSTON UNIVERSITY SCHOOL OF MEDICINE
Division of Graduate Medical Sciences
715 Albany Street, Rm. L-315
Boston, MA 02118

THESIS TITLE APPROVAL PAGE
MASTER OF ARTS
(Please type or print)

NAME: _____

Department/Program:: _____

B.U. I.D. #: _____ **B .U.**
Phone#: _____

Home Phone#: _____ **Email:** _____

Proposed Title Of Thesis: _____

SIGNATURES FOR APPROVAL:

First Reader: _____ **Title** _____ **Signature** _____
(Print Name)

Second Reader _____ **Title** _____ **Signature** _____
(Print Name)

Third Reader: _____ **Title** _____ **Signature** _____
(Optional) (Print Name)

RECEIVED BY DIVISION: _____

APPROVED BY: _____



BOSTON UNIVERSITY SCHOOL OF MEDICINE
DIVISION OF GRADUATE MEDICAL SCIENCES

**M.A. IN MEDICAL SCIENCES
HONORS THESIS AGREEMENT FORM**

STUDENT: _____ ID# _____

This will confirm that the above-named student has obtained permission from his/her thesis readers to complete the M.A. of Medical Sciences laboratory thesis requirements for a letter grade. Entering into this arrangement; the student also agrees to comply with guidelines established by the thesis readers named below.

Once the thesis has been completed and approved by both readers, a copy of the completed thesis (including the approval page and signatures) must be submitted to the Division office with a letter from the first reader recommending an honors grade. GRADES WILL NOT BE POSTED UNTIL THE THESIS HAS BEEN OFFICIALLY APPROVED BY THE MUGAR LIBRARY.

Student's signature

Date: _____

First Reader

First Reader's Signature

Second Reader

Second Reader's Signature

**DIVISION OF GRADUATE MEDICAL SCIENCES
 BOSTON UNIVERSITY SCHOOL OF MEDICINE
 715 Albany Street, Room L-317**

**REQUEST FOR A SPECIAL SERVICE APPOINTMENT IN THE
 DIVISION OF GRADUATE MEDICAL SCIENCES**

Please provide the following information when requesting a Special Service appointment for a person who will serve as a reader on a doctoral dissertation or a master's thesis, or who will serve as a member of a Final Oral Examining Committee (dissertation defense). Please type.

Name of Student	Department
Name of Nominee (*)	Degree: <input type="checkbox"/> M.A. <input type="checkbox"/> Ph.D.
	Committee as now composed:
Nominee's Mailing Address	

* A current curriculum vitae of the nominee must accompany this request.

Appointment: *Second Reader* - Ph.D. Dissertation *Third Reader* - Ph.D. Dissertation
 Second Reader - M.A. Thesis *Third Reader* - M.A. Thesis
 Member of Ph.D. Final Oral Examining Committee
 Member of M.A. Thesis Examining Committee

Reasons for this request:

Signature of <i>Department Chairman</i>	Date
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Approved Not Approved

<i>Associate Dean</i> , Division of Graduate Medical Sciences	Date
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White - Dean Yellow - Department Pink - Student Confirmation



STUDENT BIOGRAPHICAL INFORMATION FORM
("2010 BIOSKETCH")

Name _____

Social Security Number _____ Box # _____ E-mail _____

Telephone Number _____

Current Mailing Address

In order for the Division of Graduate Medical Sciences Division Office to prepare the best possible Dean's Letter for you, please type this form out completely. Handwritten forms will be returned to your mailbox. Please use the reverse side of the pages when necessary, or add additional pages.

To assure that your Dean's/Advisor's letter is completed in a timely manner, please follow the following deadlines:

- Submission of Biographical Information Form ("Biosketch").....February 1, 2010
Meeting with Faculty Advisor to Discuss Biosketch.....no later than April 1, 2010
Submission of Copy of Biographical Update (Biosketch Update), AMCAS Letter Transmittal Form, and copy of completed AMCAS Application (including personal statement).....no later than July 15, 2010
(Note: Dean's/Advisor's Letters are not completed until Biosketch Updates AND copies of AMCAS applications are received).
MCAT Scores (2008-2009 test dates).....as soon as possible

DEAN'S LETTERS ARE COMPLETED IN THE ORDER BIOSKETCHES ARE RECEIVED AND INTERVIEWS ARE CONDUCTED. ONCE YOU TURN IN YOUR BIOSKETCH, YOU MUST MEET WITH YOUR FACULTY ADVISOR TO DISCUSS YOUR MATERIALS BY APRIL 1, 2010. YOUR DEAN'S LETTER WILL NOT BE WRITTEN IF YOU HAVE NOT MET WITH YOUR ADVISOR TO DISCUSS YOUR MATERIALS.

UNDERGRADUATE EDUCATION:

1. List all **undergraduate colleges** attended. Include double majors, minors, etc. Please list all the degrees you have been awarded (and majors/minors or fields of study) at graduation, and Latin honors.

College/University	Dates Attended	Major	Minor	Degree
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2. Why did you select your concentration? In what ways has it fulfilled your expectations?

3. What course or courses have most interested you during your college years? Why?

4. Particularly if your undergraduate GPA is below 3.0, discuss any weakness or problems in your academic record for which you can provide clarification or explanation.

5. List all **honors** received during your undergraduate education. If you attended more than one college, please specify which honors were received at each college. Include "Dean's List", honor societies, awards, scholarships, etc.

6. If you went to multiple institutions as an undergraduate, please explain why.

7. List all **research activities** conducted during your undergraduate education. Please include full names of projects, date(s) and location of research, and name(s) with degree titles (M.D., Ph.D., etc) of preceptor(s). Please include title of thesis and preceptor, if applicable. If your work was published or presented at a scientific meeting, include complete name of journal or conference, and the year. Indicate whether you are first author or co-author, and whether you presented the work. **What will be the major benefits of this research?**

8. List all **extracurricular/community activities/employment** during your undergraduate education. If you attended more than one college, please specify which activities you were involved in at each college. Include dates. Be sure to list volunteer work, summer activities, hobbies, sports, etc.

9. Discuss one or two of the most significant of your extracurricular/community service activities both during college and since college. In what ways were these

GRADUATE EDUCATION: (please be sure to include any post-baccalaureate education, including certificate programs, or taking graduate students as a non-degree student)

1. List all **graduate schools** attended.

College/University	Dates Attended	Major	Minor	Degree
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2. List all **honors** received during your graduate education. If you attended more than one college, please specify honors received at each college. Include Dean's List, honor societies, awards, etc.

3. List all **research activities** conducted during your graduate education. Please include full names of projects, date(s) and location of research, and name(s) with degree titles of preceptor(s). **In highlighting your M.A. of Medical Sciences thesis, be sure to include title, names of first and second readers, whether your thesis is a library or laboratory project, and a short paragraph describing your project in layman's terms. It is also helpful to indicated date of completion or expected date of completion.** If your work was published or presented at a scientific meeting, include complete name of journal and/or conference, and the year. Indicate whether you are first author or co-author, and whether you presented the work. **(Note: If you do not have this information at this time, please be sure to include this information in the Biographical Update Form, which is due on August 1, 2010).**

4. List all **extracurricular/community activities** during your graduate education. If

you attended more than one college, please specify which activities you were involved in at each college. Include dates. Be sure to list volunteer work, summer activities, hobbies, sports, etc.

5. List all **employment** during your graduate education. Include summer employment, hours worked during academic year, dates of employment, etc.

Please answer the following questions:

1. Other than your parents, please describe the person or persons in your life who have been particularly significant. This person may have influenced your life in either a positive or negative manner. Why have they been influential to you? Please try to be as specific as possible.

2. Medicine as a profession requires compassion, commitment, and responsibility. How have you demonstrated these qualities in your life to date? Please give one or more examples.

3. Has there been a time in your life when there was an event of any kind changed the direction of your life?

4. Have you ever undergone a significant failure and come back from it? Describe the event and discuss what you learned from it.

5. Describe a situation that challenged you (or someone you know) to make a difficult ethical decision.

6. If an interviewer asked you to tell him/her about yourself, what would you consider most important to convey?

6. Describe your experience in health care, either as a consumer, provider, or both-- personally or through friends. What insights have you gained about problems you will face as a physician?

7. What has led you to choose medicine as a career? Give a brief history of your interest. Who were your mentors, if any? Did any one event act as a catalyst to your interest?

8. If you were not able to pursue a career in medicine, what alternate career would you choose. Why?

Personal Information: (optional)

place of birth:

place you were raised:

citizenship:

family information:

List all languages spoken. Indicate whether you are conversant or fluent:

Please indicate the field(s) of medicine that you are currently considering.

Please write a brief paragraph describing how you see yourself, and describing those personal attributes or accomplishments that you would like to see portrayed in your Dean's Letter. This does not have to be of the quality of a personal statement; highlight what has been important in your life and what continues to motivate and anchor you as you prepare for the next stage of your career. Use other side if necessary.

BIOGRAPHICAL UPDATE FORM

("BIOSKETCH UPDATE")

DUE July 15, 2010

Please submit this completed form, along with a copy of you're AMCAS Letter Transmittal Form and completed AMCAS application to Susan Wilcox, Room L-317

Please note: Handwritten forms will not be accepted. Forms will not be accepted without a copy of your completed AMCAS application.

Name _____

Social Security Number _____ E-mail _____

AMCAS ID Number _____

AMCAS Letter ID Number _____

Current Telephone Number _____

Current Mailing Address

Are you completing a Combined Degree Program?

If yes, please check applicable program:

____ M.A. Medical Sciences/M.A. Mental Health and Behavioral Medicine

____ M.A./M.P.H. – Concentration: _____

____ M.A./M.B.A.

Are you completing a concentration?

If you replied yes, please check the applicable concentration:

____ Clinical Investigation

____ Mental Health and Behavioral Medicine

____ Medical Nutrition Sciences

1. If applicable, please list and explain any incomplete course work or deficient grades and your plans to make-up this work, including expected date of completion.

2. **When do you expect to complete all M.A. Medical Sciences or combined degree requirements (including submission of your final thesis project)?**
3. **If you did not include your thesis information in your Biosketch, or if you need to revise this information, please provide this the following about your M.A. of Medical Sciences thesis: title, names of first and second readers, whether your thesis is a library or laboratory project, and a short paragraph describing your project in layman's terms. It is also helpful to indicated date of completion or expected date of completion.**

Lab Thesis _____ **Library Thesis** _____
(check one)

Name/Title of First Reader _____

Name/Title of Second Reader _____

Institute of Second Reader if non-BU _____

4. **Will you take any additional courses during the 2010-2011 academic year? Please provide details so this information may be included in your Dean's letter.**
5. **If applicable, please add any other additional information that you would like to include in your Dean's letter (i.e., new employment, volunteer, community service efforts, etc.)**
6. **In addition to your medical school applications, are you applying to any other schools? Please provide details and indicate if a separate Dean's letter is needed for these applications.**