FORWARD

Welcome to the Interdisciplinary Biomedical Graduate Program of the University of Pittsburgh School of Medicine. This handbook provides useful information pertaining to the Interdisciplinary Program and progress toward your degree. The material contained within the handbook is as current as possible; however, many areas change and material may become outdated or inaccurate within a year. Please read any future memos and/or e-mails you might receive to remain abreast of such changes.

All questions and/or suggestions concerning your Handbook should be directed to:

Graduate Studies Office
University of Pittsburgh School of Medicine
524 Scaife Hall
412-648-8957 (phone)
412-648-1077 (fax)

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## Table of Contents

Forward ........................................................................................................................................... ii

School of Medicine Graduate Studies ......................................................................................... 1

Degree Granting Programs ........................................................................................................... 2

Interdisciplinary Biomedical Program Committee Chairs ......................................................... 3

Summary of Graduate Courses .................................................................................................... 5

Academic Policies and Procedures ................................................................................................. 24

Financial Aid ................................................................................................................................. 37

Biomedical Graduate Student Association .................................................................................... 42

Conduct, Pitt Promise, and Integrity Policies and Procedures ...................................................... 46

Guidelines on Academic Integrity ................................................................................................. 54

Research Integrity .......................................................................................................................... 56

Guidelines for Ethical Practice in Research .................................................................................. 70

Health & Safety Policies and Procedures ....................................................................................... 82

University Facilities & Services ..................................................................................................... 91
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Summary of Interdisciplinary PhD Programs & Course Catalog

CONTENTS

Summary of Interdisciplinary Program Requirements .................. 6 – 8

Course Descriptions

Interdisciplinary Biomedical Sciences ........................................ 9
Cell Biology and Molecular Physiology .................................... 10 – 11
Cellular and Molecular Pathology ......................................... 11 – 14
Immunology ........................................................................... 14 – 15
Molecular Genetics and Developmental Biology ....................... 15 – 16
Molecular Pharmacology ....................................................... 16 – 18
Molecular Virology and Microbiology ..................................... 18 – 19
Interdisciplinary Biomedical Graduate Program

Core Requirements (19 credits completed during year 1)
- INTBP 2000 *Foundations of Biomedical Science* (Fall) 8 Credits
- INTBP 2005 *Foundations Conference* (Fall) 4 Credits
- INTBP 2290 *Scientific Ethics and the Responsible Conduct of Research* (Summer) 1 Credit
- INTBP 2013 *D2K: From Data to Knowledge – Biomedical Experimental Design and Analysis* (Summer) 3 Credits
- INTBP 2010 *Laboratory Research Rotation* (All) 1 Credit (3 Rotations Required)

After preliminary evaluation at end of year 1, students transfer into one of six specialized PhD programs

Program-specific Requirements (6 - 11 credits during years 1 and 2)
See Table below for course listings

Electives (typically 3 – 9 credits during years 1 and 2)
See Table below for details

32 credits of course work required for PhD

Comprehensive Exam
See individual programs for details

Teaching Practicum
See individual programs for details

PhD Thesis Proposal
See individual programs for details

PhD Dissertation Research (All, 1-14 credits) 40 credits of research required for PhD

72 total credits required for PhD
### CBMP
**Cell Biology & Molecular Physiology**
- MSCBMP 2880 (Sp) 3 Cr Cell Biology of Normal and Disease States
- MSCBMP 2830 (Sp) 2 Cr Cell & Molecular Physiology OR MSCBMP 2840 (Su) 1 Cr Regulation of Membrane Traffic OR MSCBMP 2885 (Sp) 3 Cr Imaging Cell Biology in Living Systems
- MSCBMP 2851-56 (A) 1 Cr Research Seminar
- MSCBMP 2875 (A) 1 Cr Experiments and Logic In Cell Biology
- INTBP 3240 (Su) 2 Cr Graduate Student Writing Seminar

### CMP
**Cellular & Molecular Pathology**
- MSCMP 2730 (Sp) 3 Cr Molecular Mechanisms of Tissue Growth & Differentiation
- MSCMP 2750 (F&Sp) 1 Cr (5 semesters required) Research Seminar
- MSCMP 2740 (Sp) 3 Cr Molecular Pathobiology OR MSCMP 3710 (F) 3 Cr Cancer Biology & Therapeutics

### IMM
**Immunology**
- MSIMM 2210 (Sp) 2 Cr Comprehensive Immunology
- MSIMM 2230 (Sp) 2 Cr Experimental Basis of Immunology
- MSIMM 2250 (Sp) 2 Cr Teaching Assistant: Medical Microbiology
- MSIMM 3220 (F&Sp) 1 Cr Contemporary Topics in Immunology
- MSIMM 3230 (Fall) 2 Cr Immunology & Human Disease
- MSIMM 2260 1 Cr Immunology Seminar

### MGDB
**Molecular Genetics and Developmental Biology**
- MSMGDB 2525 (Sp) 2 Cr Developmental Mechanisms of Human Disease
- MSMGDB 2535 (Sp) 2 Cr Model Organisms
- MSMGDB 2550 (F&Sp) 1 Cr Research Seminar

### MPHL
**Molecular Pharmacology**
- MSMPHL 2310 (Sp) 3 Cr Principles of Pharmacology
- MSMPHL 2360 (Sp) 3 Cr Biology of Signal Transduction
- MSMPHL 3360 (F) 2 Cr Molecular Pharmacology
- MSMPHL 3310 (F) 3 Cr Cancer Biology & Therapeutics OR MSMPHL 3375 (Sp) 3 Cr Neuropharmacology OR MSMPHL 2370 (F) 3 Cr Drug Discovery (only offered in even years – i.e. 2008, 2010)

### MVM
**Molecular Virology & Microbiology**
- MSMVM 2410 (Sp) 2 Cr Molecular Virology
- MSMVM 2430 (Sp) 1 Cr Microbiology Teaching Assistant
- MSMVM 2450 (F&Sp) 1 Cr Research Seminar
- MSMVM 3410 (Sp) 2 Cr Microbial Pathogenesis

### Electives
- Students may take electives from their program and from others. They should consult with their advisor and program director in designing their plan of study.

- MSCBMP 2860 (Su) 3 Cr Multiparametric Microscopic Imaging
- MSCBMP 2870 (Sp) 5 Cr Histology
- MSCMP 2760 (Sp) 3 Cr Introduction to Tissue Engineering
- MSCMP 2770 (Sp) 3 Cr Biomaterials & Biocompatibility
- MSCMP 3730 (F&Sp) 1 Cr Topics in Experimental Neuropathology
- MSCMP 3735 (F) 3 Cr Extracellular Matrix in Tissue Biology and Engineering
- MSCMP 3740 (F) 3 Cr Stem Cells
- MSCMP 3750 (F) 3 Cr Angiogenesis
- MSCMP 3760 (F&Sp) 1 Cr Research Seminar in Regenerative Medicine
- MSIMM 2240 (F) 2 Cr Immunobiotherapeutics
- INTBP 3240 (Su) 2 Cr Graduate Student Writing Seminar
- MSIMM 3250 (Sp) 2 Cr Transplantation Immunology
- MSIMM 3260 (F) 2 Cr Immunity and the Neuroendocrine Axis
- MSIMM 3280: (F) 1 Cr Immunology of Infectious Diseases
- MSMPHL 2370 (F) 3 Cr Drug Discovery
- MSMPHL 2330 (Sp) 3 Cr DNA Repair: Biochemistry to Human Disease
- INTBP 3240 (Su) 2 Cr Graduate Student Writing Seminar
- MSMPHL 3510 (F) 3 Cr Advanced Topics in Gene Expression
- MSMPHL 3540 (F) 3 Cr Reproductive Development from Model Organisms to Humans
- MSMPHL 3550 (F) 3 Cr Stem Cells
- MSMPHL 3570 (F) 3 Cr Cancer Biology & Therapeutics
- INTBP 3240 (Su) 2 Cr Graduate Student Writing Seminar
<table>
<thead>
<tr>
<th>PhD Program</th>
<th>CBMP Cell Biology &amp; Molecular Physiology</th>
<th>CMP Cellular &amp; Molecular Pathology</th>
<th>IMM Immunology</th>
<th>MGDB Molecular Genetics and Developmental Biology</th>
<th>MPHL Molecular Pharmacology</th>
<th>MVM Molecular Virology &amp; Microbiology</th>
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<td>Electives continued</td>
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<td>Teaching Practicum</td>
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<td>Comprehensive Examination</td>
<td>Format: Research Grant Topic: Related to, but distinct from the student's anticipated thesis topic or the mentor's grant proposals. Mentor cannot assist in writing. When: First term of third year</td>
<td>Format: Grant Application Topic: Student's thesis research When: Before end of second year</td>
<td>Format: Research Grant Topic: Student's thesis research When: Before end of second year, typically spring</td>
<td>Format: Research Grant Proposal Topic: May be derived from anticipated thesis, but must be distinct from any funded or recently submitted grant proposal of the thesis advisor. When: Before end of Spring term of second year.</td>
<td>Format: Grant Proposal Topic: Student's thesis research When: Within one year of passing the preliminary evaluation</td>
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<td>Thesis Proposal</td>
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INTERDISCIPLINARY BIOMEDICAL SCIENCES
(INTBP)

2000 Foundations of Biomedical Science (Fall) 8 Credits
Course Directors: Daniel Altschuler, Christine Milcarek, Michael Tsang, Linton Traub
Primary objectives of the course are to explore mechanisms controlling cell, tissue and organ function, and to develop an understanding of the experimental evidence supporting these concepts through an integrated presentation of material from biochemistry, cell biology, genetics, immunology, microbiology, neurobiology, pathology, pharmacology, and physiology. The development of critical thinking skills will be emphasized through an evaluation of experimental evidence and reading of the primary literature.

2005 Foundations Conference (Fall) 4 Credits
Course Directors: Daniel Altschuler, Christine Milcarek, Michael Tsang, Linton Traub, Wendy Mars
Contemporary approaches to problem-solving in biology, as well as principles underlying modern methods of biomedical research will be integrated with the lecture component of the course through an analysis of mechanisms underlying biological phenomena. Students will present papers, critically analyze data and devise experimental approaches to biomedical problems considered in lecture.

2010 Laboratory Research Rotation (All) 1 Credit
Course Director: John Horn
This lab is designed to introduce the student to relevant laboratory methods as well as the layout and conceptualization of experiments. The course will serve to acquaint the student with the laboratory process, and to facilitate his/her selection of a lab for dissertation research. Students are required to register for and complete rotations through three different laboratories, thereby ensuring broad exposure to method and practice.

2011 Lab Research Rotation Supplement (All) 2 to 4 Credits
Course Director: John Horn
Course supplement to INTBP 2010 for those students initiating their first rotation in summer.

2013 D2K: From Data to Knowledge-Biomedical Experimental Design & Analysis (Summer) 3 Credits
Course Director: John Horn & Richard Bilonick
Experimental biologists formulate hypothesis and models, design experiments, collect data and conduct analysis to draw conclusions. Deep understanding of biological principles requires D2K-The translation of DATA INTO KNOWLEDGE that transcends first-order conclusions. This course for first year PhD Students in the biomedical sciences will examine basic principles of experimental design, together with measurement and sources of experimental error. The course will provide a practical 'hands on' introduction to the quantitative tools required for experimental research using cellular, molecular and systems based methods. Topics will include: goals of experimental design, making measurements, principles of parametric and non-parametric statistical inference, use of MS Excel, GraphPad PRISM and R, design of publication graphics and a brief introduction to big data approaches. Students will work in small groups to construct capstone projects by making 'youtube' style videos to illustrate key principles of experimental design and analysis.

2090 Directed Study (All) 1 to 9 Credits
Course Director: John Horn
This course provides the student an opportunity to carry out a specific laboratory project in any area of interest in degree-granting programs under the Interdisciplinary Biomedical Graduate Program

2290 Scientific Ethics and the Responsible Conduct of Research (Summer) 1 Credit
Course Director: John Horn
The course is an introduction to the basic ethical issues that arise in the course of conducting scientific research. It is intended for graduate students and fellows in the biomedical sciences who have completed at least one year of graduate work. The course will be composed of informal lecture presentations followed by discussion of issues in small groups.

3240 Graduate Student Writing Seminar (Summer) 2 Credits
Course Director: Carolyn Coyne
This course teaches fundamental grantmanship skills using actual NIH training grant submissions. Students construct a competitive research training grant and are instructed on methods to identify funding sources. This course consists of introductory lectures followed by a series of workshops staffed by the IBGP training faculty. Workshops cover peer scientific review and study section operation, avoidance of common pitfalls in grant writing, grant writing ethics and scientific community service.
**CELL BIOLOGY AND MOLECULAR PHYSIOLOGY (MSCBMP)**

**2800 MS Thesis Research** (All) 1 to 14 Credits  
*Course Director: Donna Beer Stolz*  
A directed research project, which results in a thesis for a master’s degree.

**2830 Cell and Molecular Physiology** (Spring) 2 Credits  
*Course Director: Raymond Frizzell*  
This course consists of lectures, problem-solving sessions, and examination of original papers. A main focus will be on the application of modern biophysical and molecular-genetic approaches in the analysis of cellular function. Topics include: 1. Membrane transport: pumps, channels, and bioelectrical potentials; 2. Excitable Membranes; 3. Regulation of I\(\alpha\) Channels; 4. Absorptive and secretory functions of epithelium; 5. Signal transduction; 6. Molecular motors, cell motility, and muscle contraction. **Note: CBMP Students are required to take either Cell & Molecular Physiology OR Regulation of Membrane Traffic.**

**2840 Regulation of Membrane Traffic** (Summer) 2 Credits  
*Course Directors: Gerard Apodaca and Ora Weisz*  
Course analyzes membrane/protein traffic along both the biosynthetic & endocytic pathways. Emphasis placed on how this traffic is regulated. Topics include the role of g-proteins (both hetero- & homotrimeric), coat proteins (coatamer 1 & 2 & adaptions), signal transduction cascades (PKC, PKA, IP3, etc.), & snare complexes in protein trafficking. Also, we will discuss the role of the cytoskeleton in transporting cargo & signal transduction. Membrane traffic in several specialized cell types will be covered including polarized epithelial cells, cells of the immune system, & neurons. **Note: CBMP Students are required to take either Cell & Molecular Physiology OR Regulation of Membrane Traffic.**

**2851 Research Seminar/Cellular Physiology** (Fall & Spring) 1 Credit  
*Course Director: Dan Devor*  
Advanced research seminar with journal club format specializing in current aspects of cellular physiology.

**2852 Research Seminar/Membrane Trafficking** (Fall & Spring) 1 Credit  
*Course Director: Peter Drain and Donna Beer Stolz*  
Advanced research seminar with journal club format specializing in current aspects of membrane trafficking.

**2853 Research Seminar/Reproductive Physiology** (Fall & Spring) 1 Credit  
*Course Director: Tony Plant*  
Advanced research seminar with journal club format specializing in current aspects of reproductive physiology.

**2855 Research Seminar/Molecular Physiology** (Fall & Spring) 1 Credit  
*Course Directors: Raymond Frizzell & Tom Kleyman*  
Advanced research seminar with journal club format specializing in current aspects of molecular and cellular physiology.

**2860 Multiparametric Microscopic Imaging** (Summer) 3 Credits  
*Course Director: Donna Beer Stolz and Claudette St. Croix*  
A lecture/hands-on lab survey course which immerses students in the theory and practical aspects of modern microscopic imaging. The fields will cover the theory and implementation of all types of light and electron microscopy and computer aided imaging and analysis. Students will be expected to reach a functional capability in a selected technology and write a paper using one of more imaging technologies to answer a research question.

**2870 Histology** (Spring) 5 Credits  
*Course Director: Georgia Duker*  
The objective of this lecture/lab course is student comprehension of the relationship between cell structure and organ function, and the application of the knowledge to the identification of light and electronmicroscopic images of cells and organs. All the major organ systems of the body are included.

**2875 Experiments and Logic in Cell Biology** (Fall & Spring) 1 Credit  
*Course Directors: Peter Drain and Donna Beer Stolz*
In this course students will review and critique data presented by their colleagues using an internet chat room and physical meetings to be held monthly. Students will independently critically evaluate and provide constructive suggestions on the experimental data and design, in terms of alternative rationales, interpretations, and next experiments.

2885 Imaging Cell Biology in Living Systems (Spring) 3 Credits
Course Director: Simon Watkins
The focus of this course will be to study relevant problems in Cell Biology, Immunology, Developmental Biology and Neurobiology and how they have been solved using imaging approaches. The use of techniques such as TIRF and high speed confocal microscopy to address basic problems in endocytosis will be discussed at the organism level. Multiphoton, confocal, FRET, and other approaches will be discussed to understand aspects of cell biology in cell polarity, respiration and organ development in c. elegans, drosophila, zebra fish and mice. In each case the application will focus on how imaging tools are used to study defined problems in living systems. The course will follow Lecture/Demo/Journal Club format. Lectures will be two part, the first 1/3 will be a description of the technology, how it was developed and how it works (10-15 minutes) followed by description of the scientific problem and how it was solved. This will be followed by lab demonstrations showing the approach in action. Lectures will be interspersed with a journal club discussion of a relevant paper on each technology. Students will prepare the Journal Club presentations in an alternating fashion. Examination will be a combination of class participation, journal club and written exam.

2880 Cell Biology of Normal & Disease States (Spring) 3 Credits
Course Director: Daniel Devor
The semester-long course in cell biology and physiology of normal and disease states will explore three exciting topics in current day cell biology and physiology. The course, which meets twice a week (1.5 h each session), will be taught through both lectures and in class discussions of primary literature and will cover basic biology, the cellular basis of disease processes, and recent advances in translational research that may lead to cures for common disease processes. The section on stem cell biology, diabetes, and translational research will focus on understanding how cells divide and how all of the body’s different tissues stem from a master cell with the potential to generate all of the different cell types present in the body. In addition to understanding normal stem cell biology, the potential for use of stem cells to regenerate organs and to cure ailments such as diabetes will be explored. The section on cellular polarity will explore early events in polarity establishment including endocytic signaling and establishment of specialized membrane domains in epithelia and neurons. Further discussion will focus on disease processes such as autosomal dominant kidney disease, an ailment characterized by altered and dysfunctional polarity. The third section will examine ion channels and disease: CFTR and cystic fibrosis. This section will explore the role of RAD in protein quality control, the traffic and transport of CFTR, the functional role of CFTR and the epithelial sodium channel in the lung, and promising new therapies to alleviate the morbidity and mortality associated with CFTR mutations.

2890 Directed Study (All) 1 to 9 Credits
Course Director: Donna Beer Stolz
This course provides the students an opportunity to carry out a specific laboratory project in any area of interest in cell biology and physiology.

3800 PhD Dissertation Research (All) 1 to 14 Credits
Course Director: Donna Beer Stolz
After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in the School of Medicine.

CELLULAR AND MOLECULAR PATHOLOGY (MSCMP)

2700 MS Thesis Research (All) 1 to 14 Credits
Course Director: Wendy Mars
A directed research project, which results in a thesis for a master’s degree.

2730 Molecular Mechanisms Tissue Growth & Differentiation (Spring) 3 Credits
Course Directors: Aaron Bell & Eric Lagasse
The course covers the anatomy, embryology, histology, function, and growth regulation (growth factors, receptors, and signaling pathways) of various differentiated tissues (central nervous system, lung, liver, pancreas, urinary and reproductive systems, breast, endocrine system, skin, bone, skeletal muscle, bone marrow). Multidisciplinary lectures are given by the members of the various departments including pathology, cell biology and physiology, medicine, and surgery who have on going research in these areas. The course is designed to offer detailed information on specific tissues, tissue-tissue interactions, and overlapping cellular and molecular pathways that exist in multiple tissues.

**Note: This is a required course for CMP students.

2740 Molecular Pathobiology (Spring) 3 Credits
Course Directors: Tim Oury & Grant Bullock
This course is structured to introduce students to the integration between basic and clinical research on the molecular pathogenesis of relevant human diseases. The course will provide students with an overview of the natural history of selected diseases, their diagnosis and clinical management. This will be followed by in-depth discussions concerning the pathologic substrate of the disease, with particular attention focused on the molecular mechanisms of disease progression. In addition to current basic science research, students will be exposed to the clinical impact of basic science discoveries upon the development of new therapeutic interventions. Discussions of current research trends and factors that enhance fundability of research projects will ensue. Each disease module will contain lectures from the faculty followed by presentations of current research papers by the students. These research presentations/discussions will be peer reviewed by fellow students and the faculty, and form the basis of the final grade.

2750 Research Seminar (Fall & Spring) 1 Credit
Course Directors: Marie DeFrances & Wendy Mars
Students present their research (allowed one time) or a recent research article from a broad range of topics selected by the student in consultation with a faculty advisor. The course meets weekly. Emphasis is placed on a careful analysis and critical evaluation of the manuscript as well as the development of teaching and speaking skills needed for scientific presentation. The student is expected to elucidate issues relevant to the topic and to answer questions from other graduate students and faculty. **Note: CMP students are required to take this a minimum of 5 semesters.

2760 Introduction to Tissue Engineering (Spring) 3 Credits
Course Director: Kacey Marra
The purpose of this course is to introduce students to tissue engineering. Tissue engineering is defined as the development and manipulation of laboratory-grown molecular, cells, tissues, or organs to replace and/or support the function of injured body parts. Tissue engineering is highly interdisciplinary and therefore crosses numerous engineering and medical specialties. Upon completing this course, the graduate and undergraduate students should: understand the basic principles behind human cell and tissue biology; be familiar with the general types of biomaterials used in tissue engineering; understand techniques utilized to design, fabricate, and functionally assess tissue engineering systems; be able to apply the combined knowledge of tissue organization and tissue engineering strategies to design a unique, reasonable tissue engineering solution. This five-part course covers cell and tissue biology, biomaterials, drug delivery, engineering methods and design, and clinical implementation.

2770 Biomaterials & Biocompatibility (Spring) 3 Credits
Course Director: William Wagner
This course serves as an introduction to biomaterials and biocompatibility and assumes some background in organic chemistry and biology. The first half of the course connects biomaterial applications. The second part of the course introduces biocompatibility issues as they follow from protein adsorption, thrombosis, inflammation and infections. Throughout the course ties are made between the topics of students and clinically relevant materials and device performance.

2780 Special Topics (Fall & Spring) 3 Credits
Course Director: Wendy Mars
One or more student(s) will focus on a selected topic (usually defined by the students) in cellular and molecular pathology and discuss the primary literature pertaining to the topic. Students will be evaluated on their discussions and presentations, and write a paper under the direction of a faculty advisor.

2790 Directed Study (All) 1 to 9 Credits
Course Director: Wendy Mars
This course provides the students an opportunity to carry out a specific laboratory project in any area of interest in cellular and molecular pathology.

3700 PhD Dissertation Research (All) 1 to 14 Credits
Course Director: Wendy Mars
After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research; the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in CMP from the School of Medicine.

3710 Cancer Biology and Therapeutics (Fall) 3 Credits
Course Directors: Reza Zarnegar & Thomas Kensler
This course presents biochemical and clinical aspects of cancer biology and therapy, and is designed for graduate students training in the basic sciences or medicine. The lectures cover: the biology of normal and neoplastic cells; mechanisms of neoplastic transformation; chemical and environmental carcinogenesis; viral oncogenesis; breast and prostate cancer; chemotherapy; radiotherapy; gene therapy; tumor immunology; and nutrition and cancer. **Note: CMP students are required to take Molecular Pathobiology OR Cancer Biology and Therapeutics.

3730 Topics in Experimental Neuropathology (Fall & Spring) 1 Credit
Course Director: Clayton Wiley
This course critically evaluates the latest scientific literature concerning diseases of the central nervous system. Emphasis will be placed on methodologies as they are applied to the study of human neurologic diseases. Participants will present scientific papers and lead the classroom discussions. This course is open to students of all levels and will include both basic scientists and clinicians (residents, faculty).

3740 Stem Cells (Fall) 3 Credits  
Course Director: Paul Monga  
The course entitled “Stem Cells” will provide a comprehensive overview on this intriguing and highly debated topic. The course will focus on the biology of stem cells and their role in health and disease with emphasis on development, carcinogenesis and tissue engineering. Lectures on various aspects of stem cells from renowned experts will cover both embryonic and adult stem cells. Specific lectures will include: 1. Stem cells in the blood, liver, brain, muscle, kidney, pancreas, prostate, lung, gut, skin and eye. Students will also be educated on therapeutic cloning as well as bio-ethical issues and existing laws governing stem cell research. Letter grades will be based on midterm and final exams as well as on the attendance in the lectures.

3735 ECM in Tissue Biology and Bioengineering (Fall) 3 Credits  
Course Directors: Bryan Brown and George Michalopoulos  
This course presents a comprehensive overview of the biochemical composition of tissue matrix, the receptors that bind and signal through the matrix, and how these matrix interactions are important for basic biology and tissue engineering. Topics include gene expression, mechanistic interactions and cellular interaction/communication.

3750 Angiogenesis (Spring) 3 Credits  
Course Director: Shanmugam Nagarajan and Donna Beer Stolz  
This course will provide extensive basic knowledge of developmental, cellular, molecular biology of angiogenesis and most recent advancements in its clinical applications. Topics include: 1. Angiogenesis in physiological and pathological processes; 2. Molecular and cellular regulation of angiogenesis; 3. Current advance in angiogenic therapies. Recent outstanding research publications will also be discussed.

3760 Research Seminar: Regenerative Medicine (Fall & Spring) 1 Credit  
Course Director: Paul Monga and Andy Duncan  
Research seminar in regenerative medicine is geared towards providing updated information on topics in the field of regenerative medicine, tissue engineering and stem cell applications. Through biweekly seminars, the students will be acquainted to the recent advances in the ever-growing field of regenerative medicine. Experienced faculty will deliver lectures in this seminar series.

3770 Cell Therapy (Summer) 3 Credits  
Course Director: Alexander Soto-Gutierrez  
This course is meant to be unlike any other in the graduate curricula, showcasing cell therapy from theory to practice, from the bench to the bedside. For each area of cell transplantation the lectures will be given by faculty who have implemented cell transplantation techniques and moved them into clinical therapy. Most of the lectures in the course and all clinical application lectures will be given by those who actually do the patient transplants. Immunology and pharmacology will be addressed as it directly relates to cellular therapy. Gene therapy and stem cell biology will not be addressed individually, but will be raised in the context of specific applications. Course meetings will consist of approximately 2 lectures per discussion session. The first lecture will present the basic research leading into a particular area of cell therapy area such as animal models used for preclinical studies, and the second will focus on the clinical application of that particular cell therapy for specific disease(s). The grade for the course results from attendance at lectures and the submission of a paper in an area relevant to Cell Transplantation / Cell Therapy. At the conclusion of this course students should: be able to critically read and review the literature in the field of cellular therapy; know the mechanisms of rejection of cellular transplants from both allotopic and xenotypic sources and be familiar with strategies to avoid transplant rejection; be familiar with the application of cellular therapy techniques to a variety of disease states; have a perspective and be conversant on relevant ethical issues associated with the field of cellular therapy.

3780 Systems Approach to Inflammation (Fall) 2 Credits  
Course Director: Yoram Vodovotz  
This course is focused on particular topics of great biologic complexity in critical illness, where modeling has the potential to translate in improved patient care. Lectures are provided by basic (biological and mathematical sciences) and clinical faculty, in conjunction with members of industry and speakers from outside institutions. This information will be communicated within the framework of defined themes that describe the complexity of inflammation in acute and chronic illnesses. Grading is based on participation in discussions and on a semester-long, interdisciplinary group project. Each group includes students with a predominantly biology background along with students who are more facile with mathematics and/or simulation. This project therefore requires the students to work with others from outside of their main discipline, to learn about and from interdisciplinary exchange, and gain practical experience in team-based modeling of biological processes.

Updated June 19, 2015
3790 Basics of Personalized Medicine (Fall) 3 Credits
Course Directors: Wendy Mars & Marie DeFrances
Rapid and ongoing discoveries in basic biomedical research are leading to a world where there is a demand for personalized medicine. Never the less, on a practical level, it is complicated to translate the findings from the basic scientific arena into clinical practice. This course will show students how findings from basic research can be translated into clinically relevant tests for the diagnosis and treatment of patients. The course will provide an overview of the past, present, and future of basic biomedical research as it relates to this subject.

**IMMUNOLOGY (MSIMM)**

2200 MS Thesis Research (All) 1 to 14 Credits
Course Director: Lawrence Kane
A directed research project which results in a thesis for a master's degree.

2210 Comprehensive Immunology (Spring) 2 Credits
Course Director: Patrizia Fuschiotti
This is a lecture course that will introduce the students to the fundamental concepts of modern immunology. The course will cover cells, tissues and organs of the immune system. Furthermore in depth analysis of the development, activation, effector functions and regulation of immune response will be presented in this course.

2230 Experimental Basis of Immunology (Spring) 2 Credits
Course Directors: Binfeng Lu and Kyle McKenna
This course will expose the students to classical and contemporary literature in modern immunology. Emphasis will be on paper analysis and critical evaluation of primary data. This course will parallel the topics presented in comprehensive immunology lecture course which must be taken before or simultaneously with experimental basis of immunology.

2240 Introduction to Immunobiotherapeutics (Fall) 2 Credits
Course Director: Nick Giannoukakis
This course will provide a comprehensive overview of the principles and the technology upon which immunobiotherapeutics are based. The course will focus on the overall aims of using small molecules, antibodies, genes and cells as immunotherapeutic agents. It will cover the use of viral and non-viral agents as gene delivery vehicles, cells as therapeutic agents and small molecules as delivery and therapeutic vehicles. The course will also cover diseases and disorders in which immunobiotherapy has proven safety and demonstrated successful outcomes like cancer, mendelian disorders and autoimmunity. Lectures and student presentations will cover: Genes and cells as drugs, peptides, antibodies and small molecules as therapeutics and delivery vehicles, viral and non-viral vectors, stem cells, and specific diseases where immunotherapy has shown safety and efficacy. Students may also be educated on bioethical issues and existing laws governing biotechnology and molecular medicine approaches.

2250 TA: Immunology (Spring) 1 Credit
Course Director: Lawrence Kane
The course will provide Immunology graduate students with the opportunity to serve as a teaching assistant in the undergraduate Immunology course BIOSC 1760 or Medical Microbiology MED 5116. The curriculum is designed to provide valuable teaching skills to the professional scientist.  
**NOTE: Immunology students are required to take this course two semesters.

2260 Immunology Seminar 1 Credit
Course Director: Lawrence Kane
Graduate Students and Faculty present their current research in a seminar format.

2290 Directed Study (All) 1 to 9 Credits
Course Director: Lawrence Kane
This course provides the students an opportunity to carry out a specific laboratory project in any area of interest in immunology.

3200 PhD Dissertation Research (All) 1 to 14 Credits
Course Director: Lawrence Kane
After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in the School of Medicine.

3220 Contemporary Topics – Immunology (Fall & Spring) 1 Credit
Course Director: Lawrence Kane
This is an advanced level course in which students will read, present and evaluate the primary literature in immunology. Each semester will feature an
integrated set of papers addressing a current issue of interest to modern immunologists. The course may be taken more than once by each student, since the topic addresses will change each semester. **NOTE: Immunology students are required to take this course four semesters.**

**3230 Immunology and Human Disease (Fall) 2 Credits**
*Course Director: Robert Binder*
This course surveys basic immunological principles as they impact our understanding of the causes or treatments of human disease. The course consists of a series of lecture blocks. Background reading is required and the course relies heavily on the reading of original articles. Classes are regularly devoted to paper discussions, and each student will be responsible for introducing one paper.

**3250 Transplantation Immunology (Spring) 2 Credits**
*Course Director: Angus Thomson*
Transplantation is a rapidly-expanding area of basic and applied immunology, with great potential for the cure of many human diseases. This course will focus on contemporary issues in transplantation immunobiology, including immunogenetics, aspects of ischemia-reperfusion injury, the role of innate and adaptive immunity, antigen-presenting and T cell biology, including T cell memory, tolerance, acute and chronic rejection, humoral rejection the biology of transplant infectious disease, cell transplantation (including pancreatic islet cell transplantation), xenotransplantation, and novel immunosuppressive/tolerogenic regimens.

**3270 Innate Immunity (Spring) 2 Credits**
*Course Director: Saumendra Sarkar*
This course will focus on the several aspects of host innate immunity against infection. Topics will include the conceptual basis for innate versus adaptive immunity, induction of innate immunity by pathogens, signaling by innate immune receptors, effector cells of the innate immune system, secreted effectors of innate immune signaling, and subversion of innate immune signaling by pathogens. Molecular Virology and Comprehensive Immunology are highly recommended but are not prerequisites for the course.

**3280 Immunology of Infectious Diseases (Fall) 1 Credit**
*Course Directors: Joanne Flynn, Karen Norris and Kate Ryman*
This course examines the immune responses to pathogens, as well as on immune evasions of microbes. The organisms studied include bacteria, parasites, and viruses. Topics focus on host-pathogen interaction and include innate immunity, modulation of antigen processing and presentation, pathogenic strategies for subversion of immune responses, effector functions of immune cells, and immunopathology.

**MOLECULAR GENETICS AND DEVELOPMENTAL BIOLOGY (MSMGDB)**

**2500 MS Thesis Research (All) 1 to 14 Credits**
*Course Director: Kyle Orwig*
A directed research project, which results in a thesis for a master’s degree.

**2525 Developmental Mechanisms of Human Disease (Spring) 2 Credits**
*Course Director: Neil Hukriede & Staff*
This course covers principles of developmental biology and how embryonic developmental pathways impinge on human disease. Topics include congenital organ related disease, stem cell based reproductive events relating to disease. Prerequisites: Foundations of Biomedical Science or permission of the course director.

**2535 Model Organisms (Spring) 2 Credits**
*Course Director: Donghun Shin & Michael Tsang*
This course covers the use of vertebrate and invertebrate model organisms in biomedical research. Topics include the use of several models including: mouse, rat, zebrafish, xenopus, C. elegans, and Drosophila. Special emphasis will be placed on the strengths that specialized techniques of each organism provide to the research community in understanding the etiology of disease.

**2550 Research Seminar (Fall & Spring) 1 Credit**
*Course Director: Judy Yanowitz*
A weekly Research In Progress Seminar presented by students and postdoctoral fellows. Weekly attendance and participation by all MGDB students is required.

**2590 Directed Study (All) 1 to 9 Credits**
*Course Director: Kyle Orwig*
This course provides the students an opportunity to carry out a specific laboratory project in any area of interest in biochemistry and molecular genetics.

**3500 PhD Dissertation Study (All) 1 to 14 Credits**
Course Director: Kyle Orwig

After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in the School of Medicine.

3510 Advanced Topics in Gene Expression (Every other Fall) 3 Credits
Course Directors: Xiangyun Wei & Staff
This course consists of lectures and class presentations on recent advances in molecular genetics. The emphasis of the course is on the regulation of gene expression at the DNA, RNA and protein levels. Regulation in eukaryotes is emphasized, including yeast, protozoan, and mammalian systems.

3530 DNA Repair: Biochemistry to Human Disease (Spring) 3 Credits
Course Directors: TBD
This course focuses on the biochemistry of DNA repair pathways essential for maintaining genome integrity. These pathways will be integrated with other processes of DNA metabolism including replication and transcription, as well as signaling and cell cycle checkpoints to give students a systems biology appreciation of the DNA damage response. Environmental and endogenous sources of DNA damage will be discussed as well as the health consequences of unrepaired DNA damage, which include cancer, aging, developmental disorders and neurodegeneration.

3540 Reproductive Development from Model Organisms to Humans (Every other Fall) 3 Credits
Course Directors: Judy Yanowitz
This course focuses on the molecular aspects of the transition from gamete to a reproductive organism. The course progresses through the building of germ cells, fertilization and stem cell participation to sex determination, gonad morphogenesis, puberty, menopause and pregnancy. This course highlights both human and model organisms to bring together diverse aspects of the cell and developmental biology of reproductive tissues and their impact on disease pathology.

3550 Stem Cells (Fall) 3 Credits
Course Directors: S. Paul Monga & Staff
The course entitled “Stem Cells” will provide a comprehensive overview on this intriguing and highly debated topic. The course will focus on the biology of stem cells and their role in health and disease with emphasis on development, carcinogenesis and tissue engineering. Lectures on various aspects of stem cells from renowned experts will cover both embryonic and adult stem cells. Specific lectures will include stem cells in the blood, liver, brain, muscle, kidney, pancreas, prostate, lung, gut, skin and eye. Students will also be educated on therapeutic cloning as well as bio-ethical issues and existing laws governing stem cell research. Letter grades will be based on midterm and final exams as well as on the attendance in the lectures.

MOLECULAR PHARMACOLOGY (MSMPHL)

2310 Principles of Pharmacology (Spring) 3 Credits
Course Directors: Yu Jiang & Alessandro Bisello
This course consists of a series of lectures and tutorial sessions that focus on the general principles of pharmacology. Major topics are principles of pharmacokinetics (including drug absorption, distribution, and metabolism), pharmacodynamics (quantitation of drug-receptor interactions) and mechanisms of action of cardiovascular and autonomic drugs. In addition, this course will include both animal laboratory and human simulator demonstrations that illustrate important pharmacological principles discussed in class.

2350 Research Seminar (Fall and Spring) 1 Credit
Course Director: Patrick Pagano
Beginning in the second year of the program students will be required to attend the Departmental Seminar Series. These seminars are held approximately once a week throughout the fall and spring semesters and include presentations by nationally and internationally recognized visiting researchers in pharmacology and related fields. In order to receive credit for the course, students must attend a minimum of 80% of the seminars.

2355 Pharmacology Summer Seminar (Summer) 1 Credit
Course Director: Patrick Pagano
Beginning in the third year of the program students will be required to participate annually in the Departmental Summer Seminar Series. These seminars will be held once a week throughout the summer and will be focused on the student’s research plans and recent results. This presentation will be made to an audience with diverse research interests and should therefore include a brief summary of general background information.

2360 Biology of Signal Transduction (Spring) 3 Credits
Course Director: Guillermo Romero
This course will explore different types of signaling pathways activated by receptor-ligand interactions. Topics to be covered include, but are not limited to: G-protein linked receptors, adenylate cyclases, small GTPases, kinases and
phosphatases, nitric oxide, phospholipases, steroid hormone signaling, and pharmacological applications of signaling pathways.

2370 Drug Discovery (Fall) 3 Credits
Course Directors: Lans Taylor, Bruce Freeman, Barry Gold and Ivet Bahar (Only offered in even years-i.e. 2008, 2010)
Drug discovery is an interdisciplinary science that identifies small molecule and/or biologic modulators of cell and tissue function. This course will discuss various topics that are relevant to current approaches and principles in drug discovery including target validation, drug origins, cell-based screening, high throughput screening, proteomic approaches to drug discovery, computational biological aspects of drug discovery, and pharmacoinformatics, as well as topics in preclinical drug development and intellectual property. The course will include case studies intended to aid students in a full understanding of the drug discovery process.

2390 Directed Study (All) 1 to 9 Credits
Course Director: Patrick Pagano
This course provides the students an opportunity to carry out a specific laboratory project in any area of interest in pharmacology.

3300 PhD Dissertation Research (All) 1 to 14 Credits
Course Director: Patrick Pagano
After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in the School of Medicine.

3310 Cancer Biology and Therapeutics (Fall) 3 Credits
Course Directors: Reza Zarnegar & Thomas Kensler
This course presents biochemical and clinical aspects of cancer biology and therapy, and is designed for graduate students training in the basic sciences or medicine. The lectures cover the biology of normal and neoplastic cells, mechanisms of neoplastic transformation, chemical and environmental carcinogenesis, viral oncogenesis, breast and prostate cancer, radiotherapy, tumor immunology chemotherapy and chemoprevention.

3320 Journal Club (Fall & Spring) 1 Credit
Course Director: Patrick Pagano
Journal Club presentations will be held each week that the department hosts a seminar speaker. Students will be required to present a recent research article related to the topic area of the Departmental Seminar once each year but must attend a minimum of 80% of the Journal Clubs in order to receive credit for the course.

3330 DNA Repair: Biochemistry to Human Disease
(Spring) 3 Credits
Course Directors: Bennett Van Houten & Christopher Bakkenist (only offered in even years-i.e. 2016, 2018)
Cellular responses to DNA damage affect cell cycle control, transcription, replication, cell division, signal transduction and evolution. More than 40 distinct human diseases are caused by defects in DNA repair, including syndromes of impaired development, cancer predisposition or premature aging. This course will emphasize the biochemistry of DNA repair, placing these mechanisms into the context of other cellular processes such as DNA replication, transcription and damage signaling. Sources of DNA damage, both environmental and endogenous will be discussed, as well as the importance of DNA repair mechanisms during development and to prevent cancer and aging.

The course will include 1.5 hr of lectures twice per week based on selected material from select papers, and the recent text book: “DNA Repair, Mutagenesis, and Other Responses to DNA Damage (2014) Errol C. Friedberg, Stephen J. Elledge, Alan R. Lehmann, Tomas Lindahl & Marco Muzi-Falconi. In addition, critical analysis of journal articles of 1.5 hr of interactive discussions covering human disease, animal models, and state-of-the-art experimental systems to measure DNA damage and repair. Lecturers will include faculty from the University of Pittsburgh who are engaged in laboratory research at the forefront of the DNA repair field. Several visiting special guest lecturers may also participate in the course.

3360 Molecular Pharmacology (Fall) 2 Credits
Course Director: Ferruccio Galbiati
This course examines molecular mechanisms of drug interactions with an emphasis on drugs that modulate cell signaling, cellular responses to drugs. The course will include student participation through presentations and discussion of relevant contemporary scientific literature. Topics include: cell cycle checkpoints and anti-cancer drugs, therapeutic control of ion channels, and blood glucose, anti-inflammatory agents and nuclear receptor signaling.

3375 Neuropharmacology (Spring) 3 Credits
Course Director: Michael Palladino
This course will examine the molecular mechanism of drug action for different classes of drugs including, but not limited to, antidepressants, antipsychotics, antiviral drugs, drugs to relieve pain, diuretics, drugs affecting the cardiovascular system and drugs affecting endocrine systems. In addition,
lectures will highlight the most recent developments for treatments of neurodegenerative diseases and psychiatric disorders.

**MOLECULAR VIROLOGY AND MICROBIOLOGY (MSMVM)**

**2400 MS Thesis Research** (All) 1 to 14 Credits  
*Course Director: Carolyn Coyne*  
A directed research project which results in a thesis for a Master's degree.

**2410 Molecular Virology** (Spring) 2 Credits  
*Course Director: Fred Homa*  
This course stresses basic concepts of animal virology. Subjects include virus structure, attachment and entry, mechanism of regulation at the RNA and protein levels, viral nucleic acid replication, viral assembly and egress, and expression and regulation of viral genes, antivirals and viral immune evasion. Lecture format. Foundations of Biomedical Sciences, or an equivalent course (approved by Course Director) is a prerequisite.

**2420 Experimental Virology** (Spring) 1 Credit  
*Course Director: Paul Kinchington*  
This course is designed to teach students entering graduate research projects how to critically evaluate the scientific literature in terms of multiple different viruses, experimental strategies, interpretation of data and the basis of conclusions made in published articles. Paper discussion in small group format. Completion or concurrent registration in Molecular Virology (or equivalent) required. May be taken only one time for credit.

**2430 Microbiology Teaching Assistant** (Spring) 1 Credit  
*Course Director: Jennifer Bomberger*  
The purpose of this course is to introduce graduate students of the Interdisciplinary Biomedical Sciences Graduate Program to the principles of teaching. The students will be trained in basic teaching techniques as well as provided material for teaching students specific concepts. As part of this course, students will participate in teaching first-year medical students the fundamentals of microbiology, in conjunction with the Laboratory and Problem Based Learning sections of the Molecular Pathogenesis of Infectious Disease course of Basic Science Medical School block. Each student will be responsible for 8-10 medical students in a laboratory setting. The student will present basic laboratory techniques, explain concepts of microbiology and infectious disease, including diagnostic tests, interpretation of results, and data management. In addition, the student will assist the Faculty Facilitator in the Problem Based Learning Sessions where they will review laboratory findings with the students.

**2450 Research Seminar** (Fall & Spring) 1 Credit  
*Course Director: Carolyn Coyne & James Bina*  
Each class is divided into a Research report and a Paper discussion designed to develop skills needed for scientific presentation. The student research progress report details the background, reasoning, analyses, critical evaluation of experimental strategies, data analysis and interpretation of their Thesis project. Students are expected to elucidate issues and answer questions from other graduate students and faculty. The research paper discussion is designed to teach students to critically evaluate and present published data in contemporary scientific research articles. Students, in consultation with the course director, select published articles for presentation and discussion. A topic is chosen for each semester. Restricted to MVM graduate students or by special permission of instructor.

**2490 Directed Study** (All) 1 to 9 Credits  
*Course Director: Carolyn Coyne*  
This course provides the students an opportunity to carry out a specific laboratory project in any area of interest in molecular virology and microbiology.

**3400 PhD Dissertation Research** (All) 1 to 14 Credits  
*Course Director: Carolyn Coyne*  
After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in the School of Medicine.

**3410 Microbial Pathogenesis** (Spring) 2 Credits  
*Course Director: James Bina*  
This course is an introduction to molecular basis of bacterial and parasitic pathogenesis. Topics include microbial physiology and genetics, gene expression, virulence factors, pathogenic strategies of bacterial agents. Lectures format. Foundations of Biomedical Sciences, or an equivalent course (approved by Course Director) is a prerequisite.

**3420 Viral Pathogenesis** (Fall) 2 Credits  
*Course Director: Amy Hartman*
This course provides lectures in a particular virus that expands the basic biology of the virus life cycle to the level of virus-host interactions. Pathogenic properties of select viruses are outlined from the perspective of disease manifestations, immunology, and the natural history of infection. Lectures will also address the molecular basis of viral pathogenesis and current advances in therapeutic strategies. Lecture/paper discussion format. Molecular Virology (or equivalent) is required.

3435 Tumor Virology (Every other Fall) 2 Credits
Course Director: Kathy Shair
This course introduces students to viruses known or suspected of causing tumors, with special emphasis on viruses casually linked to human cancer, including polyomaviruses, Epstein-Barr virus, Kaposi's sarcoma-associated herpesvirus, adenoviruses, papillomaviruses, hepatitis viruses, human T-cell lymphotropic virus. Topics focus on establishing causality between specific virus infections and cancer, oncogenes, tumor suppressors, oncogenic cofactors, disruption of innate/adaptive immune responses, latency, viral mimicry/piracy of cellular regulatory genes, genomic instability and role of non-coding RNAs in viral pathogenesis.

3471 Innate Immunity (Spring) 2 Credits
Course Director: Saumendra Sarkar

3475 Imaging Host-Pathogen Interactions (Summer) 1 Credit
Course Director: Jennifer Bomberger
This course will focus on the several aspects of host innate immunity against infection. Topics will include the conceptual basis for innate versus adaptive immunity, induction of innate immunity by pathogens, signaling by innate immune receptors, effector cells of the innate immune system, secreted effectors of innate immune signaling, and subversion of innate immune signaling by pathogens. Molecular Virology and Comprehensive Immunology are highly recommended but are not prerequisites for the course.

3480 Immunology of Infectious Disease (Fall) 2 Credits
Academic Policies and Procedures

The Interdisciplinary Biomedical Graduate Program

As a new student, you are admitted to the Interdisciplinary Biomedical Graduate Program (IBGP) for your first year of study. The IBGP is designed to assist you in identifying a research laboratory, and to encourage your timely progression through the process of obtaining a PhD. The activities of the IBGP are governed by the Steering Committee (comprised of the Associate Dean for Graduate Studies and the program directors). The operation of the Steering Committee is assisted by subcommittees which are responsible for admissions, curriculum and recruiting. These committees evaluate applications for admissions and recruit new students into the program, coordinate the first-year curriculum, oversee your research rotations, administer the Preliminary Evaluation, and supervise your transfer to a specialized degree-granting program.

Advising and Evaluation

You are assigned a first-year mentor upon admission to the IBGP. The mentor is a member of the Steering Committee selected by the Associate Dean for Graduate Studies. The first-year mentor will help you to identify individuals who can provide specialized advice on research rotations, will advise you of the various milestones that are a part of the IBGP, will assist you in decisions regarding second and third term classes, and will sign all of your registration forms until you formally transfer to one of the PhD granting programs. Your mentor will represent your interests at meetings of the Steering Committee should there be concerns about your academic progress, and will present any requests you may have for waivers of stated requirements. The mentor’s role essentially terminates when you move from the IBGP to a specialized PhD granting program.

You will be evaluated by the Steering Committee over the course of the year. At the conclusion of your first year, you will undergo the Preliminary Evaluation which incorporates several elements including class performance and laboratory rotations, with equal weight applied to each. A successful Preliminary Evaluation will allow you to transfer into a specialized degree-granting program.

If you are not performing at a satisfactory level, remedial action or consideration for dismissal from the program may be initiated by the Steering Committee.

Curriculum

There are three courses in the curriculum that are required of all students, while other classes are electives. The Foundations of Biomedical Science Lecture (INTBP 2000) and Foundations Conference (INTBP 2005) are the Interdisciplinary core courses. They meet Monday, Tuesday, Thursday and Friday for two hours each morning of the first semester (fall term), and are supplemented with biweekly small group sessions which meet Tuesday and Friday afternoons. This course is designed to provide a fundamental overview of the elements of contemporary biomedical science that should be mastered by all students, regardless of their scientific interests. The second course required of all students is D2K: From Data to Knowledge-Biomedical Experimental Design
and Analysis (INTBP 2013) which is offered in the summer term of your first academic year. Finally, all students are required to take Scientific Ethics and Responsible Conduct of Research (INTBP 2290) which is also scheduled in the summer term.

After the first semester, there is considerably more flexibility in the choice of classes. Each of the degree granting programs offers one or more classes in the second semester. Students should choose second semester classes based on their own interests and the requirements of the programs they anticipate joining. Thus, it is a good idea to start to consider which programs might be attractive towards the end of the first semester and to determine which, if any, classes are required by that program in the second semester. Your first-year mentor will help you to plan a schedule of classes in the second semester. There are a wide range of graduate classes offered by the School of Medicine. The most current list is available at http://www.gradbiomed.pitt.edu/current-students/course-information.

The Office of Academic Career Development is dedicated to providing professionals in the schools of the health sciences with the tools, resources, and support they need to achieve their full potential as leaders in biomedical research, education, and clinical practice. http://www.oacd.health.pitt.edu/

In some cases students may feel that their educational background precludes the need to take one or more of the classes offered by the Interdisciplinary program. In each case, students should discuss this with the first year mentor and the Associate Dean who may indicate that the requirements may be waived or, that the student can take an exam to be exempted from the course.

A minimum of 32 credits of formal course work and 40 credits of dissertation research are required to earn the PhD degree in the School of Medicine. If you have completed all credit requirements for the degree, and are working full-time on a dissertation, you may register, with permission of the dean, for the Full-Time Dissertation Study (FTDS 0000) course. However, it must be the only course to appear on your registration for that term; you may register for no other courses.

Students with a Master's degree may receive advanced standing equivalent to 30 credits of course work in some circumstances. Such determinations shall be made by the Associate Dean in consultation with the Director of the program in which you decide to pursue a degree.

All students are expected to maintain a minimum cumulative grade point average of 3.00. (Please be advised that a grade of B- or lower is not considered a passing grade when taking the core courses.) If the cumulative average falls below 3.00, the student will be placed on academic probation for the next term of registration. If the deficiency is not corrected or vastly improved in this subsequent term, the student may be dismissed at the discretion of the program. A program also may require a student to retake a major/core course in which a grade point average below 3.00 is earned.
Registration

All students in the IBGP register with their first-year mentor after their first term. (In their first term, new students are registered at orientation to avoid any late fees and/or complications.) The University is on a trimester calendar: Fall, Spring, and Summer Terms. To maintain your appointment as a full-time Graduate Student Assistant or Researcher requires 9-15 credits in the Fall and Spring Terms and 3 credits in the Summer Term. (Note: if you are deferring undergraduate loans, please check with your lender for minimum credit requirements particularly for the Summer Term.) After officially transferring to a specialized degree-granting program, all students will register with their respective program director and/or program designee.

All completed and signed registration forms for first-year students in the IBGP should be submitted to the Graduate Studies Office, 524 Scaife Hall. During all subsequent years, your enrollment form should be signed by your Program Director and given to the Program coordinator so they can remove the advising hold that will be placed on your account each term. Once the hold is removed, you can proceed to self-register. Instructions and a tutorial can be found at www.my.pitt.edu under “Student Services”.

Research Rotations

Laboratory research is the major component of our PhD programs. Research rotations should be considered an essential resource for learning broad-based skills at the bench as well as an opportunity to focus your scientific interests. Prior to choosing a laboratory, you should speak with your first-year mentor and examine the list of faculty who are interested in having a student in their laboratory by checking the website under Research Rotation Opportunities at http://www.gradbiomed.pitt.edu/Current-Rotation-Opportunities.

The Associate Dean and First Year Mentors supervise the selection of laboratory research rotations. You are expected to complete three (3) research rotations during the first year. A “Laboratory Research Rotation Form” must be completed, signed and returned to the Graduate Studies Office within one week of beginning a rotation. At the end of each rotation, you are required to complete a written report that is prepared in the style of a scientific paper [See Appendix II]. It is recognized that some rotation projects emphasize concepts and techniques rather than generating large volumes of data. Thus considerable flexibility in the style and content of the report is possible. The main goal is to generate a written, scholarly account of the scientific principles, questions, and activities undertaken during the rotation period. It is therefore expected as part of this exercise that rotation advisors will read, comment upon, and discuss changes to the rotation report with the student. When the written report is complete, the rotation supervisor will review the performance of the student and assign a letter grade for the rotation on the evaluation form provided by the graduate office.

It is expected that the three rotations will be performed in three different laboratories headed by training faculty of the IBGP. This will provide students with an opportunity to identify an area of research interest, to establish a relationship with a potential dissertation advisor, and to learn various laboratory techniques. In rare instances, it is possible to petition the IBGP director for permission to take a fourth rotation if necessary. If a student has completed a master’s degree thesis based on original research, a report of this project may be submitted in place of a rotation report upon approval.
Requests to modify the rotation schedule must be made, in writing, to the Associate Dean for Graduate Studies. All rotations shall take place in accordance with the following schedule unless a waiver is granted upon petition to the Associate Dean:

<table>
<thead>
<tr>
<th>Rotation Begins</th>
<th>Rotation Ends &amp; Report Due</th>
<th>Evaluation Form Due</th>
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</thead>
<tbody>
<tr>
<td>July 2, 2015</td>
<td>September 18, 2015</td>
<td>September 25, 2015</td>
</tr>
<tr>
<td>September 21, 2015</td>
<td>December 11, 2015</td>
<td>December 18, 2015</td>
</tr>
<tr>
<td>January 4, 2016</td>
<td>March 25, 2016</td>
<td>April 1, 2016</td>
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NOTE: Reports submitted after each due date will lose 1/3rd of a grade for each day the report is late. Research Rotation Evaluation forms are due from the rotation advisor, in the Graduate Studies Office, within two weeks after the report due date.

**Transferring from the IBGP to a Specialized Degree Granting Program**

Upon successful completion of your Preliminary Evaluation, you will transfer into one of the specialized, degree granting programs. The choice of program is likely to be dictated by the choice of dissertation advisor. The process of moving into a specialized degree-granting program should occur as follows:

i) Identify a dissertation advisor. This will come about as the result of your rotation experiences, from exposure to faculty during classes, and from talking to other graduate students. (See *Suggestions on Choosing a Dissertation Advisor* which follows). It is expected that most of the training faculty will welcome students into their laboratories. However, there are some practical realities that may be encountered. If a laboratory is already full, or if there is not sufficient funding available to support an additional student, a faculty member may not be able to take you.

ii) Identify the appropriate program. Many of the training faculty have appointments in two programs, so the choice of program can be influenced by your choice of the class requirements that you would prefer to meet.

iii) Petition the program director for admission into that program. The program director will determine whether you have met the course requirements for the program, or may suggest second year classes to take. Once the Preliminary Evaluation has been completed and the curricular requirements met, the transfer will formally take place.

Clearly, this is a process that will begin before the end of the first year. Students are strongly encouraged to meet with the Program Director of the degree granting program in which you are interested prior to the end of the Fall semester to determine which classes would be most appropriate in the Spring semester.
Please do not hesitate to direct any questions relating to the IBGP or any of the above described procedures to your first-year mentor or to the Graduate Studies Office, 524 Scaife Hall.

The most important decision you will make at the University of Pittsburgh is the selection of a dissertation advisor. Please consider the following which were prepared under the auspices of the University Council on Graduate Study www.pitt.edu/~graduate/advisor.html.

Suggestions on Choosing a Dissertation Advisor for Doctoral Students at the University of Pittsburgh

Before starting dissertation research, you must have a major advisor who agrees to supervise your work. In addition, you must form a complete doctoral committee, subject to approval by the program chair and the dean, and be admitted to doctoral candidacy. But the first step is the choice of your major advisor.

You and your advisor must mutually agree on the advising arrangement and the research topic. Both of you should enter the relationship as well informed as possible about the other. In advising relationships, “divorces” are possible, but they upset the timely progress toward degree and are emotionally draining.

Trade-offs and compromises are to be expected in selecting an advisor. For instance, it might be preferable to choose an advisor whose students take a slightly longer time to complete their degrees if they usually gain better jobs than those of a different faculty member. While some students may be eager to work with a famous full professor, others might fear that the busiest advisors would have the least time for their students. Finally, be aware that procedures for matching students and advisors may vary by program.

To select the best advisor, you might meet with all the faculty members of your program and talk with other graduate students in the program about the qualities of the faculty members eligible to direct dissertations. Be cautious about making assumptions, and ask questions covering a range of topics. Some questions should best be discussed with the faculty member in question, others might better be asked of advanced graduate students. To help you, consider the following list of questions in selecting a dissertation advisor; the list is not intended to be a list of mandatory qualities that advisors should possess. Some items pertain more to specific disciplines than to others. Remember, too, that faculty members will have a number of questions to ask about you.

Questions To Consider In Selecting A Dissertation Advisor

These questions have been adapted from a document prepared by the Graduate School, State University of New York at Stony Brook, and are put forth by the Office of the Provost.

- Is the advisor an expert in the area of research or scholarship that you intend to pursue? Is his/her critical or theoretical orientation consistent with yours?
- How much freedom will you have in your choice of dissertation topic with this advisor?
- What is the reputation of the advisor within the discipline?
- How responsive is the advisor? How long does it take him/her to return written material with comments?
- How accessible is the advisor for discussion?
· Is the advisor likely to remain on the faculty for the duration of your degree work?
· How many students does he/she advise? If none, why? If a large number, does this affect the attention that he/she pays to individual students?
· How much time does he/she spend away from campus? Is he/she available during the summer?
· How long do students take to complete their degrees with this advisor?
· What proportion of this advisor's students successfully complete the program?
· What is the placement record of this advisor's students? Where do they get jobs?
· Does the advisor publish with his/her students as first author?
· How many publications does the typical student accumulate with this advisor?
· Do the advisor's students go to disciplinary or professional conferences?
· Do the advisor's students make presentations of their own work at conferences? Do they make presentations of joint work with the advisor?
· How much interaction is there with other advisees of this faculty member? Does he/she direct a research group or rather a series of individuals?
· How much of the research is collaborative with the advisor and/or other advisees?
· How much involvement is expected in "group" research projects that are not appropriate for inclusion in your dissertation? How much of this contributes to your professional development and marketability?
· How is credit for collaborative work assigned?
· Is the advisor engaged in patentable or saleable work? If so, how does he/she assign credit to the student? Does this work get published promptly?
· Is the advisor's work funded? What are the guarantees of funding for the advisor's students? Do the advisor's students get summer support?
· Does the advisor assist his/her students in obtaining their own funding from outside sources such as fellowship programs?
· Does the advisor have good relations with other faculty in the program?
· Does the advisor have a reputation for ethical behavior?
· Are the advisor's work habits compatible with your own?

**Graduate Milestones**

The University tracks your progress toward the degree by means of a series of Graduate Milestones. Successfully completing each milestone is a University requirement for the PhD degree. The following are the School of Medicine milestones. Full descriptions follow under the subsequent section, University Regulations Pertaining to Doctor of Philosophy Degrees.

I. **The Preliminary Evaluation.** Conducted by the Steering Committee at the conclusion of your first year of study.

II. **The Comprehensive Examination.** An oral and/or written examination usually conducted at the end of the second year of study by the student’s specialized training program.
After or at the time of passing the Comprehensive Exam, the student, in consultation with his/her advisor, chooses and nominates a dissertation advisory committee according to the following guidelines passed by Steering Committee:

a. There shall be a minimum of four members on the dissertation committee in addition to the thesis advisor, thereby requiring a minimum of five committee members.

b. The dissertation advisor may or may not serve as the chair of the examination committee, and it shall be at the discretion of the training program. This must, however, clearly be stated as the program policy and uniformly applied to all students within the training program.

c. A majority of the committee, including the advisor, must have graduate faculty status, and must be from the student’s training program.

d. A minimum of one graduate faculty member from the university community who is not a member of the student’s training program must participate on the committee as an external member. The external member cannot serve as the committee chair.

e. The dissertation committee must be approved by the director of the student’s training program prior to seeking approval from the Associate Dean for Graduate Studies. This is achieved by completing the Nomination of a Doctoral Dissertation Advisory Committee. Only upon these approvals may the student convene an Overview/Prospectus meeting and then petition for Admission to Candidacy.

III. The Prospectus/Overview Meeting. The student’s dissertation advisory committee, pending approval of the Associate Dean for Graduate Studies, meets and approves the dissertation proposal at this meeting.

IV. Admission to PhD Candidacy. This is the formal petition from a student permitting him/her to study toward the PhD degree at the University of Pittsburgh. It must be approved by the Associate Dean for Graduate Studies.

After being Admitted to Candidacy, the University requires students to meet with their dissertation committee yearly, at a minimum, and report the results in the form of a summary and action plan to the Graduate Studies Office in writing. Individual programs may require dissertation committees to meet more than once a year.

V. Dissertation Defense. When the dissertation work and write-up are completed, a public defense is held. The Dissertation Defense Report is signed and submitted to the Graduate Studies Office following the defense.

VI. Dissertation Approval. The Dissertation Approval Report is signed by your committee and submitted to the Graduate Studies Office upon completion and approval of all revisions.
University Regulations Pertaining to Doctor of Philosophy Degrees
http://www.pitt.edu/~graduate/regphd.html

Doctor of Philosophy degrees are awarded for completion of graduate programs in various departments within the School of Arts and Sciences, the Joseph M. Katz Graduate School of Business, the School of Dental Medicine, the School of Education, the John A. Swanson School of Engineering, the School of Health and Rehabilitation Sciences, the School of Information Sciences, the School of Medicine, the School of Nursing, the School of Pharmacy, the Graduate School of Public Health, the Graduate School of Public and International Affairs, and the School of Social Work.

Admission to Doctoral Study
In some departments, the requirements for admission to graduate study and for admission to doctoral study are identical, while other departments require the completion of a master's degree or its equivalent as a prerequisite for admission to doctoral study. Admission to doctoral study does not include any implication concerning "admission to candidacy for the Doctor of Philosophy degree."

Normally, only one major department of graduate study is permitted for the PhD degree. However, a few formal interdisciplinary programs and, under some circumstances, some independently designed interdisciplinary doctoral programs are available (see Interdisciplinary Doctoral Programs).

Programs of Study

All PhD programs offered at the University of Pittsburgh should provide a coherent series of courses, seminars, and discussions designed to develop in the student a mature understanding of the content, methods, theories, and values of a field of knowledge and its relation to other fields. Each program should train the student in the methods of independent research appropriate to the discipline and provide an adviser and a committee to guide the student in an extended investigation of an original and independent research project of significance in the field.

The overall form and content of each student's program is the responsibility of the Graduate Faculty of the department or program. To carry out this responsibility, departments or programs must ensure that each student has a major adviser who, in consultation with the student, plans a program of study and research in accord with school and departmental guidelines. The adviser may prescribe additional courses both within and outside the department or program that are essential and/or appropriate to the student's program.

Some doctoral programs may include approved areas of concentration used to define and describe the students' training and expertise within the broader discipline. Such an area of concentration is added to the transcript upon the granting of the degree.

Doctoral level courses are numbered in the 3000 series, but courses numbered in the 2000 series may also be appropriate for doctoral study. Normally, courses numbered below 2000 do not meet the minimum requirements for doctoral study, although they may be taken to supplement a doctoral program.
Students must maintain a minimum cumulative GPA of 3.00 in courses to be eligible to take the preliminary and comprehensive examinations as well as to be graduated.

The requirement of proficiency in the use of foreign languages or other tools of research is at the discretion of individual departments or schools.

Departments or programs are expected to provide students with a copy of school and departmental regulations appropriate for their program and, in turn, students are expected to become familiar with these and to satisfy all prescribed degree requirements.

**Credit Requirements**

The minimum credit requirement for the PhD degree is met by six terms of registration as a graduate student for 12 or more credits per term or the equivalent number of credits in a reduced load. If the school requires completion of its master's degree program prior to admission into its doctoral program, at least four terms of registration for 12 or more credits per term or the equivalent number of credits in a reduced load are required as a minimum for the PhD degree. No more than 30 credits may be accepted for a master's degree awarded by another institution to meet the minimum credit requirement. In recognition of graduate study beyond the master's degree successfully completed elsewhere, no more than 12 additional credits may be accepted at the time of admission to meet the minimum credit requirement. (See Acceptance of Transfer Credits) No more than 30 credits may be accepted for a previously earned PhD degree in recognition of master's degree work.

Graduate students already enrolled may, when approved in advance by their department or programs and the dean, spend a term or more at another graduate institution to obtain training or experience not available at the University of Pittsburgh and transfer those credits toward the requirements for an advanced degree at the University of Pittsburgh. In all cases, at least three terms, or 36 credits, of full-time doctoral study or the equivalent in part-time study must be successfully completed at the University of Pittsburgh.

Students must register each term for the number of credits of course work, independent study, or research equivalent to the anticipated use of faculty time and University facilities. A student who has not registered for at least one credit during a 12-month period will be transferred automatically to inactive status and must file an application for readmission to graduate study (and pay the application fee) before being permitted to register again.

**Residency Requirement**

Students seeking the PhD degree are required to engage in a minimum of one term of full-time doctoral study, which excludes any other employment except as approved by their departments.

**Preliminary Evaluation**

The preliminary evaluation should be designed to assess the breadth of the student's knowledge of the discipline, the student's achievement during the first year of graduate study, and the potential to apply
research methods independently. The form and nature of the evaluation should be approved at the school level and described in the school bulletin. It should be conducted at approximately the end of the first year of full-time graduate study. The evaluation is used to identify those students who may be expected to complete a doctoral program successfully and also to reveal areas of weakness in the student's preparation. Evaluation results must be reported promptly to the dean's office, but no later than the last day of the term in which the evaluation occurs.

Comprehensive Examination

The Comprehensive Examination should be designed to assess the student's mastery of the general field of doctoral study, the student's acquisition of both depth and breadth in the area of specialization within the general field, and the ability to use the research methods of the discipline. In some programs, the comprehensive examination is combined with the overview or prospectus meeting. It should be administered at approximately the time of the completion of the formal course requirements and should be passed at least eight months before the scheduling of the final oral examination and dissertation defense. In no case may the comprehensive examination be taken in the same term in which the student is graduated. Examination results must be reported promptly to the dean's office but no later than the last day of the term in which the examination is administered. A student who is unable to complete all degree requirements within a five-year period after passing the comprehensive examination may be re-examined at the discretion of the department, program, or school.

Doctoral Committee

Before admission to candidacy for the PhD degree, the student's major adviser proposes for the approval of the doctoral program director and the dean a committee of four or more persons, including at least one from another department in the University of Pittsburgh or from an appropriate graduate program at another academic institution, to serve as the doctoral committee. The majority of the committee, including the major adviser, must be full or adjunct members of the Graduate Faculty. This committee must review and approve the proposed research project before the student may be admitted to candidacy.

This doctoral committee has the responsibility to advise the student during the progress of the candidate's research and has the authority to require high quality research and/or the rewriting of any portion or all of the dissertation. It conducts the final oral examination and determines whether the dissertation meets acceptable standards.

Meetings of the doctoral candidate and his/her dissertation committee must occur at least annually from the time the student gains Admission to Doctoral Candidacy. During these meetings, the committee should assess the student's progress toward degree and discuss objectives for the following year and a timetable for completing degree requirements. It is the responsibility of the dean of each school to determine a mechanism for monitoring the occurrence of these annual reviews.

The membership of the doctoral committee may be changed whenever it is appropriate or necessary, subject to the approval of the department chair or program director and the dean.
When a doctoral committee member leaves the University, he or she must be replaced unless the dissertation is almost complete or the member has an essential role on the committee. In the latter case, the dean's approval should be obtained. When the chair of a committee leaves and cannot be conveniently replaced, a co-chair must be appointed from within the department, and the restructured committee requires the approval of the department chair or director of the school's doctoral program and the dean. If the defense takes place within a few months of the chair's departure, the requirement of the co-chair is usually waived.

A retired faculty member may remain as a member or chair of a committee if he or she is spending considerable time in Pittsburgh or its vicinity and is still professionally active. Retired faculty who meet these criteria may also be appointed as a member or as a co-chair (but not chair) of a newly-formed committee. Retired faculty who leave the Pittsburgh area and/or do not remain professionally active should be replaced on committees and the revised committee approved by the department chair or the school's director of doctoral programs and the dean.

Overview or Prospectus Meeting

Each student must prepare a dissertation proposal for presentation to the doctoral committee at a formal dissertation overview or prospectus meeting. The overview requires the student to carefully formulate a plan and permits the doctoral committee members to provide guidance in shaping the conceptualization and methodology of that plan. The doctoral committee must unanimously approve the dissertation topic and research plan before the student may be admitted to candidacy for the doctoral degree. Approval of the proposal does not imply either the acceptance of a dissertation prepared in accord with the proposal or the restriction of the dissertation to this original proposal. The student is responsible for ensuring that all appropriate regulatory approvals are obtained for the proposed research. For example, if the research proposed in the overview or prospectus involves human subjects, that proposed research must be approved by the University Institutional Review Board (IRB) before it may be carried out.

Admission to Candidacy for the Doctor of Philosophy Degree

Admission to candidacy for the Doctor of Philosophy degree constitutes a promotion of the student to the most advanced stage of graduate study and provides formal approval to devote essentially exclusive attention to the research and the writing of the dissertation. To qualify for admission to candidacy, students must be in full graduate status, have satisfied the requirement of the preliminary evaluation, have completed formal course work with a minimum grade point average of 3.00, have passed the comprehensive examination, and have received approval of the proposed subject and plan of the dissertation from the doctoral committee following an overview or prospectus meeting of the committee. In some schools, admission to candidacy is a prerequisite to registration for dissertation credits. Students are informed of admission to candidacy by written notification from the dean, who also states the approved doctoral committee's composition.

Dissertation and Abstract
Each student must write a dissertation that presents the results of a research project carried out by the student. An appropriate research project involves a substantive piece of original and independent research grounded in an appropriate body of literature. It is relevant to an identifiable field as it is currently practiced. It presents a hypothesis tested by data and analysis and provides a significant contribution or advancement in that field. It is the responsibility of the student's doctoral committee to evaluate the dissertation in these terms and to recommend the awarding of the doctoral degree only if the dissertation is judged to demonstrate these qualities.

Characteristics which a dissertation should demonstrate are: the establishment of a historical context for the presentation of an innovative and creative approach to the problem analysis and solution; a clear understanding of the problem area as revealed by analysis and synthesis of a broad literature base; a well-defined research design; clarity in composition and careful documentation; results of sufficient merit to be published in refereed journals or to form the basis of a book or monograph; sufficient detail so that other scholars can build on it in subsequent work; the preparation of the author to assume a position within the profession.

If the dissertation is the result of a collaborative research effort, the project should be structured in such a way that the student's dissertation results from one, clearly identified piece of work in which the student has supplied the unquestionably major effort. The contributions of the student and the other collaborators must be clearly identified.

Published articles authored by the student and based on research conducted for the dissertation study may be included in the dissertation, if the student's department and school have a written policy that this is acceptable. In any case, the published work must be logically connected and integrated into the dissertation in a coherent manner, and sufficient detail must be presented to satisfy the characteristics of a dissertation. The student should be the sole or primary author of the published work. If the published articles were co-authored, the contribution of the student must be clearly delineated in the introduction so the committee can ascertain that the student's own work satisfies the requirements of a dissertation. Instructions on incorporating articles into the dissertation are provided in the Format Guidelines for Electronic Thesis and Dissertation Preparation at the University of Pittsburgh.

Candidates for the doctoral degree must provide a suitable number of copies of the dissertation, as determined by the doctoral committee and school policy, for review and use during the final oral examination. The general format of the dissertation and the abstract is determined by the Office of the Provost and is set forth in the Format Guidelines for Electronic Thesis and Dissertation Preparation at the University of Pittsburgh. Specific instructions should be available in the office of the dean of the school. After the final oral examination is successfully completed, the candidate must electronically submit the approved complete dissertation and abstract in final form. The candidate must submit a dissertation approval form, the required agreement with University Microfilms Inc. for the publication of the dissertation on microfilm and for the publication of the abstract in Dissertation Abstracts, and any appropriate fees to the designated student services representative in the dean’s office of the candidate’s school.
Language of the Doctoral Dissertation

The language in which doctoral dissertations are written shall normally be English. Exceptions may be granted by the student's dean with the approval of the dissertation adviser and committee, but only for sound reasons of scholarship. Permission shall never be granted on the ground of inadequate command of English.

Final Oral Examination

The final oral examination in defense of the doctoral dissertation is conducted by the doctoral committee and need not be confined to materials in and related to the dissertation. Any member of the Graduate Faculty of the University may attend and participate in the examination. The date, place, and time of the examination should be published well in advance in the University Times. Other qualified individuals may be invited by the committee to participate in the examination. Only members of the doctoral committee may be present during the final deliberations and may vote on the passing of the candidate. A report of this examination, signed by all the members of the doctoral committee, must be sent to the dean. If the decision of the committee is not unanimous, the case is referred to the dean for resolution. The chair of the doctoral committee should ensure that the dissertation is in final form before requesting signatures of the members of the committee.

University Regulations Pertaining to Masters' Degrees

http://www.pitt.edu/~graduate/regmasters.html

Master of Arts (MA) degrees are awarded for completion of graduate programs in various departments within the Faculty of Arts and Sciences, the School of Education, and the Graduate School of Public and International Affairs; the Master of Science (MS) degree is offered in departments within the Faculty of Arts and Sciences, the Joseph M. Katz Graduate School of Business, the School of Education, the School of Engineering, the School of Dental Medicine, the School of Health and Rehabilitation Sciences, the School of Medicine, the Graduate School of Public Health, the School of Pharmacy, and the School of Social Work. Some of the MA or MS degrees offered are specified as being "in" a particular discipline; e.g., Master of Science in Hygiene, Master of Science in Chemical Engineering.

Programs of Study

The MA and MS degree programs provide an introduction to scholarly activities and research and often serve as preparation for teaching careers. These degrees are awarded for the completion of a coherent program designed to assure the mastery of specified knowledge and skills, rather than a random accumulation of a certain number of courses. The overall form and content of the student's program of study is the responsibility of the faculty of the department. To carry out this responsibility, each student must be assigned a major adviser, who, in consultation with the student, plans a program of study and research in accord with school and departmental guidelines. At least four courses (12 credits) or one-half the master's degree program, whichever is greater, must be at the graduate level (the 2000 or 3000 series). No course numbered below 1000 or from 7000 to 7999 may be applied toward graduate degree requirements. Some master's programs may include approved areas of concentration or minors. Areas of concentration define and describe the student's training and expertise within the broader discipline. Minors represent significant course work completed in an area
related to the student's specialty. Such areas of concentration or minors are added to the transcript upon the granting of the degree. Master's degrees are conferred only on those students who have completed all courses required for the degree with at least a 3.00 QPA. The requirement of proficiency in foreign languages is at the discretion of individual departments or schools. Departments are expected to provide students with a copy of school and departmental regulations appropriate for their program. Students are expected to become familiar with these and to satisfy all prescribed degree requirements.

**Credit Requirements**
The Master of Arts and Master of Science degrees normally require the satisfactory completion of approximately 30 credits of graduate study approved by the department or school. No Master of Arts or Master of Science degree program may require fewer than 24 course credits. Not more than six credits may be granted toward the completion of the requirements for a master's degree for work completed at another accredited graduate institution. (See Acceptance of Transfer Credits, for further information.)

**Comprehensive Examination**
MA or MS degrees are conferred only upon those students who, in one or more comprehensive examination or the equivalent, show that they have mastered the general field of their graduate study. Each department or similar unit is responsible for specifying the content and procedure for administration of the comprehensive examination and will specify for each candidate the field of his or her examination, which may vary from student to student. Whenever a program substitutes an equivalent requirement for the comprehensive examination, the department or program must obtain prior approval from the University Council on Graduate Study. Students on special or provisional status are not eligible to take a comprehensive examination. These examinations must be taken at least one month prior to the last day of the term in which the degree is to be granted. The results must be reported promptly to the office of the dean but no later than the last day of the term in which the examination is administered. A student who is unable to complete all degree requirements within a two-year period after passing the comprehensive examination may be re-examined at the discretion of the department or dean.

**Thesis Option**
The requirement of a thesis or its equivalent is at the discretion of individual departments or schools. The Interdisciplinary Biomedical Graduate Program requires a thesis and defense of all of its Master’s graduates. The format of the thesis must be in accord with specifications stipulated in the University’s Electronic Thesis and Dissertations guidelines [http://www.pitt.edu/~graduate/etd/](http://www.pitt.edu/~graduate/etd/). Each candidate must provide a suitable number of copies of the thesis for review and use as designated by the thesis examining committee, consisting of at least three members of the faculty recommended by the major adviser and approved by the department chair. The final oral examination in defense of the master's thesis is conducted by the thesis committee, and a report of this examination signed by all members of the committee must be filed in the office of the dean. Specific instructions for final submission should be available in the office of the dean of the school.

**Leave of Absence**
Under special conditions, graduate students may be granted one leave of absence. A maximum leave of two years may be granted to doctoral students or one year to master's students. The length and
rationale for the leave of absence must be stated in advance, recommended to the Associate Dean by the Program Director, and approved by the Associate Dean. If approved, the time of the leave shall not count against the total time allowed for the degree being sought by the student. Readmission following an approved leave of absence is a formality.

Financial Aid

Stipends

There are two primary forms of financial aid in the School of Medicine. These are the Dean’s Stipend Awards and the Graduate Student Researcher appointments. It is School of Medicine policy that all graduate students in the Interdisciplinary Biomedical Graduate Program receive the same amount of stipend, regardless of educational background or program of study.

I. Dean’s Stipend Awards

These scholarships are awarded to entering students for their first year before choosing a dissertation advisor and joining a degree-granting program. To retain the award students must maintain a minimum grade point average of 3.00 while taking a full-time course load (9-15 credits in the Fall and Spring Terms; 3 credits in the Summer Term). No supplementation of funds from other sources is permitted for recipients of the Dean's Stipend.

Students receiving Dean’s Stipend awards are appointed as Graduate Student Assistants (GSAs) and are governed by all policies pertaining to the award. The full policy statement is presented at http://www.pitt.edu/~graduate/tapolicyrev.htm.

Termination of Appointment

Termination may result from unsatisfactory academic performance or from unsatisfactory professional conduct or performance. Examples of the latter include failure to attend classes regularly, failure to carry out assignments, or violation of the University Honor Code.

Termination proceedings may be initiated only if the TA/TF/GSA has been evaluated on a regular basis and has received an appropriate written warning with respect to his or her performance, or has violated one or more of the major canons of institutional responsibility or University policy.

The TA/TF/GSA must be informed in writing by the Associate Dean of the reason(s) for termination. The appeals procedure must be included with this correspondence.

Appeals Procedure

1. The TA/TF/GSA may appeal, in writing, within one week of notice of termination, to the Provost, who will convene an appeals committee.
2. The Provost or Provost's designee will serve as chair of an appeals committee and will appoint to the committee two faculty members from the University Council on Graduate Study and two graduate students, who must be TAs, TFs, or GSAs and who are recommended by the Graduate and Professional Student Association. No one from the involved academic program shall be on the appeals committee, and involved parties shall represent themselves before the committee.

3. Within 21 days from notice of termination, the appealing TA/TF/GSA shall be provided an appeals hearing, and he/she shall be notified of the appeals committee decision as soon as is possible.

II. Graduate Student Researchers

Fellowship support for students is awarded based on satisfactory academic performance in the first year. Following the first year, students traditionally receive support through their advisor’s research grants as Graduate Student Researchers (GSRs) or through training program Fellowships. GSRs are governed by all policies pertaining to the award. (See the full policy statement at www.pitt.edu/~graduate/gsr.html)

Early Termination

Early termination refers to the dismissal of the GSR before the end of the contractual period of appointment. Early termination may be initiated only if the GSR has received an appropriate and timely written warning with respect to his or her performance, or has clearly violated one or more of the major canons of institutional responsibility or University Policy. The GSR must be informed in writing by the Program Director and/or Associate Dean of the reasons for termination. The appeals procedure must be included with this correspondence.

Appeals Procedure

1. The GSR may appeal the termination, in writing, within two weeks of notice of termination, to the dean, who will mediate the dispute and, if necessary, convene an appeals committee.

2. The dean or his or her designee will serve as chair of an appeals committee and will appoint to the committee two faculty members and two graduate students, who must be GSRs and are recommended by the school's graduate student association. No one from the involved academic department shall be on the appeals committee, and involved parties shall represent themselves before the committee.

3. Within six weeks, the appealing GSR shall be provided an appeals hearing, and he or she shall be notified of the appeals committee's recommendation and the dean's decision as soon as possible thereafter.

Educational Enrichment Account

A $2,000 educational enrichment account also is provided to each first-year student. Funds may only be used to support the purchase of items or services that will enrich your graduate education. These include educational books, subscriptions
to scientific journals, and expenses incurred to attend a scientific meeting. Funds may be used to purchase one computer or computer-like device. Examples include: laptop, desktop, iPad, tablets, etc. See the Graduate Studies Office for a complete set of guidelines and forms to access the account.

**External Scholarships**

External scholarship monies are available to those students interested in applying for such funds. All students are encouraged to apply for scholarships because they distinguish promising students who have successfully competed for funding. The most up-to-date list of available awards and links to funding sites can be found at the Office of Research, Health Sciences website [http://www.oorhs.pitt.edu/](http://www.oorhs.pitt.edu/) under Funding Opportunities. Students awarded a competitive fellowship whose award is greater than the program stipend may receive the larger stipend. Awards with a stipend that is less than the program stipend must be supplemented up to the full program level.

**Loans**

Graduate students are eligible for and permitted to receive student loans. You must complete a *Free Application for Federal Student Aid (FAFSA)*, obtainable from the Office of Financial Aid located in Alumni Hall. The FAFSA does not serve as the actual application for a loan or scholarship; however, it is required in order to be eligible for a loan. All information regarding student loans is handled by the Office of Financial Aid, 1st floor Alumni Hall, 624-7488.

Emergency student loans of up to $300 are available for educational purposes to students who are registered for 6 or more credits from the Student Organization Resource Center (SORC), room 119 William Pitt Union.

**Tuition Remission & Invoices**

Each term of registration will generate a tuition invoice. As a student with an eligible academic appointment, you will receive full tuition remission which includes the tuition, Student Health Service, Security & Transportation, and Network Service fees. However, you are responsible for the Student Activity Fee and any fees resulting from late registration or late payment of the activity fee. Each semester, the Graduate Office automatically pre-pays your tuition and fees. It is the student’s responsibility to check and make sure the tuition has been paid in a timely fashion.

**Guidelines for Submission of Requests for Travel Funds**
The Graduate Studies Office offers a limited number of $400 travel awards for students to attend scientific meetings. This section describes the procedures that shall be followed when applying for an award.

**Goals of the Program**

The goal of this program is to give students the opportunity to present data and begin to develop contacts with scientists beyond the University of Pittsburgh. The opportunity to meet potential post-doctoral advisors or employers emphasizes the value of meeting attendance to more senior students. The opportunities to meet and interact with senior scientists are much greater at smaller meetings than at large gatherings like the Experimental Biology meetings. Gordon Conferences, which are a week in duration and typically have 1-200 attendees, represent the prototype of meetings that we would prefer to support. There are many other meetings that fall into this general category.

The following conditions apply to this award:

1. An application must be submitted at least one month before the event.

2. The applicant must be presenting a poster or talk at the meeting. This must be documented with an abstract in which the applicant is the first author.

3. Preference will be given to advanced students who have been admitted to candidacy for the PhD and are close to graduation.

4. Availability of funds from the mentor.

5. No more than one travel fellowship will be awarded per student per year.

6. No more than one travel fellowship per laboratory will be awarded for any given meeting.

**Application Procedure**

Application for a travel award must be submitted in writing to the Associate Dean at least one month before the event. The following information must be provided in the application:

1) Your name, program, advisors name, the date you passed your Comprehensive Exam, and your expected date of graduation.

2) The title, location and date of the meeting you wish to attend.

3) A letter from your advisor which briefly describes the nature of the meeting and the anticipated attendance, the benefits to you of attending, and the expected total cost of the meeting. The advisor should also indicate whether other travel fellowships are available for the meeting. This will not preclude support by this mechanism, but is necessary to ensure that support does not overlap.
4) A copy of the abstract of the presentation that you will make at the meeting.

Applications will be approved by the Associate Dean. We expect to be able to award eight fellowships each year. Submission of applications that are incomplete or late will greatly reduce the chance of success of the application.
Biomedical Graduate Student Association

Constitution

The Biomedical Graduate Student Association (BGSA) is an organization which represents the graduate students of the School of Medicine, and includes the Training Programs in Biomedical Informatics, Cell Biology & Physiology, Cellular & Molecular Pathology, Clinical Research, Computational Biology, Immunology, Integrative Molecular Biology, Molecular Biophysics & Structural Biology, Molecular Genetics and Developmental Biology, Molecular Virology & Microbiology, and Neurobiology/Neuroscience. Its purpose is to foster academic and social interactions among graduate students within these training programs and with other members of the University community. We shall function as a support network for all biomedical graduate students, and facilitate communication between students, faculty, and administration.

Membership

A portion of the activity fee charged of all biomedical graduate students is placed into a University account managed by the BGSA. Any student whose activities fee contributes to this account is automatically considered a member of the BGSA.

Government

The BGSA is a recognized Graduate Student Organization (GSO) and Assembly member1 of the Graduate and Professional Students’ Association (GPSG). The GPSA is the governing body for all graduate students at the University of Pittsburgh.

The BGSA is governed by a Board of Representatives composed of one representative for every 20 graduate students in each training program and the first year class of that year. Any eligible BGSA member may nominate themself or any other eligible BGSA member. The representative shall then be elected from the nominees in their training program by BGSA members from their own training program by a simple majority vote, or by mutual agreement in the event that a training program has two or less BGSA members.

The election of all but the first-year representatives shall be held by the last week in September of each year. A representative’s term of office shall be one year officially beginning in October of that year. Two first-year representatives shall be elected by the last week of October. The first-year representatives will begin their term at the November meeting of that year. Officers shall be elected at the October meeting, the attendance of which is mandatory for both the incoming and outgoing representatives. It is the responsibility of every representative to attend all BGSA meetings. Should a representative fail to attend 3 consecutive meetings, the President of the BGSA will notify that
representative’s program in order that they may select a new representative. In addition, representatives should convey pertinent information from all meetings to their constituents. The Board of Representatives shall be governed by a panel of officers consisting of a President, Vice-President, Secretary, and Treasurer. The officers will be elected from the group of incoming representatives by the incoming and outgoing representatives by a majority vote (provided that a quorum is present) at the September meeting of the Board. All officers’ terms will also begin in September of that year, with a term of one year.

**Responsibilities of Officers:**

**President:** The President is responsible for the administrative duties of the organization, including chairing of the Board and its meetings, and preparation of the Board’s meeting agenda. The President shall also be delegated to serve as the representative to the Graduate Studies Council of the School of Medicine.

**Vice President:** The duties of the Vice-President include support to the President and assuming all responsibilities in the absence of the President. In addition, the Vice-President shall be delegated to serve as the webmaster for the BGSA website.

**Secretary:** The Secretary’s duties include recording the minutes of each meeting. In addition, the Secretary shall be delegated to serve as the representative to the Graduate and Professional Student Government (GPSG).

**Treasurer:** The Treasurer will handle all financial transactions and record keeping of funds. It is mandatory that the treasurer present a detailed Event/Expense Report at the first meeting following any event at which the BGSA incurs any expense. In addition, the Treasurer will provide the Board with an update of the balance in all BGSA accounts at each meeting, and a detailed budget at the end of each year (to be presented to the incoming and outgoing Board in September). The Treasurer shall be delegated to head the BGSA’s efforts in fund-raising.

**GPSG Representative:** The duties of the GPSG Representative include attending all GPSG meetings and reporting back to the BGSA the important highlights of the meeting, as well as notifying the graduate students of up-coming GPSG-sponsored events.

**Publicity Officer:** The duties of the Publicity Officer include the creation and distribution of posters/flyers/etc for up-coming BGSA-sponsored events.

The Board shall meet at least once per month. All Board meetings are open to any BGSA member, which occur on the first Monday of every month. Any BGSA member may submit a concern for meeting discussion at a Board meeting provided it is submitted to any representative at least two days prior to the scheduled meeting. All Board members have one vote. Any BGSA member attending a minimum of three consecutive Board meetings shall also have one vote. The Board may call a meeting of the membership as it deems necessary.
When necessary, committees may be formed by the Board. Any member of the BGSA may volunteer to chair or serve on a committee. All committees must function on behalf of all the members. All members must have the opportunity to participate in any committee’s activities. Any BGSA member may serve as the BGSA’s representative to University Organizations or Committees provided the Board approves the appointment.

The BGSA faculty advisor will serve to guide the Board of Representatives when necessary, to conduct hearings for removal of officers, to hold records of the organization, and to assist in dealing with the University administration.

**Disciplinary Procedure**

Any representative can be removed from the Board by the following procedure:

1. Any BGSA member may request a hearing to remove a Board member by notifying at least one other Board member, in writing. The name of the representative, the name of the complaint, and the reasons for removal should be stated in the document.
2. The President shall convene a hearing with the following in attendance: the Board, the complainant, the training program BGSA members of the accused representative, and the BGSA faculty advisor. Copies of pertinent documents will be distributed to those involved at least one week prior to the hearing date.
3. The BGSA faculty advisor shall conduct the hearing. The complainant shall state his/her reasons for desiring the removal of the representative and present any evidence he/she feels necessary. Likewise, the accused representative will have the opportunity to respond to the charges. The Board shall insure that the organization’s rules are adhered to.
4. Questions may be asked by any member present at the hearing with the understanding that both parties may have the opportunity to respond.
5. The BGSA faculty advisor may call an end to the questioning when he/she feels enough evidence has been presented to reach a decision.
6. The members of the accused representative’s training program shall decide by a majority vote whether to retain or remove the representative.
7. The hearing request and a written summary of the hearing will be kept of file by the BGSA faculty advisor.
8. An officer of the Board may be removed from office by a majority vote of the Board. The officer cannot vote in this situation. Removal of the officer from the Board will proceed according to the process stated above. The officer’s position will then be filled by a subsequent election by the Board.

In the event a representative is removed from the Board, a special election will be held by the members of that training program to fill the vacancy.
In the event a representative graduates or leaves school before the end of his/her term, it is
the responsibility of that representative to call a meeting of his/her training program to elect a
new representative to complete his/her term. This should be done at least 1 month prior to
their departure. If the departing representative is an officer of the Board, a new officer shall
be elected by the original members of the Board to fill the vacancy.

**Funding**

Each graduate and professional student pays a student activities fee with his/her registration
at the beginning of each term. A fraction of this fee is allocated to GPSG. The GPSG then
allocates funds to the BGSA based upon the biomedical graduate student population. Since
we are funded by biomedical graduate students’ activities fees, individual training programs
are not eligible for BGSA funds unless all BGSA members may participate in the sponsored
event. In addition, adequate notice must be made to all BGSA members of BGSA sponsored
events.

No more than 10% of the University allocation may be directed toward operational expenses
of the Board.

The Budget and Financial Record are open for inspection by any BGSA member. These
documents are kept in the possession of the Treasurer.

**Amendment Process**

The process of amending this constitution shall be as follows:
1. Any member may communicate a written amendment proposal to the Board through
his/her training program representative.
2. The Board will distribute copies of the proposed amendment to the entire membership and
call a meeting of the membership for discussion and voting.
3. A two-thirds (2/3) majority vote of the membership present at that meeting will be
necessary to pass an amendment.
4. The approved amendment will then be kept of file with this constitution.

*The BGSA has one vote in the GPSG Assembly
** A quorum will be designated as two-thirds of the Board.
Conduct, The Pitt Promise, Honor, and Integrity Policies and Procedures

University Honor Code / Code of Conduct

The faculty and the students of the School of Medicine recognize the importance of personal integrity and honor. To achieve this end, each student accepting an offer of admission to the School of Medicine Graduate Division of Biomedical Sciences will accept the obligations of the Honor Code/Code of Conduct and will expect to apply the code to all aspects of his or her professional life regardless of the level of training. Students and faculty of the School of Medicine shall be honor bound to enforce the Honor Code/Code of Conduct and to report violations of it.

The Honor Code/Code of Conduct emphasizes the individual's involvement in and responsibility for the corporate well-being of the community of the Medical School. In keeping with the latter, it is incumbent upon every member of the community to promote the climate which this code seeks to establish. This involves not only counseling with fellow members of the school concerning their actions, but also bringing the sanctions of the School's disciplinary procedures to bear upon those whose conduct is in violation of the Code.

Code of Conduct
http://www.studentaffairs.pitt.edu/studentconduct/

The Code of Conduct outlines non-academic standards of conduct appropriate to the University in consonance with the educational goals of the University.

Students are expected to conduct themselves as responsible members of the University community. Those students whose conduct demonstrates a disrespect for law, the rights of others, or the health, welfare and safety of members of the University community will be subject to disciplinary action by the University, only if such conduct takes place on University property or in the course of a University-sponsored or supervised activity, if such conduct results directly from membership in the University community, or if such conduct does not fall into one of the preceding categories but poses a direct, physical threat to the University community or any individual member thereof, even if such conduct occurs off campus.

The Pitt Promise

The University of Pittsburgh is committed to the advancement of learning and service to society. This is best accomplished in an atmosphere of mutual respect and civility, self-restraint, concern for others, and academic integrity. By choosing to join this community, I accept the obligation to live by these common values and commit myself to the following principles:

As a Pitt Student:

- I will embrace the concept of a civil community which abhors violence, theft and exploitation of others;
- I will commit myself to the pursuit of knowledge with personal integrity and academic honesty;

- I will respect the sanctity of the learning environment and avoid disruptive and deceitful behavior toward other members of the campus community;

- I will support a culture of diversity by respecting the rights of those who differ from myself;

- I will contribute to the development of a caring community where compassion for others and freedom of thought and expression are valued;

- I will honor, challenge and contribute to the scholarly heritage left by those who preceded me and work to leave this a better place for those who follow.

By endorsing these common principles, I accept a moral obligation to behave in ways that contribute to a civil campus environment and resolve to support this behavior in others. This commitment to civility is my promise to the University of Pittsburgh and its community of scholars.

The Honor Code

The Honor Code is simply stated: "Every student shall be honor bound to refrain from cheating, from presenting work for evaluation which is not his or her own, from giving or obtaining unauthorized assistance during evaluation, and from falsifying data or reports. Every student shall be honor bound from lying under oath. Every student has an obligation to cooperate in the investigation or disposition of any allegation of violation of the Honor Code and to report all violations which come under his or her observation."

Examples of conduct which have been regarded as being in violation of the Honor Code include but are not limited to the following: copying from an examination paper of another student; allowing another to copy from one's examination paper; reading a copy of the examination prior to the date of the examination without consent of the instructor; collaborating with others in writing an examination; plagiarism; revising and resubmitting a quiz for regarding without the instructor's knowledge and consent; giving or receiving non-permitted aid on a take-home examination; representing as one's own the work of another; giving or receiving aid on an examination under circumstances in which a reasonable person should have known that such aid was prohibited by the Honor Code; falsifying clinical data; destroying or concealing for his own purpose educational materials meant for simultaneous use by others. If a student, while under pressure, commits a dishonorable act, it shall be considered a valid defense if the student reports him or herself to an appropriate authority and conscientiously attempts to rectify the situation, before any knowledge of an investigation. The faculty has the obligation of providing an environment conducive to independent work during examination. Examinations often will not be monitored by the faculty, except in order to answer questions or give authorized aid. Students may be asked to add a pledge that "I have neither given or received unauthorized aid prior to or during this examination, and that I will report any known violation on the part of others."

Any student, faculty member, administrative officer or staff member of the School of Medicine may charge a student with violation of the Honor Code. This must be done in a timely manner. Such a charge may be brought to the attention of a member of the Honor Council, to the Dean, or the
I. Disciplinary Procedures

A. Initiation of Disciplinary Proceedings

Disciplinary proceedings may be initiated only upon formal complaint made to the Dean for Student Affairs (hereinafter "Dean for Student Affairs" shall refer to that specific Associate Dean for Graduate Studies or another Associate Dean designated by the Dean of the Medical School). Any student, faculty member, administrative officer, or staff of the School of Medicine may initiate disciplinary proceedings by complaint. The Dean for Student Affairs will require a complaint to be put in writing and signed before proceeding further.

The Dean for Student Affairs must be informed of a complaint reported to a member of the Honor Council or to another Associate Dean.

B. Function and Authority of the Dean for Student Affairs

(1) Initial Determination to Proceed on Charge. Upon receipt of a formal complaint, and following such investigation as he/she considers appropriate, the Dean for Student Affairs determines whether further proceedings are warranted. If it is determined that they are not, the Dean for Student Affairs notifies the person making the complaint of the determination and proceeds no further. If it is determined that further proceedings are warranted, the Dean then arranges for written charges to be provided to the student who has been accused of the infraction.

(2) Formal Statement of Charges. The formal statement of charges must set forth the nature, time and place of the violation charged. It is to be promptly presented to the person charged and in any event within ten working days after receipt of the complaint, by in-hand delivery to him or her or by registered mail to his or her last known school-recorded address if in-hand delivery is impossible. The statement of the charge is accompanied by, (a) a written notification of a date, time and place for administrative conference with the Dean for Student Affairs which date shall not be less than three or more than ten working days after the date of service, and (b) by the following statement of his or her rights:

(a) The accused shall be informed in writing of the charges against him or her.

(b) The accused shall have adequate time to prepare his or her case. (See specified times in Part II. B3).

(c) The accused shall not be required to take any examinations between the time he or she is charged and two days after the decision is delivered to the student.
(d) The accused shall have the right to the advice and full assistance of a member of the University community, during the hearing, but participation of extramural legal counsel is not permitted at the School level.

(e) The accused shall be assumed innocent until proven guilty by clear and convincing evidence presented to the Dean for Student Affairs or the Honor Council.

(f) The accused shall have the right to call a reasonable number of witnesses. The accused or his counsel (from within the University) shall be allowed to question and cross examine witnesses, and shall have a fair opportunity to present his or her defense.

(g) The accused shall not be restrained in any manner from the full exercise of his or her rights of appeal.

In order to expedite disposition of a matter, any person charged may, in writing, waive any of the minimum periods required in this section to elapse between notice and the holding of any hearing provided in this section.

At the discretion of the Dean for Student Affairs, official University vacations, holidays, or weekends will not normally be counted as part of the time limit specified for dealing with any case; at his/her own discretion, however, if all parties agree, the Dean may include any such period in numbering the days in compliance with this rule.

(3) Procedure for Administrative Conference of the Dean for Student Affairs. The person charged shall then be given the following options:

(a) to admit the violation charged and submit to the administration imposition of sanctions with a range then specifically enumerated by the Dean, or

(b) to deny the violations and have the charge referred for disposition to the Honor Council. The choice shall be recorded in writing over signature of the person charged.

(4) Procedure for Administrative Disposition of Admitted Violation. If the person charged elects option (a), the Dean for Student Affairs thereupon proceeds with the conference. He/she shall give the person charged the opportunity, within reasonable bounds, to present evidence in mitigation or extenuation of the violation admitted. Upon request he may continue the conference over a reasonable time and allow others to testify for this purpose. Normally the Program Director or representative of the involved training program will attend this conference. Following the conference, the Dean for Student Affairs will, within three working days, prepare a written report to be submitted to the Dean of the School of Medicine, including any recommendation for sanction (which may have been agreed upon by the student and faculty member). The Dean shall send a copy of this report to the person charged.
If a person charged elects option (b), the Dean of Student Affairs shall forthwith terminate the conference and refer the matter to the Student Solicitor for presentation to the Honor Council in accordance with the procedures described below. Referral consists of transmittal of a copy of the formal charge plus any items from his or her files deemed appropriate by the Dean of Student Affairs. The Student Solicitor thereupon prepares and presents a charge to the Honor Council.

C. Organization and Function of Honor Council and Student Solicitor

(1) Organization. The Honor Council is composed of ten students, and three faculty members appointed by the Dean of the School of Medicine. The students will be two, from and elected by, each of the second, third, and fourth year classes, two students elected from the graduate school, and after their election in the Fall, the president, and vice president of the first year class. The Dean for Student Affairs shall be responsible for assisting the council in its operation but shall not be a direct participant in the hearing. Each year the Council shall elect its own chairman and secretary. The Council shall elect one of its student members as Student Solicitor.

(2) Function and Authority. The function of the Honor Council is to hear all charges of violation and to make a recommendation regarding innocence or guilt, and sanctions in the case of those found guilty of a violation.

(3) Student Solicitor. The Student Solicitor is a member of the Honor Council, elected by the Council. He performs a function herein provided for his office. From the time of reviewing a charge until final disposition of the case by the Council, he shall not discuss the case with other members of the Council.

(4) Secretary. The Secretary shall be elected annually by the Honor Council. He or she shall keep a record of all proceedings of the Council, consistent with provisions of III.A. Assistance for this will be provided by the Office of the Dean for Student Affairs.

D. Hearing Procedures Before Honor Council

(1) Setting the Hearing. Promptly upon receipt of referral of a charge from the Dean for Student Affairs, the Student Solicitor notifies the Secretary of the Honor Council of its receipt. The Secretary then promptly confers with the involved parties in order to ascertain the earliest practicable date for hearing, taking into account the time required for adequate preparation. A hearing time, date, and place are set and, through the office of the Dean for Student Affairs, written notice of the setting is given to the members of the Honor Council, the Solicitor and the person charged. Notice to the person charged shall be served by in-hand delivery, or if that is impossible, by registered mail. The hearing date shall be not less than three nor more than ten days from the date of the service of notice upon the person charged. The student charged may on his own initiative waive the three-day limit.

(2) When Person Charged Appears. If the person charged appears at the hearing personally or is represented by a campus representative who is authorized in writing to appear for the defendant, the hearing shall proceed as follows:
(a) The Chairman reads the statement of charge and asks the person charged or his or her representative whether he or she admits the substance of the charge, or denies it.

(b) If the person charged or his or her representative admits the substance of the charge, the student may then make any statement he or she desires in mitigation or extenuation, and may present a reasonable number of witnesses in substantiation of this statement. Members of the Council may ask questions of such witnesses. A reasonable number of witnesses whose comments may have bearing on the sanction may be called to substantiate the extenuating circumstances. The Council shall then in executive session consider and determine the sanctions, if any, to be recommended to the Dean.

(c) If the person charged or his personal representative denies the substance of the charge, the Council proceeds to hear evidence as to the matter in dispute, normally in the following order:

1. Evidence in support of the charge presented under direction of the Student Solicitor;
2. Evidence in support of the accused, under direction of the person charged or his or her representative;
3. Witnesses may be summoned and cross examined by both accused and Council.

Closing oral arguments may then be made by the Solicitor followed by the person charged or his or her representative. The Honor Council then determines in executive session and in the absence of the Student Solicitor whether a violation as charged has occurred and what sanction, if any, to recommend.

(3) When Person Charged Does Not Appear. If the person charged does not appear personally or is not represented by an authorized student representative at the hearing, the fact that the person charged has been duly notified shall be verified. If it is determined that he or she has not, the hearing is adjourned and the procedures revert to setting and notification of a rescheduled hearing. If it is determined that due notice was given, the hearing proceeds as follows:

(a) The Solicitor reads the statement of charge;

(b) The Solicitor presents witnesses and other evidence in support of the charge;

(c) The Solicitor makes a closing statement. The Honor Council then determines in executive session whether a violation as charged occurred and what sanction, if any, to recommend.

(4) General Rules of Procedure; Rights Secured to Person Charged.
(a) General Conduct of Hearing. The Chairman of the Honor Council presides, and makes all rulings in respect to questions of practice and procedure, and controls, by recognition, the participation of members of the Council and others in the hearing.

(b) Quorum for Hearing. Eight members of the Council including at least one faculty member constitute a quorum for the conduct of any hearing.

(c) Evidence. No attempt shall be made to apply technical legal rules of evidence. In general, any evidence, whether oral testimony or documentary, which is considered by the Chairman to be relevant to the charge or defense should be received, subject to the power of the Chairman to exclude frivolous, repetitive or merely cumulative testimony. Here say evidence (testimony by a witness to what a person not present at the hearing has stated) should be received and evaluated with caution, since no opportunity ordinarily exists to question the absent person. Objections to evidence are ruled upon by the Chairman alone.

(d) Burden and Standard of Proof: Number of Honor Council Required to Determine Violation. No Council member should vote to find that the person charged was in violation as charged unless on weighing all evidence the proof of violation is clear and convincing to him. The member should not consider any evidence of violation not brought out in the hearing itself. Whenever the charge is not admitted, no violation is found unless three quarters of the Council hearing the matter find it.

(e) Open or Private Hearing. If the person charged requests a private hearing it shall be granted. Otherwise all hearings shall be open to the University community, subject to the right of the Chairman to exclude persons when required for the orderly conduct of the hearing.

(f) Right to Question Adverse Witnesses. Both the Council and the person charged shall have the right within bounds of general relevance, to question adverse witnesses who testify at the hearing.

(g) Right to Counsel. The person charged has the right to be advised, assisted, or represented at the hearing, by whomever he or she wishes from the University community, but only one other person may take an active part.

(h) Provision of Record for Review. The Secretary of the Council shall prepare a written summary of the proceedings at all hearings. A tape recording shall be provided of the hearing.

(i) Number of Honor Council Required to Recommend Particular Sanctions. In order to recommend the sanction of indefinite or definite suspension, two thirds of the members of the Council sitting on the particular hearing must concur in its imposition.
(5) Notice of Action. The Honor Council may inform the person charged orally of its disposition of the charge following its determination, or it may defer giving any notice for a period not to exceed two school days from formal closing of the hearing. In any event, the Secretary of the Council shall, not later than two days from formal closing of the hearing, give to the person charged and to the Dean of the School of Medicine a written Notice of Finding and Recommendation. This shall include, if violation was not admitted, an entry: "Violation as Charged Found" or "Not Found," and in any case where a sanction is recommended an entry: "Sanction Recommended" (specified with clarity). The notice to the Dean will specify the tally of any votes taken.

(6) Failure by Honor Council to Convene or to Make a Timely Determination in Referred Case.

(a) Effect of Failure by Council to Determine Referred Case. Failure of the Council to dispose of the matter in a duly referred case within 30 days after its formal referral by the Dean for Student Affairs to the Student Solicitor shall result in direct referral of the matter to the Dean of the Medical School, for administrative disposition. If the alleged violation is not then admitted in a conference, the Dean of the Medical School may proceed to conduct a hearing, make a determination of violation or non-violation, and impose sanctions as provided in Part II.

II. Sanctions for Violations

When a violation of the Honor Code is admitted or is found by the Honor Council, the matter is referred to the Dean of the School of Medicine for disposition (see I.B.4. and I.D.f.). The range of permissible sanctions for disciplinary action, whether imposed by administrative action or recommended by Honor Council action includes:

A. Suspension for a Definite Time
Exclusion from classes and other activities with forfeiture of academic credit, as set forth in the notice of suspension, for a definite time beginning immediately. Sanction of the violation of cheating shall ordinarily include a recommended failure in the course involved with authorized withdrawal in other concurrent courses, regardless of the term when the offense is committed. If the suspension is for more than one term, the suspension shall begin immediately and shall be served in consecutive terms.

B. Indefinite Suspension
Termination of student's status, subject only to formal readmission, with no right to petition for readmission before the expiration of a calendar year from the date of suspension. Sanction for the violation of cheating shall ordinarily include a recommended failure in the course involved with authorized
withdrawals in other courses, regardless of the time in the term when the offense is committed.

C. Lesser Sanctions
Although suspension for a definite or an indefinite time will usually be the sanction imposed for willful violation of the Honor Code, lesser penalties may be imposed because of extenuating or mitigating circumstances.

III. Disciplinary Records

A. Custody Separate From Academic Records
All records pertaining to disciplinary proceedings in which a student is charged with a violation shall be kept separate from his or her academic records. The Dean for Student Affairs shall be sole custodian for all records involving disciplinary proceedings. To this end, all records made or considered by the Honor Council in disciplinary proceedings before them shall be transmitted immediately upon completion of the proceedings to the Dean for Student Affairs for custody.

IV. Review and Appeal

A. A student may appeal an adjudication to the Provost, who may seek the advice of the University Review Board. Information about how to proceed may be obtained from the office of the Provost. The student may appeal also to the University Review Board, whose recommendation shall be made to the Provost. The action of the Provost, taken with or without the advice of the University Review Board, shall constitute an exhaustion of all required institutional remedies.

Approved by the Executive Committee January 11, 1983
Approved by the Faculty of Medicine February 17, 1983

Guidelines on Academic Integrity

These guidelines contain a set of principles which shall be applicable to each of the academic units throughout the University. A student desiring information about an academic unit's specific procedures and makeup of its academic integrity hearing board may obtain a copy of the procedures and other necessary information from the office of the dean, either in the academic unit in which he or she is registered or in the academic unit in which a particular course is taught. Additional information or guidance may be obtained from the Office of the Provost. It is also available in its entirety at web address: <www.pitt.edu/~provost/ai1.html>.

Preface
Provided here are Academic Integrity Policy Guidelines based on the 1983-86 document which was initially approved by the Board of Trustees on the recommendation of the University Senate Council. The original document evolved from and represented careful deliberation among staff, Senate committees, and student leaders of the University. The purpose of this document is to clarify and codify the rights and responsibilities that are inherent in traditional faculty-student relationships, and to reflect procedural modifications that were approved, effective January 1, 1989 by the Chancellor.
In following the Guidelines, the faculty of each academic unit of the University are expected to adapt them to the circumstances of their own academic unit.

The Guidelines are designed to assure due process, equity, and prompt and objective review by third parties, with appropriate appeals procedures. There is a general intent to maintain confidentiality, to avoid unnecessary formality, and to resolve issues at the lowest possible level.

Faculty have a particular interest and responsibility in assuring that the Guidelines are adhered to, by virtue of their profession and their role as academic officials of the University. Any failure to follow these Guidelines would be harmful to the whole University community.

All members of the University community have access to advice and interpretation regarding these Guidelines. Students may consult with the Campus Judicial Coordinator, faculty may consult with their dean or school hearing officer, and may ask for any other guidance they need from the Office of the Provost.

In general, we seek to preserve the traditional freedoms and duties associated with academic endeavors.

The University should work to preserve the rights and responsibilities of faculty and students in their relationships with one another. Just as faculty and students must be free to seek truth and to search for knowledge with open minds, they must also accept the responsibility that these activities entail maintaining the highest standards of integrity, mutual respect, and honest inquiry.

I. Student Obligations
A student has an obligation to exhibit honesty, and to respect the ethical standards of the profession in carrying out his or her academic assignments. Without limiting the application of this principle, a student may be found to have violated this obligation if he or she: (see note concerning more appropriate invocation of University of Pittsburgh Student Code of Conduct and Judicial Procedures)

1. Refers during an academic evaluation to materials or sources, or employs devices, not authorized by the instructor.
2. Provides assistance during an academic evaluation to another person in a manner not authorized by the instructor.
3. Receives assistance during an academic evaluation from another person in a manner not authorized by the instructor.
4. Engages in unauthorized possession, buying, selling, obtaining, or using of any materials intended to be used as an instrument of academic evaluation in advance of its administration.
5. Acts as a substitute for another person in any academic evaluation process.
6. Utilizes a substitute in any academic evaluation procedures.
8. Depends on the aid of others in a manner expressly prohibited by the instructor, in the research, preparation, creation, writing, performing, or publication of work to be submitted for academic credit or evaluation.
9. Provides aid to another person, knowing such aid is expressly prohibited by the instructor, in the research, preparation, creation, writing, performing, or publication of work to be submitted for academic credit or evaluation.

10. Presents as one's own, for academic evaluation, the ideas, representations, or words of another person or persons without customary and proper acknowledgment of sources.

11. Submits the work of another person in a manner which represents the work to be one's own.

12. Knowingly permits one's work to be submitted by another person without the instructor's authorization.

13. Attempts to influence or change one's academic evaluation or record for reasons other than achievement or merit.

14. Indulges, during a class (or examination) session in which one is a student, in conduct which is so disruptive as to infringe upon the rights of the instructor or fellow students.

15. Fails to cooperate, if called upon, in the investigation or disposition of any allegation of dishonesty pertaining to another student, or any other breach of a student's obligation to exhibit honesty.

16. Violates the canons of ethics of scientific research.

II. Grievance Procedures
Any member of the University community having evidence may bring to the attention of the department chairman and/or dean a complaint that a faculty member has failed, in one or more respects, to meet faithfully the obligations set forth in the Faculty Obligations section of the Guidelines on Academic Integrity <http://www.provost.pitt.edu/info/aifaccode.html>. The chair or dean, in his or her discretion, will take such action by way of investigation, counseling, or action-in accordance with applicable University procedures-as may appear to be proper under the circumstances. The faculty member's and student's interest in confidentiality, academic freedom, and professional integrity in such matters will be respected.

Research Integrity Policy
http://www.bc.pitt.edu/policies/policy/11/11-01-01.html

A. Preface
The University of Pittsburgh seeks excellence in the discovery and dissemination of knowledge. Excellence in scholarship requires all members of the University community to adhere strictly to the highest standards of integrity with regard to research, instruction and evaluation. The principle of academic integrity is integral to membership in the University community. Each such member is deemed to recognize the value and special importance of this responsibility, which is linked to accepting an appointment at the University.

As scholars and citizens of the University community, all parties must be ever cognizant of the axiom that every increment of authority and discretion brings with it corollary responsibilities to colleagues, staff, students, the University as a whole, the community, and society at large. In addition, federal regulations impose policies and procedures on the University for dealing with possible misconduct in science.

All those engaged in research should be cognizant of the value to the University of calling attention to research misconduct, and of the importance of bona fide challenges in assuring and maintaining the integrity of scholarly investigation and of this institution.
Should the conduct of research or the collection or reporting of research data and information be challenged on the ground of misconduct, whether by a faculty member, student, staff member, research associate or fellow, or a person outside the University, the framework for resolution of the grievance shall involve the dean and the Research Integrity Officer working within a process of peer and administrative review. Throughout, responsible and honest discourse, the protection of academic freedom, and protection of the individual against unnecessary public dissemination of unproven allegations are essential ingredients in the process.

Research misconduct, as defined below, carries potential for serious harm to the University community, to the integrity of research, and to society as a whole. Accordingly, it is incumbent upon faculty members to exercise active leadership in their supervisory roles in mentoring, collaborating with, or directing junior colleagues, staff, or students. First, faculty must be fully cognizant of the quality of work being done for which they assume responsibility and, second, they must seek to avoid undue pressure placed upon more junior faculty, staff, or students which could lead to the publication or other report of any inaccurate, incomplete, or falsified data or information. In judging whether misconduct has occurred, it is important to distinguish fraud from honest error and ambiguities that are inherent in the process of scholarly investigation and are normally corrected by further research.

This policy shall be followed in responding to all allegations of research misconduct on the part of faculty, research associates, and staff. In the case of students involved in alleged misconduct, this policy shall apply in those instances where the research in question is supported by federal agencies or where the relevant dean requests that the Research Integrity Officer invoke the policy. Student matters may also, as appropriate, be handled under the relevant Academic Integrity Guidelines.

The procedures described below are steps in an academic peer review and fact-finding process and are not intended or designed to represent rules of a judiciary. Principles of basic fairness and confidentiality shall be observed in these peer-review procedures. Any allegations of misconduct must be treated on an individual-case basis.

Safeguards give the individual accused of misconduct the confidence that his or her rights are protected and that the mere filing of an allegation of research misconduct will not bring the research to a halt or be the basis for other disciplinary or adverse action absent other compelling reasons. Safeguards for a complainant or a witness in any proceeding described in this document include protection against retaliation for making good-faith allegations or providing testimony, fair and objective procedures for the examination and resolution of the allegations, and diligence in protecting the position and reputation of one who makes allegations or gives testimony in good faith.

Both the person bringing an allegation and the one against whom the allegation is made in any of the procedures described below may seek the advice of the Senate Committee on Tenure and Academic Freedom, as may any administrator. A dean, in initiating any of the procedures described below, shall advise the principals that they may seek such advice.

The University's Research Integrity Officer, who is appointed by the Chancellor, shall work closely with the relevant academic administrators, inquiry panels, and investigative boards. In consultation with the General Counsel, he/she shall ensure procedural compliance with applicable law, government regulations, University policy, and principles of fairness in each stage of the proceedings.
set out in this policy. Academic administrators and inquiry panels or investigative boards shall keep the Research Integrity Officer fully informed of their activities and shall consult him/her as to process before making any final recommendations or decisions. The Research Integrity Officer shall monitor compliance with all procedures and time schedules described in this policy and shall inform the Provost of any failures to comply with such time schedules. The Research Integrity Officer shall not have decision-making responsibility regarding the substance of any allegations. He or she may, at the request of a panel or administrator in a research misconduct proceeding, assist in drafting the recommendations arrived at by that panel or administrator. The Research Integrity Officer shall make or supervise all relevant contacts with government agencies or other outside parties, and shall maintain the record of all proceedings. In the case of short absences from the campus, the Research Integrity Officer may designate an Acting Research Integrity Officer.

The Provost shall have oversight responsibility to ensure compliance with the policy. Only the Research Integrity Officer or the Provost has the authority to modify the various time limits specified in the procedures. (All subsequent references to the number of days for particular stages in the process refer to calendar days.)

Even if a respondent leaves the University before a case is resolved or does not participate in the proceedings, the University has a responsibility to follow the procedures described in this policy and reach a conclusion.

This policy shall be administered in compliance with regulations of any agency (the sponsoring agency) sponsoring the research in question and shall be subject to appropriate modifications, if necessary.

B. Definitions

Research Misconduct is defined as fabrication, falsification, or plagiarism, including misrepresentation of credentials, in proposing, performing, or reviewing research, or in reporting research results.

Research, as defined herein, includes all basic, applied, and demonstration research in all fields.

Fabrication is making up data or results and recording or reporting them.

Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.

The research record is defined as the record of data or results from the research and includes, for example, laboratory records, both physical and electronic, research proposals, progress reports, abstracts, theses, oral presentations, internal reports, journal articles, and books.

Plagiarism is the appropriation of another person’s ideas, processes, results, or words without giving appropriate credit.

Misconduct does not include honest error or differences of opinion.
A finding of Misconduct requires that:
- There be a significant departure from accepted practices of the relevant research community;
- The Misconduct be committed intentionally, or knowingly, or recklessly;
- The allegation be proven by a preponderance of the evidence.

A Complainant is a person who reports an allegation of Misconduct.

A Respondent is the subject of an allegation.

A Whistleblower is an institutional member who in good faith makes an allegation or cooperates in the investigation of an allegation.

Additional issues in research integrity are discussed in other documents. Conflict of interest is dealt with in Conflict of Interest - Research/Teaching, University Policy 11-01-03.3 Guidelines for investigators are discussed in Rights, Roles, and Responsibilities of Sponsored Research Investigators, University Policy 11-01-02.4 Numerous issues, including concern for human subjects and animals in research, authorship, maintenance and accessibility of data, and mentoring of trainees are reviewed in Guidelines for Ethical Practices in Research.5 These topics, as well as laboratory safety concerns, are covered in the web-based training program, Education and Certification Program in Research Practice Fundamentals.6

C. Reporting

1. Obligation to Report
   Reporting suspected Misconduct is a shared and serious responsibility of all members of the academic community. Allegations shall not be made capriciously, but suspicions or evidence of misconduct shall be reported.

2. Confidentiality
   Because of the potential jeopardy to the reputation and rights of the Respondent, great care must be taken to handle the reporting as well as the conduct of any inquiry and investigation so as to preserve confidentiality, providing information only to those with a need to know. This obligation of confidentiality applies to the Complainant, the Respondent, and all participants in an inquiry or investigation, including panel members, witnesses and administrators. In order not to release confidential information about research integrity proceedings to faculty personnel committees who might be regarded as having a right to know, a dean may consider delaying a tenure or promotion consideration of a Respondent until the allegation has been adjudicated.

3. Method of Reporting
   Allegations of Misconduct and the basis for them shall be communicated confidentially and preferably (but not necessarily) in writing to the dean of the responsibility center in which the Misconduct is suspected or to the Research Integrity Officer. Each shall immediately inform the other of the receipt of an allegation. Optionally, an allegation may be reported to a federal agency supporting the research. Measures (Section G) shall be taken to insure that no adverse action is taken, either directly or indirectly, against a Complainant who makes allegations in good faith.

4. Definition of Good Faith
Good faith means having a belief in the truth of one’s allegation or testimony that a reasonable person in a Complainant’s or witness’ position could hold based upon the information known to the Complainant or witness at the time the allegation was made. An allegation or cooperation with an investigation is not in good faith if made with knowing or reckless disregard of information that would negate the allegation or testimony.

5. Allegations Against Administrators
If an allegation is made concerning a dean or higher administrator, the Respondent's supervisor or the Research Integrity Officer shall be contacted directly by the Complainant and procedures described below for dealing with the allegation shall be modified appropriately.

6. Protection of the Complainant
Reporting alleged Misconduct may be difficult and uncomfortable for the individual making the report. The option of initially giving an oral report is provided in order to offer protection and reassurance to the Complainant.

7. Securing of Evidence
When an inquiry is initiated, the Research Integrity Officer shall ensure that appropriate steps are taken to locate and secure possibly relevant evidence so as to prevent loss or alteration of research records, which may include but are not limited to notes or notebooks, computer records, instrument printouts, manuscripts, and chemical or biological samples. The Research Integrity Officer may call on the dean, department chair, or director for assistance in locating, retrieving, and storing such records.

8. Notifications
The sponsoring agency, the IRB (Institutional Review Board) or IACUC (Institutional Animal Care and Use Committee) shall be notified promptly and at any time in the proceedings, if the dean or Research Integrity Officer determines that there is an immediate need to protect human subjects or animals used in research or that the alleged Misconduct is otherwise sufficiently serious to warrant early notification.7 If the dean or Research Integrity Officer determines that there is an immediate need to protect human subjects or animals used in research or that the alleged Misconduct is otherwise sufficiently serious to warrant early notification, the sponsoring agency shall be notified within 24 hours.8 The agency shall also be notified in advance if an inquiry or investigation is to be terminated prior to completion, in the event that the regulations of the specific agency require such notification.9 The IRB or IACUC may take action to protect human subjects or animals independently of the inquiry and investigatory processes described below.

9. Optional Jurisdictions
The Research Integrity Officer, in consultation with the dean, may refer an allegation to another institution for relevant proceedings if the research in question was conducted primarily at that institution, or to an appropriate federal agency, if the research in question was conducted at several institutions or if some other special circumstances make it impractical for the University of Pittsburgh to conduct the inquiry or investigation.

D. The Assessment
1. Purpose of an Assessment
The Research Integrity Officer, in consultation with the dean, shall make a preliminary assessment of the allegation to determine whether it falls within the definition of Research Misconduct in Section B. If the allegation is determined to be a matter of research impropriety but does not fall within the definition of Research Misconduct, the dean may look into the matter and resolve it in an appropriate manner. An example might be material failure to comply with Federal requirements or IRB or IACUC rulings issued for protection of researchers, human subjects or the public or for ensuring the welfare of laboratory animals. If the allegation does fall within the definition of Research Misconduct and sufficient evidence exists or may be obtained to warrant an inquiry, the procedures listed in the following sections of this policy shall be followed.

2. Conditions for Dismissing an Allegation
If the allegation is determined to be outside the definition of Research Misconduct and/or probable cause does not exist to believe that Research Misconduct has occurred, the allegation with respect to this policy will be dismissed by the Research Integrity Officer.

E. The Inquiry

1. Appointment of an Inquiry Panel and Its Charge
The dean shall appoint and charge one or more objective, qualified persons (the Inquiry Panel) to conduct the inquiry, in consultation with the Research Integrity Officer. The dean shall designate one member of the panel to serve as chair. The dean should be satisfied, on the basis of both his own information and signed statements from members of the panel, that they are free of any close personal or professional association with the complainant or respondent or of other conflicts of interest that could bias their judgment in the inquiry. They will normally be selected from within the University. The inquiry shall consist of information-gathering and preliminary fact-finding to determine whether the allegations appear sufficiently founded to warrant a formal investigation. The inquiry is designed to provide a basis on which to proceed to an investigation or to determine that an investigation is not warranted. In the case of human or animal research studies where further information is warranted, the dean may request an audit through the University’s Research Conduct and Compliance Office.

2. Notifying the Respondent
The dean shall promptly notify the Respondent of the specific allegations and of the initiation of the inquiry and provide the Respondent and the Complainant with a copy of the Research Integrity Policy. The dean shall provide the Respondent with the names of proposed members of the panel. If the Respondent objects to the appointment of one or more of the proposed members, he or she shall state the objection(s) in writing to the Provost within 5 days, in which case the Provost shall review the proposed list of members within 5 days of receipt of such objection(s) and shall have authority to direct the dean to replace one or more members of the panel. In the case of research sponsored by a federal agency, the Respondent may be informed of possible sanctions which the agency might impose (see Section F16). If the Respondent at this or any other interim stage admits the allegations to be true, the matter shall be considered for appropriate action under Section F14 of this policy, if permitted by procedural requirements of the sponsoring agency.

3. Conduct of the Inquiry
The Inquiry Panel, in consultation with the Research Integrity Officer, shall interview witnesses, examine relevant primary research records, publications and/or reports, and material, consult experts
in the field if necessary, and/or take such other steps as are in their judgment appropriate to the inquiry. The Research Integrity Officer shall collect factual documents and other materials requested by the panel and shall provide assistance to the panel during its meetings. The Respondent may elect whether to be interviewed or not during the inquiry. If the Respondent is interviewed, he/she may be accompanied by an adviser, who may but need not be an attorney; but the adviser may not present the case or otherwise participate in the discussion. A written summary of the testimony given by each witness shall be provided to the witness for review and correction of factual errors.

4. The Inquiry Report
The Inquiry Panel shall prepare a written report that states what evidence was reviewed, summarizes relevant interviews and includes the findings of the inquiry and recommendations to the dean. The report, which should be completed within 40 days of receipt of the dean’s charge, shall be given to the Respondent, the Research Integrity Officer and the dean. Extensions for good cause must be approved by the Research Integrity Officer or by the Provost acting on a request from the panel summarizing the reason for the delay, progress to date, and an estimate of the date of completion. The Respondent shall be given 10 days after receipt of the report to submit any written comments on the report to the Research Integrity Officer and the dean.

5. The Dean’s Decision
After receiving the inquiry report and any comments by the Respondent, the dean shall determine whether additional investigation is warranted and shall, within 10 days of the day Respondent's comments were due, prepare his/her written recommendation and submit it simultaneously to the Provost, the Senior Vice Chancellor for the Health Sciences if the case arises within the Health Sciences, the Respondent, and the Research Integrity Officer.

6. The Case in Which Further Investigation Is Not Recommended
If the recommendation is that additional investigation is not warranted, and if the recommendation is accepted by the Provost, in consultation with the Senior Vice Chancellor for the Health Sciences in cases originating within the Health Sciences, the proceedings concerning Research Misconduct shall be terminated. If the Provost does not accept the recommendation that an investigation is not warranted, a formal investigation shall be initiated as provided for in Section E8 below.

7. A Finding of Research Impropriety
If the research activities of the Respondent are found to involve research impropriety although not of a nature or to a degree that might constitute Misconduct or that warrant additional investigation, the dean may take corrective or disciplinary measures.

8. The Case in Which Additional Investigation is Warranted
If the recommendation of the dean is that additional investigation should be undertaken, and if the recommendation is accepted by the Provost, in consultation with the Senior Vice Chancellor for the Health Sciences in cases originating within the Health Sciences, the dean shall so advise the Respondent and shall inform the Respondent of the commencement of a formal investigation by a University research investigative board. In the case of sponsored research, the relevant sponsoring agency or agencies shall also be notified by the Research Integrity Officer before the formal investigation is initiated. The notification shall follow the requirements of the agency in a case where federal sponsorship is involved, and shall be subsequently supplemented by interim report(s) to
the agency when required. Other parties with a need to know shall be informed, with a stated obligation of confidentiality. If the recommendation is not accepted by the Provost, the Provost shall provide reasons in writing and notify the dean, the Senior Vice Chancellor for the Health Sciences in cases originating within the Health Sciences, the Chancellor, the Research Integrity Officer, and the Respondent. Unless the Chancellor overrides the Provost’s decision within 10 days, the proceedings concerning Misconduct shall be terminated.

9. Notification of the Complainant
Whether or not a formal investigation is warranted, the Complainant, if known, shall be provided with at least those portions of the inquiry report and the determination that address the Complainant's role and information given in connection with the inquiry.

10. Records of the Inquiry
Records of the inquiry shall be maintained by the Research Integrity Officer in a secure place for a period of at least three years. Such records shall include any comments of the Respondent and all other materials collected or reviewed.

F. The Investigation

1. Appointment and Charge of the Investigative Board
An Investigative Board to which allegations of Misconduct are to be referred for formal investigation shall be appointed by the dean, in consultation with the Research Integrity Officer. The dean should be satisfied, on the basis of both his and her own information and signed statements from members of the board, that they are free of any close personal or professional association with the complainant or respondent or of other conflicts of interest that could bias their judgment in the inquiry. The dean shall provide the names of proposed board members to the Respondent. If the Respondent objects to the appointment of one or more of the proposed members, he or she shall state the objection(s) in writing to the Provost within 5 days, in which case the Provost shall review the proposed list of members within 5 days of receipt of such objection(s) and shall have authority to direct the dean to replace one or more members of the board and so notify the Respondent. The Investigative Board shall be given its charge within 10 days of receipt by the Respondent of the initial list of proposed board members or within 5 days of the replacement of one or more members of the board, whichever occurs later. The time schedules for the various steps in constituting a board are to be taken as suggested guidelines. The objective of charging the board within 20 days of the dean's recommendation to constitute a board shall be observed if at all possible.

2. Composition of the Investigative Board
The Investigative Board normally will be selected from within the University and/or affiliated institutions to which this policy applies. Exceptions may be made by the dean if needed to avoid conflicts of interest or to secure particular expertise. When the Respondent is a faculty member, research associate, resident, or fellow, the Investigative Board normally shall be composed of two tenured faculty members of the responsibility center of the Respondent and three tenured faculty members whose primary appointments are in other responsibility centers within the University of Pittsburgh. No board member shall hold a primary appointment in the same program in which the research in question was not conducted, nor should any board member have had direct responsibility for, or a role in the research under investigation or have any other relevant conflict of interest. If two suitable tenured faculty members cannot be identified within the Respondent's responsibility center,
additional members of the five-member board may be selected from other responsibility centers. When the Respondent is staff or a student, the board shall include at least one student or staff member as appropriate to the particular case. The above limitations on the membership of the board may be modified, and any or all members may be selected from outside the University, if the Provost deems it necessary in order to find expert, objective and otherwise qualified members. The dean shall designate one member of the board to serve as chair.

3. Nature of the Hearing
As part of its investigation, the board shall hold a formal hearing. The proceedings shall be closed to the public unless both the Respondent and Complainant agree that the proceedings be open. The charge to the board should be limited to investigation of the specific allegations of Misconduct and to any additional possible Misconduct that is uncovered during the course of the investigation.

4. Resources for the Board
The Investigative Board shall consult with the Research Integrity Officer as to procedures and shall have the option to consult with and/or receive testimony at the hearing from recognized experts who are knowledgeable in the field of research under investigation.

5. Notification of the Respondent about the Hearing
Thirty days or more prior to the board's formal hearing, the Respondent shall:
   a. be sent a notice stating the place, time and date of the hearing;
   b. be given notice that he/she shall have reasonable access to any relevant information in support of the inquiry report, with care to maintain confidentiality, if possible, with respect to sources of the information;
   c. be informed in writing of significant new directions of investigation undertaken as a result of the emergence of additional information that justifies broadening the scope of the investigation beyond the initial allegations;
   d. be advised that he/she shall be permitted to present materials in defense against the allegations being made and present for the board’s consideration a list of witnesses to be called at the hearing;
   e. be sent a list of the witnesses (if any) expected to testify at the hearing; and be notified in a timely manner of any changes in the list.

6. Rights of the Respondent at the Hearing
At the formal hearing conducted by the board, the Respondent shall have the opportunity to:
   a. hear testimony from the Complainant if the Investigative Board desires such testimony; b. question the witnesses appearing before the board on any relevant matter, including the Complainant if the Complainant’s testimony is essential, subject to the procedural rulings provided for elsewhere in this policy. If the Complainant cannot attend the hearing to provide essential testimony, written questions from the Respondent may be put to him/her by the Research Integrity Officer, and written responses shall be requested; c. testify if he or she so chooses and submit documentation and tangible evidence in defense against the allegations of Misconduct; d. be accompanied by one adviser of choice, who may but need not be an attorney. The adviser may consult with the Respondent but may not present the case to the board or otherwise participate in the discussion and/or proceedings; and e. submit a written statement following the close of the hearing.
7. Hearing Procedures
The chair of the Investigative Board, in consultation with the Research Integrity Officer, shall make all required substantive and procedural rulings at the hearing, including, but not limited to, admissibility of evidence and order of procedure. The chair need not apply technical exclusionary rules of evidence followed in judicial proceedings, nor entertain technical legal motions. Technical legal rules pertaining to the wording of questions, hearsay and opinions need not be formally applied. Reasonable rules of relevancy shall guide the chair in ruling on the admissibility of evidence. Reasonable limits may be imposed on the number of factual witnesses and the amount of cumulative evidence that may be introduced. An audio recording or stenographic record shall be made of the proceedings, copies of which may be obtained by the Respondent upon payment of any reasonable charges associated with preparation thereof.

8. Required and Optional Testimony
The Respondent shall have the right to decline to testify, and no adverse inference may be drawn from the exercise of this right. The board may require any other employee of the University or of any other entity, such as the UPMC Health System, covered by this policy to participate in the proceedings.

9. An Allegation Made Not in Good Faith
If the board has some basis for believing that the Complainant has not acted in good faith, it should notify the Complainant of the basis for that belief, provide an opportunity for response, and incorporate its judgment on this matter in its report.

10. The Investigative Report
The board should deliver its formal written report to the dean within 80 days of receiving its charge. The board shall at the same time provide copies of the report to the Respondent, by hand delivery if possible, and to the Research Integrity Officer. Extensions for good cause must be approved by the Research Integrity Officer, or by the Provost acting on a request from the board summarizing the reason for the delay, an interim report of progress to date, and an estimate of the date of completion. The report shall describe the policies and procedures under which the investigation was conducted, how and from whom information was obtained, the findings, the basis for the findings, and recommended sanctions. If the board finds that the Respondent engaged in Misconduct, its report shall also address the Respondent’s intent in engaging in the Misconduct and the materiality or significance of the Misconduct in relation to the accepted standards of research practice; and the report shall contain a summary of the views presented by the Respondent. The Respondent shall be given 10 days to submit his/her written comments on the report to the dean and the Research Integrity Officer.

11. The Dean’s Decision
The dean shall decide the case within 10 days of the day on which the Respondent's comments were due. If the dean's decision is inconsistent with the recommendation of the board, the dean's communication to the Provost, as provided for in paragraphs 12 and 15 below, shall include a complete copy of the board's report and a written explanation of the bases for his or her disagreement with that report.

12. A Finding of No Misconduct
If the dean determines that the alleged Misconduct is not substantiated by the findings of the investigation, the Respondent shall be so notified in writing. Diligent efforts shall be undertaken, at the Respondent’s request, to restore the reputation of the Respondent and to close the matter. The dean shall inform the Provost, the Senior Vice Chancellor for the Health Sciences in cases originating in the Health Sciences, the Research Integrity Officer, and the Chancellor, and shall provide the Complainant with at least those portions of the Investigative Board’s report and the determination that address the Complainant’s role and information given in connection with the investigation. The Research Integrity Officer shall give any sponsoring agency a report on the investigation in the form and within the time prescribed by any applicable regulations.

13. Possible Sanctions for Research Impropriety
If the research activities of the Respondent are found to constitute research impropriety, although not of a nature or to a degree that might result in a finding of Research Misconduct, the dean may impose sanctions such as:
a. a reprimand;
b. notification of the IRB or IACUC for possible actions in matters relevant to clinical or animal research, respectively;
c. requirement to withdraw or correct abstracts, manuscripts, publications, and/or grant proposals;
d. limitations on the Respondent’s responsibility in research;
e. requirement for participation in training programs;
f. notification to sponsoring agencies, co-authors, editors, and other institutions involved in the research.

14. Possible Sanctions for Research Misconduct
If the dean determines that the alleged Misconduct is substantiated by the findings, he/she shall within 20 days decide on appropriate sanctions, after consultation with the Research Integrity Officer. These discretionary sanctions, which shall be stayed pending the outcome of any appeal, may include but are not limited to the following:
a. notification and restitution to any sponsoring agency as appropriate;
b. requirement for withdrawal or correction of all pending abstracts and papers emanating from the research in question, and, if appropriate, notification of editors of journals in which previous related abstracts and papers appeared;
c. removal from the particular project, letter of reprimand, requirement that letters of apology be written, or special monitoring of future work;
d. probation, suspension, salary adjustment, consideration of possible rank reduction or termination of employment or student status, repetition of designated student examinations, or revocation of a degree, providing that steps with a potential impact on the employment or student status of a Respondent should be taken in accordance with procedures described in the University of Pittsburgh Faculty or Staff Handbook or Guidelines on Academic Integrity, without the possibility of reopening the investigation into the substance of the Research Misconduct;
e. notification to the IRB or IACUC chair on matters related to clinical or animal research, respectively;
f. notifications to affected institutions of previous or current affiliation, co-authors and other affected third parties;
g. notification of future or prospective employers; h. notification of state licensing boards.
15. Notifications of a Misconduct Finding
The Respondent shall be notified promptly in writing of the determination and the actions by hand
delivery or certified mail. The dean also shall immediately inform the Senior Vice Chancellor for the
Health Sciences in Health Sciences cases, and the Provost and the Chancellor in all cases. The
Complainant shall be provided promptly with at least those portions of the investigative board report
and the determination that address the Complainant's role and information given in connection with
the investigation. In matters involving the use of human subjects or of animals in research, the IRB or
IACUC, as appropriate, shall also be informed.

16. Possible Sanctions from a Federal Agency
The Research Integrity Officer shall give any sponsoring agency a report on the investigation in the
form and within the time prescribed by any applicable regulations. A federal sponsoring agency, if it
concurs in a finding of Research Misconduct, may in addition apply its own administrative actions,
which may include but are not limited to the following:
   a. debarment for a stated period from eligibility to receive federal research funds;
   b. prohibition for a stated period from service on a government advisory or peer review
      committee;
   c. implementation of procedures for supervising the respondent’s subsequent research
      activities;
   d. implementation of procedures for certifying the accuracy of data and attribution of
      sources in subsequent proposals for research funding;
   e. publication of the finding in federal publications.

17. Public Release of Information
The Provost or Senior Vice Chancellor for the Health Sciences, as appropriate, shall, in consultation
with the General Counsel, determine the manner in which information about the incident is released,
with due consideration for confidentiality as well as possible danger to human health and welfare.

G. The Complainant

1. Non-Tolerance of Retaliation
The University has a duty not to tolerate or engage in retaliation against good-faith whistleblowers.
This duty includes providing appropriate and timely relief to ameliorate the consequences of actual or
threatened reprisals, and holding accountable those who retaliate. Whistleblowers and other witnesses
to possible research misconduct have a responsibility to raise their concerns honorably.

2. Defense Against Retaliation
In cases of alleged retaliation that are not resolved through administrative intervention,
whistleblowers should have an opportunity to defend themselves in a proceeding where they can
present witnesses, except when the whistleblowers violate rules of confidentiality established for the
proceedings.

3. Grievance - First Step
A Complainant or whistleblower who desires to initiate a proceeding for adjudicating a charge of
retaliation may invoke the procedures of University Policy 02-03-01, Faculty Grievances, even if the
grievant is not a faculty member. The first step is for the grievant to contact the Senate Committee on
Tenure and Academic Freedom to initiate an informal investigation and dispute resolution process.

4. Grievance - Initiation of Second Step
If a settlement is not achieved by the first step, the grievant shall present a written complaint to the Research Integrity Officer which shall contain the following information, including supporting dates and facts:

a. That the grievant made an allegation of research misconduct or that the University failed to respond adequately to an allegation of research misconduct, or that the Complainant or whistleblower cooperated in an investigation of such an allegation.

b. That the University or one of its members committed an adverse action against the grievant within one year after the filing of the initial allegation or the cooperative participation in an investigation of such an allegation.

c. That the adverse action resulted from the allegation or cooperation.

d. That the complaint is being made within 180 calendar days of the alleged adverse action or the discovery by the original grievant of the adverse action.

5. Appointment of a Grievance Panel
On receipt of such a complaint, the Research Integrity Officer shall refer the complaint to the Provost, who will move to the second step and appoint a Grievance Panel. The Grievance Panel shall allow the grievant to present evidence, to be accompanied by an adviser who may but need not be a lawyer, and to call other witnesses.

6. Procedural Rights of the Grievant
The grievant shall be given a written summary of evidence collected including witness testimony and shall have the opportunity to respond to this information before the panel writes its report.

7. The Grievance Report
The Grievance Panel shall write a report stating its conclusions and recommendations and submit its report to the Provost and to the grievant.

8. Appeal from the Grievance Report
The grievant, if not satisfied with the report of the Panel, may appeal the findings in writing to the Provost.

9. The Provost’s Adjudication
The Provost shall take the report of the Panel and any written comments from the grievant into account before rendering a decision. If the decision includes a finding of retaliation, the Provost shall take corrective action, which may include redress of any disadvantage suffered by the grievant and sanctions against the person(s) found to have committed the retaliation. The action of the Provost in the matter completes the process.

10. Acknowledgment of the Role of the Complainant
At the conclusion of the proceedings, the University has a responsibility to acknowledge the role of the Complainant promptly, in public or private as appropriate, if the Complainant agrees.

11. Response to a Charge of Acting Not in Good Faith
If a dean believes on the basis of an inquiry or investigative report that the initial allegation of possible Misconduct was made not in good faith, the Complainant shall be given an opportunity to reply in writing if that opportunity was not previously provided. If the dean then makes a finding that indeed the Complainant did not act in good faith, the dean may apply appropriate sanctions if the Complainant is from within the University or affiliated institutions covered by this policy. Sanctions
shall be stayed pending the outcome of any appeal and shall not be applied against the Complainant if the allegation was filed with a lack of full information but not out of malice.

H. Appeals

1. Nature of an Appeal
A dean's determination of Misconduct by a Respondent or lack of good faith by a Complainant may be appealed in writing, in either case to the Provost, with a copy to the Research Integrity Officer, within 10 days of personal delivery or mailing of the determination, whichever occurs first. The grounds for the appeal shall be submitted in writing within 20 days after filing the notice of appeal. Such an appeal shall be restricted to the body of the evidence already presented in the written record. The written record shall include all materials collected or reviewed at both the inquiry and investigation stages (including the Respondent's or Complainant's written comments16), the written reports filed at both stages and the audio recording or stenographic record of the hearing.

2. Appointment and Charge of an Appeal
Panel In the case of an appeal, the Provost, in consultation with the Research Integrity Officer, shall form a five-person appeal panel to advise him or her on the merits of the case. The selection of the members of the appeal panel shall be in accord with the rules (under IV.B.3.) in Faculty Reviews and Appeals, University Procedure 02-02-10 as approved on November 27, 2000, and as may be amended subsequently;17 however, the panel shall not otherwise be bound by the procedures described in that document. Names shall be drawn from the Central Appeals Pool or School Pools (e.g., for FAS and the School of Medicine), but no more than one panel member shall be from the unit (department) where the Respondent has his or her primary appointment. The panel shall be formed and charged within 30 days of the date of the dean's decision, and it shall render its report within 60 days after receiving its charge.

3. Grounds for Appeal
The only grounds for recommendation of reversal by the appeal panel shall be failure to follow appropriate procedures, insufficiency of evidence, or arbitrary and capricious decision making.

4. Outcome of an Appeal
If the decision of the Provost is to affirm the determination and actions, appropriate measures shall be taken, after consultation with the Research Integrity Officer. The Provost's determination shall conclude the University's proceedings with respect to the Misconduct allegation. No subsequent procedure to determine the Respondent's employment or student status may reopen the investigation into the allegation of Research Misconduct.

I. Policy Changes

Changes in federal regulations or University policies could necessitate changes to this policy. Amendments to the policy shall be made only after consultation by the administration with the Senate. Appropriate notice of any such change shall be provided to the University community in writing.

1 Public Health Service Regulations, codified at 42 Code of Federal Regulations (2001), §§§ 50.101 through 50.105 (referred to subsequently as PHSR); National Science Foundation Regulations, 45 Code of Federal Regulations (2001), §§§ 689.1 - 689.9 (referred to subsequently as NSFR).
2 For the purposes of this document, "dean" includes deans, directors of University centers, and presidents of the regional campuses.
3 http://www.pitt.edu/HOME/PP/policies/11/11-01-03.html
4 http://www.pitt.edu/HOME/PP/policies/11/11-01-02.html
5 http://www.pitt.edu/~provost/ethresearch.html
6 http://www.health.pitt.edu/rpf/
7 PHSR, 42 C.F.R., §§50.104(b); NSFR, 45 C.F.R., §§689.3(b)(3).
8 PHSR, 42 C.F.R., §§50.103(d)(5).
9 PHSR, 42 C.F.R., §§50.104(a)(3).
10 PHSR, 42 C.F.R., §§50.103(d)(4); NSFR, 45 C.F.R., §§689.3(b)(1).
11 PHSR, 42 C.F.R., §§50.103(d)(12) and §§50.104(a)(1); NSFR, 45 C.F.R., §§689.3(b)(2).
12 PHSR, 42 C.F.R., §§50.103(d)(6).
13 PHSR, 42 C.F.R., §§50.104(a)(2); NSFR, 45 C.F.R., §§689.3
14 PHSR, 42 C.F.R., §§50.104(a)(7); NSFR, 45 C.F.R., §§689.2
15 http://www.pitt.edu/HOME/PP/policies/02/02-03-01.html
16 PHSR, 42 C.F.R., §§50.103(d)(1).
17 http://www.pitt.edu/HOME/PP/procedures/02/02-02-10.html
Guidelines for Ethical Practices in Research

The Guidelines

The purpose of this set of guidelines is to provide a positively oriented set of practical suggestions for maintaining integrity in research. The ethical conduct of science not only satisfies a scientific moral code; it also leads to better scientific results because the adherence to ethical research practices leads to more attention to the details of scientific research, including quantitative and statistical techniques, and to more thoughtful collaboration among investigators. Also, the credibility of science with the general public depends on the maintenance of the highest ethical standards in research.

Observance of these guidelines will help an investigator to avoid departures from accepted ethical research practice and from those most serious deviations which constitute research misconduct. Research misconduct is defined in the University’s Research Integrity Policy as fabrication, falsification, plagiarism, including misrepresentation of credentials, in proposing, performing, or reviewing research, or in reporting research results. It does not include honest error or differences of opinion. Misconduct as defined above is viewed as a serious professional deviation which is subject to sanctions imposed both by the University and by a sponsoring federal agency.

These guidelines can be used as a common repository of generally accepted practice for experienced researchers and as an orientation to those beginning research careers. Although some of these principles apply to all fields of research, much of what follows deals with scientific research, including those areas of the social and behavioral sciences that involve collection and interpretation of data. These materials can be adapted or specified in a more particular form appropriate for each scholarly discipline or academic unit. In fact, many academic units already have developed excellent handbooks on research ethics and integrity. When in doubt about the accepted ethical standards in a particular case, a researcher should discuss the matter with a respected colleague or consult the University Research Integrity Officer on a confidential basis.

This document, although not a policy, supplements existing University-wide policies and procedures governing various aspects of research, a partial list of which is found in Appendix B. Ethical concerns in research are the subject of a web-based Education & Certification Program in Research & Practice Fundamentals.

Matters of Ethical Concern in Research

1. Plagiarism

Authors who present the words, data, or ideas of others with the implication that they are their own, without attribution in a form appropriate for the medium of presentation, are committing theft of intellectual property and may be guilty of plagiarism and thus of research misconduct. This stricture applies to reviews and to methodological and background/historical sections of research papers as well as to original research results or interpretations. If there is a word-for-word copying beyond a short phrase or several words of someone else's text, that section should be enclosed in quotation marks or indented and referenced to the original source. The same rules apply to grant proposals, to clinical research protocols, and to student papers submitted for academic credit.

An author should cite the work of others even if he or she had been a co-author or editor of the work to be cited or had been an adviser or student of the author of such work. Plagiarism not only violates
the standard code of conduct governing all researchers, but in many cases could constitute an infraction of the law by infringing on a copyright held by the original author or publisher.

The work of others should be cited or credited, whether published or unpublished and whether it had been written work or an oral presentation. Each journal or publisher may specify the particular form of appropriate citation. One need not provide citations, however, in the case of well-established concepts that may be found in common textbooks or in the case of phrases which describe a commonly-used methodology. Special rules have been developed for citing electronic information.¹

Members of a research group who contribute to the work of the group that is later incorporated into a proposal or protocol are entitled to be consulted and informed as to what their role will be if the proposal is funded or the protocol approved, although a charge of plagiarism in the proposal or protocol can usually not be sustained in cases where such members are not later included as part of the team that conducts the approved or funded research. Such researchers who are excluded from subsequent research are entitled, however, to be considered for co-authorship in publications if their contributions merit it.

2. Misuse of Privileged Information

One particularly serious form of plagiarism is the misuse of privileged information taken from a grant proposal or manuscript received for peer review. In such a case, the plagiarism is a serious matter of theft of intellectual property because it not only deprives the original author of appropriate credit by citation but could also preempt priority of first publication or use of the original idea to which the source author is entitled. Also, one who breaches confidentiality by showing a privileged document to an unauthorized person can be held to a shared responsibility for any subsequent plagiarism of the document committed by that unauthorized person.

3. Data

a. Integrity of Data

Fabrication and falsification of research results are serious forms of misconduct. It is a primary responsibility of a researcher to avoid either a false statement or an omission that distorts the truth. In order to preserve accurate documentation of observed facts with which later reports or conclusions can be compared, every researcher has an obligation to maintain a clear and complete record of data acquired. As stated in the University's Guidelines on Data Retention and Access, "records should include sufficient detail to permit examination for the purpose of replicating the research, responding to questions that may result from unintentional error or misinterpretation, establishing authenticity of the records, and confirming the validity of the conclusions."

Meticulous record-keeping is a sound scientific practice which provides an accurate contemporaneous account of observations that become a permanent reference to the researcher who otherwise might not remember several weeks, months, or years later exactly what had been observed or what methods had been used. It is also an accurate record for others who may want to replicate the observation or to apply a method to other situations. In addition, it is an aid in allowing the eventual sharing of information with others and as documentation that might disprove any subsequent allegation of fabrication or falsification of data.

In many fields of laboratory research, it is standard practice to record data in ink in an indexed permanently bound laboratory notebook with consecutively numbered pages. Research methods, including statistical treatments, should be either described in the notebook or referenced by citation to some other primary or secondary source. Information on materials used, along with their sources,
should be recorded. Entries should not be erased or whited out. If mistakes are to be corrected, a thin line should be drawn through the erroneous entry so as not to obscure it and an initialed dated correction written separately near the original entry or in the margin. All entries, or at least all pages of a notebook, should be dated and initialed. Such records may be important at a later date in establishing scientific priorities or intellectual property claims.

All data should be recorded contemporaneously with the production or observation of the data. If some data are obtained as printouts from instruments or computers, these printouts should be appropriately labeled and pasted into the notebook or, if pasting is not possible, stored securely and referenced in the notebook as to storage location. If unique critical materials, such as cell lines, archeological artifacts, or synthetic chemical intermediates, are prepared or discovered, they should be preserved and appropriately labeled, and explicit instructions should be written in the notebook as to where they can be found. Extensive data sets may be stored either as hard copy or on disks. In such cases, carefully documented definitions for codes should be stored, together with rules for applying them to the clinical or field data and notes.

Research in social sciences and in some clinical biomedical fields poses specific problems with respect to the availability of primary data for use by other researchers or by reviewers of allegations of possible scientific misconduct. The protection of human subjects requires that data be used, stored, and disclosed in a way that insures the privacy of individual research subjects. Furthermore, while, for purposes of analysis, these data are frequently coded and entered into computer files with only code numbers identifying the individual subjects, there is often an interest of the researcher in reviewing the coding procedures in order to identify either random or systematic mis-entry of data into files. To satisfy these guidelines fully, the primary data - clinical or laboratory records, questionnaires, tapes of interviews, and field notes - should be available for review. See also 3.c. below. (In some research areas, anthropology for example, field notes are viewed as the product of the researcher rather than as data, and are thus customarily not made available to others.) Where possible, questionnaires should be stored without identifiers, using only code numbers to link them to computerized files. Records, including transcripts of taped interviews, can be redacted to remove names and other key identifiers. The rules and procedures for carrying out such redactions should be available to anyone who reviews the data. Access to health information identified with a particular subject is restricted, as discussed in Chapter 11.

b. Use and Misuse of Data

Researchers should acquaint themselves with the current relevant quantitative methods for processing data, including graphical and tabular methods of presentation, error analysis, and tests for internal consistency.

Research integrity requires not only that reported conclusions are based on accurately recorded data or observations but that all relevant observations are reported. It is considered a breach of research integrity to fail to report data that contradict or merely fail to support the conclusions, including the purposeful withholding of information about confounding factors. If some data should be disregarded for a stated reason, including an approved statistical test for neglecting outliers, the reason should be stated in the published accounts. A large background of negative results must be reported. Any reckless disregard for the truth in reporting observations may be considered to be an act of research misconduct.
Modifying a protocol in the midst of a clinical or epidemiological study or changing the character of a study (e.g., from an exploratory to a confirmatory study) might in some cases be considered improper or even be viewed as research misconduct.

Expenditure of government grant funds for fabricated or falsified research is not only a violation of research ethics but also a federal crime, and those responsible may be subject to prosecution for fraud with the possibility of a demand for restitution of funds to the government, a fine, and/or imprisonment.

c. Ownership of and Access to Data

Research data obtained in studies performed at the University of Pittsburgh and/or by employees of the University are not the property of the researcher who generated or observed them or even of the principal investigator of the research group but belong to the University of Pittsburgh, which can be held accountable for the integrity of the data even if the researchers have left the University. Reasonable access to data, however, should normally not be denied to any member of the research group in which the data were collected. If there is any possibility that a copyright or patent application might emerge from the group project, a written agreement within the group should specify the rights, if any, of each member of the group to the intellectual property. A researcher who has made a finding which may be patentable should file a Disclosure of Invention with the Office of Technology Management. The University patent policy allows the sharing of revenues from licensing, sale, or royalties between the inventor(s) and the University.

A principal investigator who leaves the University is entitled to make a copy of data to take to another institution so as to be able to continue the research or, in some cases, to take the original data, with a written agreement to make them available to the University on request within a stated time period. A formal Agreement on Disposition of Research Data should be negotiated in such cases. Each student, postdoctoral fellow, or other investigator in a group project should come to an understanding with the research director or principal investigator, preferably in writing, about which parts of the project he or she might continue to explore after leaving the research group. Such an understanding should specify the extent to which a copy of research data may be taken. Co-investigators at another institution are entitled to access the data which they helped to obtain.

For unique materials prepared in the course of the research, such as intermediates in a chemical synthesis, autoradiograms, cell lines, and reagents, items that can be proportioned should be divided among members of a research group at different locations under negotiated terms of a material transfer agreement. For non-divisible items, the nature of the assignment should be clearly stipulated in the agreement. The Office of Research facilitates the execution of such agreements.

Since the scientific enterprise may be a cooperative endeavor encompassing many persons who now or in the future might pursue common research interests, and since it is in the interest of all to rely on the contributions and findings of others, every investigator has an obligation to the general scientific community to cooperate by sharing of data. Other virtues of sharing data include the facilitation of independent confirmation or refutation of reported outcomes. It is generally accepted that the data underlying a research publication should be made available to other responsible investigators upon request after the research results have been published. A researcher who has access to a unique set of experimental or observational data, e.g., from a satellite or from an archeological or paleontological site, has an obligation either to publish research results within a reasonable time or to make the data available to others who will be able to do so.
The National Science Foundation has a specific requirement that data, samples, physical collections, and other materials created or gathered in the course of NSF-supported research be shared in a timely manner. The U.S. Public Health Service (PHS) insists that not only data but also unique materials (such as cell lines, cloned DNA, or reagents) developed with PHS funds should be made available to qualified individuals in the scientific community after the associated research results have been published or provided to the sponsoring agency.

d. Storage and Retention of Data

Data should be stored securely for at least five years after completion of the project, submission of the final report to a sponsoring agency, or publication of the research, whichever comes last. Some agencies that sponsor research may specify a longer period for which data must be retained. For example, the U.S. Food and Drug Administration (FDA) requires that data associated with Phase I-III clinical trials be retained for a minimum of two years following final approval of the respective drug or device, which is likely to be a substantially longer period of time than five years after completion of the research project. In the absence of a specific agency regulation, a conservative rule is to retain data for as long as there is still scientific interest in the details of the research.

Some types of data are expected to be deposited in a national or international databank, especially when they are so extensive as to preclude publication in a journal of record. Some examples are X-ray crystallographic data on protein structures, human genomic data, and DNA microarray data. The Interuniversity Consortium for Political and Social Research has prepared guidelines for preparing data in the social sciences for archiving. In some research fields, authors are encouraged to create their own Web sites on which they may store extensive data sets for general access. A list of Web sites for social science archives is available through the University of California at San Diego at http://odwin.ucsd.edu/idata.

4. Authorship and Other Publication Practices

Publication of research results is important as a means of communicating to the scholarly world so that readers may be informed of research results and other researchers may build on the reported findings. In fact, it is an ethical obligation for an investigator at the University to make research findings accessible, in a manner consistent with the relevant standards of publication. The reported data and methods should be sufficiently detailed so that other researchers could attempt to replicate the results. Publication should be timely but should not be hastened unduly if premature publication involves a risk of not subjecting all results to adequate internal confirmation or of not considering adequately all possible interpretations. Violations of the guidelines suggested below are departures from desirable practice and in extreme cases may be considered as research misconduct.

A sponsor of a research project may not have a veto over a decision to publish but a delay of publication for a stated period, not to exceed six months, may be allowed in order to permit filing of a patent application.

A group of journal editors, acknowledging the potential abuse of published information by perpetrators of bioterrorism, have recognized that on occasion the potential harm of publication outweighs the potential societal benefits of open publication of research results. Editors should be consulted about procedures that might be employed in such cases, such as modifying or withholding publication.1

a. Criteria for Authorship
Publication must give appropriate credit to all authors for their roles in the research. If more than one person contributes significantly, the decision of which names are to be listed as co-authors should reflect the relative contributions of various participants in the research. Many professional associations and research journals have specified criteria for authorship. One common standard appearing in many of these statements is that each author should have participated in formulating the research problem, interpreting the results, and writing the research paper, and should be prepared to defend the publication against criticisms. Other statements require meeting two or three of the above criteria and, with respect to the last of these requirements, a more limited expectation is often prescribed: that each author should be prepared to defend against criticism those portions of the publication falling within his or her particular area of expertise. A person's name should not be listed as author without his or her knowledge, permission, and review of the final version of the manuscript, which includes the names of all co-authors.

A procedure that has been adopted by some journals and some universities or departments is that each author must sign a statement attesting to having read and approved the final manuscript and/or to having made a substantial contribution to the manuscript. Departments or other academic units might consider drawing up statements of criteria and procedures for certification for authorship appropriate to their own units.

A person whose contribution merits co-authorship should be named even in oral presentations, especially when abstracts or transactions of the proceedings of a conference at which a paper is presented will be published. The entitlement to authorship should be the same whether or not a person is still at the original location of the research when a paper is submitted for publication.

Just as one should include all those who have a right to be so listed as co-authors, so one should avoid the listing of so-called honorary authors, who do not meet the criteria for authorship. Many published versions of standards for authorship suggest the use of alternative forms of acknowledgment within the paper, e.g., for technical assistance, for providing research materials or facilities, or for meeting some but not all of the stated criteria for authorship. To avoid misunderstandings and even recriminations, the inclusion and exclusion of names of research participants as co-authors should be made clear to all participants in the research prior to submission of the manuscript.

b. Order of Authors

Customs regarding the order in which co-authors' names appear vary with the discipline. Whatever the discipline, it is important that all co-authors understand the basis for assigning an order of names and agree in advance to the assignments. A corresponding, or senior, author should be designated for every paper, who will be responsible for communicating with the publisher and for informing all co-authors of the status of review and publication and of any changes in the list of co-authors.

c. Self-citations

In citing one's own unpublished work, an author must be careful not to imply an unwarranted status of a manuscript; a paper should not be listed as submitted, in anticipation of expected submission. A paper should not be listed as accepted for publication or in press unless the author has received galley proof or page proof or has received a letter from an editor or publisher stating that publication has been approved, subject perhaps only to copy-editing.

d. Duplicate Publication
Researchers should not publish the same article in two different places unless there is very good reason to do so and unless appropriate citation is made in the later publication to the earlier one. The same rule applies to abstracts. If there is unexplained duplication of publication, sometimes referred to as self-plagiarism, a reader may be deceived as to the amount of original research data.

It is poor practice in most fields to allow the same manuscript to be under review by more than one journal at the same time. Very often journals specify that a submitted work should not have been published or submitted for publication elsewhere, and some journals require that a submitted manuscript be accompanied with a statement to that effect.

An author should not divide a research paper which is a self-contained integral whole into a number of smaller papers merely for the sake of expanding the number of items in the author's bibliography.

5. Interference

Not only withholding of data but intentional removal of, interference with, or damage to any research-related property is improper and could be classified as research misconduct.

6. Obligation to Report

a. Reporting Suspected Misconduct

Reporting suspected research misconduct is a shared and serious responsibility of all members of the academic community. Any person who suspects research misconduct has an obligation to report the allegation to the dean of the unit in which the suspected misconduct occurred or to the Research Integrity Officer. Allegations are handled under procedures described in the University's Research Integrity Policy. All reports are treated confidentially to the extent possible, and no adverse action will be taken, either directly or indirectly, against a person who makes such an allegation in good faith. Protection of whistleblowers against retaliation is guaranteed under policies of both the University and the federal government.

In some cases, the Research Integrity Officer must report an allegation of misconduct to the funding agency.

b. Correction of Errors

If a finding of error, either intentional or inadvertent, or of plagiarism should be made subsequent to publication, the investigator has an obligation to submit a correction or retraction in a form specified by the editor or publisher and, in the case of research misconduct, in a form specified by the University and a sponsoring federal agency.

7. Curriculum Vitae

A biographical sketch incorporated into a grant proposal or a curriculum vitae used in an application for a fellowship or any other position must follow the same standards of accuracy as a research publication. Inflated or otherwise inaccurate listings of educational background or academic status with an intent to deceive, including degrees, employment history, and professional accomplishments, are just as reprehensible as irresponsible entries in a list of publications and in some cases could be considered as falsification and be categorized as misconduct.

In listing publications it is recommended that clearly labeled separate sections should be used for referenced research publications, chapters for books summarizing or reviewing a field, books or monographs, and abstracts. A separate additional listing of public presentations may be another
appropriate category. No item should be listed more than once in the same category. Some schools of the University have established standard formats for curricula vitae.

8. Conflict of Interest

There are some circumstances in which conflicts of interest could compromise the integrity of research or even lead to research misconduct, for example, by the distortion of research outcomes as a result of personal financial interests of a researcher. The annual disclosures of outside interests by researchers required by the University’s Conflict of Interest Policy and the review of these disclosures by academic administrators are intended to avoid the escalation of conflicts into improper behavior or misconduct. Possible preventive measures provided under that policy include divestiture or public disclosure of outside interests and internal monitoring of the research within the University. A notice of special interests should be included, possibly as a footnote, in publications, in research proposals and reports, and in clinical research protocols. Many journals and funding agencies require such disclosures. A faculty member should also disclose to research students his or her financial interests in activities related to the students’ research. When asked to enter into peer review of a manuscript or proposal, a researcher should disclose any conflict of interest with respect to the matter under review. The author(s) of a commercially sponsored study report must have access to all the data underlying a publication, including data from all sites in a multi-site study, and must have full control over the decisions to publish.

In the special case where University researchers are considering or are involved in commercialization of an invention, for example through a start-up company or by licensing technology to an established company, researchers should consult not only the Conflict of Interest Policy, but also the Commercialization of Inventions through Independent Companies Policy. The latter policy specifies certain limitations on a faculty member’s equity holdings. It also provides for some restrictions on the faculty member’s participatory role in such a company and on that person’s role in University research sponsored by the spin-off company. For information relating to commercialization of University technology, contact the University’s Office of Technology Management. Oversight of faculty relationships with start-up companies is provided by the Entrepreneurial Oversight Committee.

9. Responsibilities of a Research Supervisor

An investigator who leads a research group has supervisory responsibilities with respect to the research performed by members of the group. A principal investigator must arrange for the assembly of an adequate financial and administrative structure to support the research. A supervisor not only provides guidance and advice to members of the group but also has ultimate responsibility for the scientific integrity of the whole group. He or she should thus take all reasonable steps to check the details of experimental procedures and the validity of the data or observations reported by members of the group, including periodic reviews of primary data in addition to summary tables, graphs, and oral reports prepared by members of the group.

An investigator not only serves as a research manager with respect to members of the research group but also is a mentor responsible for the intellectual and professional development of graduate students, postdoctoral fellows, and junior faculty in the group. In order to fulfill all of the inherent role responsibilities, a supervisor should not have a research group larger than he or she can manage effectively and responsibly. Some departments or schools may consider assigning limits to the size of a research group.
Negotiation of research agreements is not one of the responsibilities of the investigator. That is a function of the Office of Research.

A researcher should be open to collaborative work with investigators having different but complementary skills, whether at the University of Pittsburgh or elsewhere. Early understandings should be reached in any collaboration about sharing of research resources, authorship credit and responsibilities, and entitlement to any revenue from marketing of intellectual property through patents, copyrights, or licensing.

10. Responsibilities to Funding Agencies

An investigator should be aware of the seriousness of a research proposal. The same standards of accuracy apply to proposals as to manuscripts submitted for publication. Description of experiments not yet performed as evidence in support of the proposed research, for example, is considered to be fabrication and is subject to a finding of research misconduct, even if the proposal is rejected for funding or is withdrawn before full consideration for funding. The same definition of plagiarism applies to a proposal, including background and methodological sections, as to a publication.

An investigator must submit progress and final research reports to a sponsor at times specified in the award. He or she must authorize expenditures in a manner consistent with the approved budget and should review financial reports carefully.

Investigators who enter into agreements with commercial sponsors of research should familiarize themselves with the special terms of such agreements, such as those, for example, concerning reporting of results, disclosure of inventions, and confidentiality. Failure to comply with the provisions might sometimes constitute a breach of contract.

11. Special Obligations in Human Subject Research

Research protocols involving human subjects must be approved in advance by the University Institutional Review Board (IRB), which determines whether risks posed to subjects are acceptable and whether information describing risks and benefits of subject participation is actually conveyed to subjects in an accurate and intelligible manner. Such IRB approval should precede the submission of a grant proposal. This requirement applies not only to biomedical and dental research, but also to many research projects in the social and behavioral sciences as well. (Depending on the funding agency, IRB approval may be obtained and submitted after the proposal due date but prior to implementation of the peer review process by the funding agency.) Guidelines may be found in the IRB Reference Manual for the Use of Human Subjects.

The IRB reviews both the protocol and the informed consent document which potential research subjects must sign before participating in the protocol. Volunteer subjects must be informed that they may withdraw from a research program at any time. Research subjects already participating in a protocol by virtue of signing an approved consent document must be informed of any new information regarding risks and benefits of study participation when such data become available as the study progresses. Such information must be conveyed by a new consent document approved in writing by the IRB. Any proposed change in the research protocol or consent document must be approved by all investigators as well as by the IRB in advance of implementation of the proposed change. If a consent document states that subjects will be informed of the research outcomes, the investigator must honor that commitment and so inform the subjects.

Every protocol submitted to the IRB must include a plan for data and safety monitoring. A protocol should identify the research sponsor. The submission of a protocol to the IRB should include a plan
for managing potential conflicts of interest on the part of any of the investigators. The IRB may place limits on the role of an investigator who has a conflict. Conflicts should also be disclosed to the research sponsor.

The privacy of information relating to each subject must be respected and maintained. It is not permissible to collect for research purposes private information that may be linked (e.g., by names, initials, social security numbers, study numbers, or other personal identifiers) to individual subjects without prior written consent of the subjects as approved by the IRB. Data and samples of body tissues or fluids may not be used for any purpose unless the subject has provided consent prospectively and in writing, unless otherwise approved by the IRB. Privacy requirements pertaining to use of individually identifiable health information in research are codified in the federal Health Insurance Portability and Accountability Act (HIPAA).

Every research protocol involving human subjects should receive a scientific review and written approval as specified in the investigator's academic unit prior to submission to the IRB for review. This prior review must address the scientific merit, research subject availability, resource utilization and financial support, as well as compliance with federal, state, and University policies and procedures.

Sponsoring agencies are to be notified promptly of any definitive results, whether significantly adverse or beneficial, which may have an impact on public health. Also, the IRB must be notified promptly of any significant adverse reactions. Adverse events discovered in the course of studies involving investigator-sponsored use of investigative drugs, devices, or biologicals must be reported directly to the FDA.

When large studies are organized as cooperative projects involving many different institutions, the coordinating institution has a special responsibility for developing a monitoring system to check the reliability of data reported from the various data-collecting centers.

The IRB office (412-578-3424) may be consulted for answers to questions. Protocols involving gene therapy must be submitted for approval by the Institutional Biosafety Committee (412-578-3799). Studies using human tissues or functioning human bodies following certification of death must receive approval of protocols and consent documents from the Committee for Oversight of Research Involving the Dead (412-648-9516).

12. Laboratory Animals in Research

Investigators who use laboratory animals are obliged to follow humane procedures so as to minimize animal pain, suffering, and distress and to use no more animals than absolutely necessary. Wherever possible, alternative protocols that do not require the use of animals should be considered and, if practicable, adopted. Written approval must be obtained from the Institutional Animal Care and Use Committee (IACUC) prior to the initiation of any research or teaching which requires the use of animals. The Director of the Division of Laboratory Animal Resources (412-648-8950) should be consulted about guidelines and appropriate procedures. The same requirements for disclosure of research sponsorship and conflicts of interest in the use of human subjects in research apply for vertebrate animal research, except that the disclosures in the latter case are made to the IACUC.

Some University Units Supporting Research

1. Safety
The University Radiation Safety Officer (412-624-2728) oversees the safe use of radioactive isotopes and other sources of ionizing radiation. Application forms to be submitted for authorizations may be found at Radiation Safety Office.

The Director of Environmental Health and Safety (412-624-9505) should be consulted about proper use, storage, and disposal of hazardous materials, including bloodborne pathogens.

All proposals for work involving recombinant DNA or gene therapy must be submitted to the Institutional Biosafety Committee (412-578-3799) on Institutional Biosafety Office Forms.

2. Intellectual Property and Technology Management
Investigators may have occasion to protect their research findings, both for themselves and for the University, through copyrights or patents. The Office of Technology Management (412-648-2206) assists faculty in evaluating discoveries or inventions for this type of legal protection and in applying for copyrights or patents.

Investigators should also consult the Office of Technology Management if they are considering or are involved in commercialization of an invention or other intellectual property through a start-up company, an established company, or any other business venture.

3. University Office of Research
The Office of Research (412-624-7400) is the only gateway for submitting and processing research proposals and budgets to sponsoring agencies, whether governmental or private. Material transfer agreements are also processed through this office. The Director of the Office of Research must approve and sign all such documents as the authorized University signatory. This Office maintains a useful library of information about agency regulations and guidelines, funding sources and opportunities, and institutional and national data banks of investigators grouped by research interests.

4. Office of Research, Health Sciences
The Office of Research, Health Sciences (412-692-2232) has responsibility for overseeing and facilitating biomedical and clinical research in the Schools of the Health Sciences. Issues or concerns related to biomedical research should be brought to the attention of the Assistant Vice Chancellor for Research, Health Sciences, or her staff.

5. Office of Clinical Research
The Office of Clinical Research (412-692-2602) assists faculty in the Schools of the Health Sciences in identifying new and existing resources that support clinical research, assists researchers in meeting the changing regulatory environment for research. It strives to facilitate the process of clinical research, to promote its value, and to foster communication among the various entities engaged in its conduct. It organizes the Institutional Data and Safety Monitoring Board, which may be utilized by clinical researchers who have not set up their own boards. It provides staff support for the Committee for Oversight of Research Involving the Dead, which must approve protocols and consent documents for research on cadaveric organs or tissues.
6. Recombinant DNA Office
The Institutional Biosafety Committee (412-578-3799) monitors and ensures compliance with NIH guidelines on all activities involving recombinant DNA including gene therapy.

7. Research Conduct and Compliance Office
The Research Conduct and Compliance Office (412-578-3421) oversees and facilitates the conduct of ethical and regulation-compliant human and animal subject research.

Attachment A
Select Research Integrity Bibliography for Researchers

Books


Scientific Integrity: An Introductory Text with Cases, F.L. Macrina, for American Society for Microbiology, 1995.

Booklets


Reports

Office of Research Integrity, U.S. Public Health Service Annual Reports, starting in 1989.

Attachment B
Partial List of Relevant University Policies and Procedures
(Numbers and dates refer to the listings in the University Policy and Procedure Manuals.)

Academic Integrity Guidelines, 02-03-02, 02-03-03, 02-03-04, and 02-03-05. August 10, 1988. In addition to this University-wide document, each school has its own specific document governing the
performance of students in the academic setting - in courses, examinations, and degree-related research, and the responsibilities of faculty with respect to students.

Biosafety Manual, available from Biosafety Office (624-9505). This is a helpful compilation of guidelines and regulations with respect to the safe utilization of equipment, substances, and procedures in the laboratory.

Bloodborne Pathogens, 06-01-03, January 31, 1995

Commercialization of Inventions through Independent Companies: Policy and Recommendations, 11-02-03, June 28, 1996. This describes University policy with respect to the participation of faculty, staff, and students in start-up companies based on inventions by those faculty, staff, and students, and defines the role of the Entrepreneurial Oversight Committee in administering this policy.

Conflicts of Interest in Research, 11-01-03, June 21, 1996. This document states University policy for eliminating or dealing with conflict of interest and describes the annual disclosures of outside interests required of all persons involved in research.

Copyrights, 10-04-01, February 14, 1989, and 11-02-02, June 29, 1990. This describes procedures for seeking copyrights and specifies the relative rights of the author and the University.


Handbook for the Use of Animals in Research, Testing, and Teaching, available from Division of Laboratory Animal Resource (412-624-8950) or from the Institutional Animal Care and Use Committee. This provides guidelines and regulations governing the use of animals.

Patent Rights and Technology Transfer, 11-02-01, June 29, 1990. This describes the procedures for applying for patents and outlines the relative rights and responsibilities of the inventor(s) and the University.


Research Integrity Policy, 11-01-01, January 1, 2002. This defines research misconduct and describes the procedures for conducting inquiries and investigations into allegations of misconduct and for making and appealing decisions related to misconduct.

Rights, Roles, and Responsibilities of Sponsored Research Investigators, 11-01-02, April 3, 1992. This document outlines the rights and responsibilities of investigators and provides a mechanism for resolution of disputes.

For more information, please contact the Office of Research

Updated May 2003

Health & Safety Policies and Procedures

80
Policy Statement on Racism, Discrimination and Sexual Harassment

The School of Medicine at the University of Pittsburgh is committed to providing a safe, comfortable, and supportive academic environment free from all forms of discrimination and harassment based on race, culture, religion, or ethnic origin. In addition, any form of discriminatory behavior or harassment based on one's gender or sexual orientation is also a violation of University policy as well as federal, state, and local laws.

Any individual who is accused and found to have violated the University's policy against intentional physical or verbal abuse, harassment, or discrimination of another person based on their race, color, religion, culture, age, disability, gender or sexual orientation; with the purpose or effect of creating an intimidating, hostile, or offensive academic work, or social environment, will be subject to appropriate disciplinary action, including but not limited to reprimand, suspension, termination or expulsion.

Definition of Sexual Harassment and Procedures to Follow:

Sexual harassment takes many forms. It may range from unwelcome comments, gestures, or facial expressions, to unwanted physical contact. Both men and women, regardless of sexual orientation can be victims. **Sexual harassment is defined as any unwelcomed sexual advance, request for sexual favors or other verbal or physical conduct of a sexual nature when:**

1. Submission to such conduct is an explicit or implicit condition of employment or academic decision
2. Submission to or rejection of such conduct is used as the basis for employment or academic decision
3. Such conduct has the purpose or affect of:
   A) Unreasonable interfering with an individual's work or academic performance
   B) Creating an intimidating, hostile or offensive work, academic or social environment

This policy will be applied with due respect of the University's commitment to equality of opportunity, human dignity, diversity, and academic freedom.

Any student, faculty, staff member or employees who believe that they have been discriminated against or harassed has both formal and informal avenues of address. For additional information or to file a complaint one can contact:

Office of Affirmative Action
901 William Pitt Union
University of Pittsburgh
(412) 648-7860
Anti-Harassment Policy Statement

No University employee, University student, or individual on University property may intentionally harass or abuse a person (physically or verbally) with the purpose or effect of unreasonably interfering with such person's work or academic performance, or of creating an intimidating, hostile, or offensive work or academic environment. Consistent with the University Nondiscrimination Policy Statement, this Anti-Harassment Policy Statement includes cases where the conduct is based on race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, disability, or veteran status. This policy will be applied with due respect for the University's commitment to equality of opportunity, human dignity, diversity, and academic freedom.

For additional information, refer to University Procedure 07-01-03 Nondiscrimination and Anti-Harassment.

http://www.bc.pitt.edu/policies/procedure/07/07-01-03.html

Certified Student Organization Alcohol Policy

As a graduate student and de facto member of the Biomedical Graduate Student Association (BGSA) you are held to the following policies:

1. Student organizations, their officers and members assume sole responsibility for understanding and complying to applicable laws of the Commonwealth of Pennsylvania regarding the purchase, possession, distribution and consumption of alcohol at their events on and off campus.

2. Only graduate, professional and College of General Studies student organizations may use activity fees to purchase alcohol.

3. Only graduate, professional and College of General Studies student organizations may serve alcohol at on campus events provided that they use bartenders from University Catering.

4. Graduate, professional and College of General Studies student organizations may purchase and serve alcohol at off campus events provided the alcohol is served by a licensed vendor who accepts full responsibility for compliance to the applicable laws.

5. Undergraduate student organizations may hold off campus events at which alcohol is served and may use activity fees for non-alcohol related expenses at such functions, provided the events are held on the premises of a licensed vendor who accepts full responsibility for compliance to applicable laws.

6. Student organizations may not mention the availability of alcohol at an event by advertising, invitation, announcements, or other forms of promotion.

7. Student organizations may not solicit or receive free alcohol from any source.

8. Students and student organizations are prohibited from storing or consuming alcohol in assigned office space or public areas of the University.

9. Organizational violations of this policy will be adjudicated by the Office of Student Activities and may result in University sanctions, including revocation of certification. Individual students are subject to disciplinary proceedings and sanctions through the University Student Judicial System.

Drug-free Workplace/drug-free Schools Policy
The University of Pittsburgh prohibits the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance on University property or as part of any University activity. Faculty, staff, and students of the University must also comply with the laws of the Commonwealth of Pennsylvania on the possession and consumption of alcohol.

Violation of this policy will result in disciplinary action, including, but not limited to a warning, written reprimand, suspension, dismissal, expulsion, and/or mandatory participation and successful completion of a drug abuse assistance or rehabilitation program approved by an appropriate health or law enforcement agency.

Any University employee paid from federally funded grants or contracts, or any student participating in any federally funded or guaranteed Student Loan Program, must notify the University of any criminal drug statute conviction for a violation occurring at the University while engaged in University activities.

**Information and Assistance for Alcohol And/or Drug Abuse:**
An important step in overcoming any problem is to know where to turn for assistance. Information, counseling, and treatment for alcohol and/or drug problems is available through resources in the community and costs may be covered by health care benefits. Confidential support services are available for those with abuse problems who individually pursue treatment and counseling. Some of those resources include:

**University of Pittsburgh Student Health Service**
Wellness Center
Nordenberg Hall
119 University Place
Pittsburgh, PA 15260
(412) 383-1800

**University of Pittsburgh Counseling Center**
334 William Pitt Union
Pittsburgh, PA 15260
(412) 648-7930
Gateway Rehabilitation Center  
100 Moffett Run Road  
Aliquippa, PA 15001  
800-472-1177

Mercy Behavioral Health Center  
412 East Commons  
Pittsburgh, PA 15212  
(412) 323-4500

Western Psychiatric Institute & Clinic  
3811 O’Hara Street  
Pittsburgh, PA 15213  
(412) 624-2100

24-Hour Hotlines:
1) Allegheny County Crisis Emergency Center 1-888-424-2287
2) DRUG CONNECTION: (854-0700)
3) CONTACT PITTSBURGH: (782-4023)
   This hotline deals with all types of problems in addition to substance abuse, e.g. depression and suicide. Will also make referrals to appropriate long-term counseling services.

Local Chapters of National Support Organizations:
1) AA (Alcoholic Anonymous): (412-471-7472) 24 hours
   Both crisis and long term help for individuals with alcohol abuse problems.
2) NA (Narcotics Anonymous) (412-391-5247) 24 hours
   Both crisis and long term help and support for individuals with problems resulting from drug abuse other than alcohol.

NOTE: AA groups are often comprised of older while NA groups often are comprised of younger individuals and those who have mixed a lot of chemicals during their period of dependency.
3) AL ANON (1-800-628-8920) This is a support group for concerned families, friends and employers, etc. of alcoholics.
4) ALA TEEN (1-800-628-8920) Support group for teenage children of alcoholics.
5) OA (Overeaters Anonymous) (412-765-3004) 24 hours. Crisis and long term help and support for individuals with eating disorders.
6) CONTACT Pittsburgh, Inc. (412-820-HELP) - Offers immediate emotional support by telephone volunteers trained to help people of all ages who may be suicidal, in emotional distress or in need of reassurance, information or referral service.

Additional Resources:
Additional resources may be found in the blue pages of the telephone book under Guide to Human Services.
University of Pittsburgh School of Medicine Policy On Acquired Immune Deficiency Syndrome (AIDS)

1) Admission of student with HIV:
   It is the policy of this school that applicants who are HIV positive will not be excluded on this basis.

2) Testing of students for HIV:
   Any testing of students for HIV will be done only with the permission and informed consent of the student. All results will be strictly confidential, with only the student and his/her physician aware of them. Any student is encouraged to discuss his/her situation with the Associate Dean, and if done the information remains confidential.

3) Student education regarding AIDS:
   Beginning with the early first year and for each subsequent year, AIDS should be taught - etiology, epidemiology, prevention, and treatment - to all students. The responsibility for this teaching is with the clinical faculty of this school and should be coordinated by the Division of Infectious Diseases.

4) Management of HIV infected students:
   If a student is infected and is symptomatic (for example, because of skin lesions there would be increased possibility of the spread of body fluids), then the student's course work and patient contact should be carefully evaluated and appropriate changes made on a case by case basis. These decisions should be coordinated by the Associate Dean for Graduate Studies.
   If a student is infected and is not symptomatic, (for example has no skin lesions and has not increased possibility for spread of body fluids), then the usual course work can be taken and the usual pre-cautions for patient contact should suffice. These policies apply not only to HIV positive students, but to students with any infection (ex: Hepatitis B) which poses a risk to the student and those he/she is in contact with because of the spread of body fluids. All students, HIV positive or negative, are expected to use precautions recommended by the CDC for safety (i.e., hand washing, gloves). Furthermore, students should be carefully supervised when learning procedures potentially dangerous to them and for patients (blood drawing procedures in high risk patients, etc.)

5) Exposure to HIV:
   If a student is exposed to HIV by a needle puncture or contact with secretions, the student should immediately see the Associate Dean for Graduate Studies, Student Health, or if available, the appropriate hospital's health service. The most up-to-date procedure, recommended by CDC, should be followed for management of this exposure. Follow up should be done by the Student Health and coordinated by Student Affairs Office and the Associate Dean for Graduate Studies.

University of Pittsburgh Policy to Accommodate Pregnant PhD Students

Graduate Student Parental Accommodation Guidelines

Purpose: Consistent with the University’s efforts to strive to be inclusive and to support academic-personal life balance, the University believes it is important to provide accommodation for graduate
students who become new parents, whether by childbirth or adoption, so that they may contribute to their family responsibilities while continuing to make progress towards their degree. This practice will help develop students who can successfully integrate their academic and personal pursuits. In recognition of the challenges of balancing the demands of graduate study and parenting a new child, these guidelines aim to improve the academic environment for student parents. The Graduate Student Parental Accommodation Guidelines assists graduate students immediately following the birth or adoption of a young child. The purpose of these guidelines is to make it possible for a student to maintain registered full-time student status, along with all the benefits of such status, while facilitating the return to full participation in courses, research and teaching.

**Eligibility:** The Parental Accommodation Guidelines apply only to full-time students enrolled in graduate programs who are in good academic standing and who are making satisfactory progress toward completion of a graduate degree. These guidelines do not cover students in professional programs. Students must have completed at least one full-time semester of their degree program to become eligible for coverage under these guidelines. The guidelines cover the situation of students who experience a child birth, who adopt a child who is unable to be enrolled in full-day public school due to age or other developmental reasons, or who is a partner of someone who has experienced a child birth or an adoption for whom the student has parental responsibilities. These eligibility requirements cover all provisions of the guidelines.

**I. Parental Accommodation Period**

All eligible students will be granted a Parental Accommodation Period six weeks immediately following the birth of a child or the adoption of a child for whom the student has parental responsibilities. During this period of accommodation, the student will continue to be enrolled as a full-time student. Because the student remains enrolled as a full-time student and continues to pay tuition, this is not a formal leave of absence. It is instead a modification of deadlines and academic expectations to accommodate the student’s new parental responsibilities. The student will be able to postpone completion of course assignments, examinations, academic milestones and other academic requirements for the six-week Accommodation Period. However, the Accommodation Period does not extend the University’s academic Statute of Limitations.

Because the Accommodation Period needs to be tailored to the student’s individual circumstances and the timing of the student’s academic responsibilities, the student should consult in advance with the program advisor, research advisor or office of student services about how the student will meet academic goals and requirements. The student is responsible for ensuring that this consultation takes place as far in advance of the Accommodation Period as possible. Students enrolled in programs characterized by sequential courses must anticipate potential consequences associated with accommodation, and in consultation with the advisor, should plan how best to complete their program following the Accommodation Period.

The student must complete the accommodation period within six weeks of the birth or adoption. The student may not divide the time period of parental accommodation for use past this time limit. If both parents are eligible graduate students, both may take the six week accommodation period. The total accommodation period for each birth or adoption is limited to six weeks; in the event of a multiple birth or adoption, the length of the accommodation period is limited to six weeks.

After the end of the Parental Accommodation Period, students are expected to return to graduate study and resume progress toward completing their degrees. Faculty are encouraged to remain flexible in their expectations of students who become new parents, so that students can meet the demands of graduate study at the same time that they face new demands in their parental roles.
Nothing in these guidelines can or should replace communication and cooperation between student and advisor, and the good-faith efforts of both to accommodate the birth or adoption of a child. It is the intent of these guidelines to reinforce the importance of that cooperation and to provide support to make that accommodation possible.

Special Notice to International Students: Students who are attending the University of Pittsburgh with a F-1 student visa or J-1 Exchange Visitor visa are strongly encouraged to consult in advance with the Office of International Studies about their plans during the period of Parental Accommodation.

II. Student Funding During the Parental Accommodation Period

A. Teaching Assistants, Teaching Fellows, Graduate Student Assistants, or Graduate Student Researchers
With advance planning, TA, TF, GSA and GSR assignments can be adapted for modifications of schedule that new student parents need during a Parental Accommodation Period. Faculty advisors and students with TA, TF, GSA and GSR appointments are encouraged to work out the necessary adjustments preferably one semester before the anticipated birth.

Eligible Students Faculty members who supervise TAs, TFs, GSAs and GSRs who assume new roles as parents (see below for accommodations for birth mothers) should offer flexibility to allow students to take advantage of the Parental Accommodation Period. During this period the students will continue to receive their stipend, benefits, and associated tuition support.

Birth Mothers The situation is more difficult for mothers who give birth, and must cope with the health consequences of childbirth and recovery in addition to new parental roles. Eligible graduate students with TA, TF, GSA and GSR appointments who experience the health consequences of pregnancy will be excused from their regular duties for a period of time to be determined by a health care provider not to exceed the student’s appointment period. During this period, they will continue to receive their stipend, benefits, and associated tuition support. In most cases, students who have been funded by external grants will receive their parental accommodation stipend and benefits through their specific grant, provided that the granting agency permits such action. If the funding agency has terms and conditions which do not permit funding pursuant to this guideline, the department or school will fund the parental accommodation period.

B. Fellowship Recipients
Eligible students who are supported by University of Pittsburgh fellowships will experience no change in their funding arrangements during the Parental Accommodation Period; they will continue to receive their fellowship support and benefits during the Parental Accommodation period. Eligible students who are supported by fellowships external to the University must adhere to the rules of the granting agency with respect to absences from academic and research work.

III. Approval
An eligible student must submit a Request for Graduate Student Parental Accommodation, after appropriate consultation with her/his advisor, principal investigator, and graduate chair. The request, with appropriate documentation of the anticipated birth or adoption (a letter from the student’s medical provider with an estimate of delivery date or from the adoption agency with an estimate of adoption date), will be submitted to the student’s graduate program office for approval. (The request form can be obtained from the Graduate Studies Office, 524 Scaife Hall)
Any student who believes that he or she has been treated unfairly or has been denied eligibility according to these guidelines should first discuss the situation with their program advisor, research advisor or office of student services. If a resolution cannot be reached at the departmental level, the student should present the grievance to the dean for informal evaluation, adjudication, and, if necessary, advice on additional, formal grievance procedures.

**Bloodborne Pathogens Policy**

It is the policy of the University of Pittsburgh to limit or prevent occupational or student exposure to blood and other potentially infectious materials (as defined below) and to provide certain treatment following any such exposure. This document serves to clarify the University program for education, prevention, post-exposure medical treatment and follow-up provided for employees and students who have been exposed to bloodborne pathogens as a part of workplace or other programmed activity.

**I. Definitions**

A. Bloodborne Pathogens means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

B. Occupational Exposure means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of employees' duties or students' programmed activities.

C. Other Potentially Infectious Materials means:

1. the following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids;
2. any unfixed tissue or organ (other than intact skin) from a human (living or dead); and
3. HIV-containing cell or tissue cultures, organ cultures, and HIV or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

**II. Policy Implementation**

The University shall provide education and prophylactic guidelines to employees and students who may be exposed to bloodborne pathogens. This action shall be described in detail in the University's Bloodborne Pathogens Exposure Control Plan (ECP). University employees and students shall have access to treatment and follow-up of exposure to bloodborne pathogens. Employee treatment is specified by the OSHA standard 29 CFR 1910.1030 (f) (3), Workers' Compensation and the University Exposure Control Plan. Treatment costs will be subject to payment under the University's Workers' Compensation policy and procedures.

Students who are not employees are not covered by OSHA standards or Workers' Compensation, but will have access to appropriate evaluation and treatment of exposures
through referral centers identified below, and at the student's or student's health insurer's expense. Students who enroll in a University programmed activity where exposure to human blood or Other Potentially Infectious Materials is probable or possible must carry health insurance validated each term that will cover payment of treatment and follow-up procedures.

With the exception of students enrolled in the Schools of the Health Sciences (Dental Medicine, Graduate School of Public Health, Medicine, Nursing, Pharmacy, and Health and Rehabilitation Sciences), the use of unpreserved human blood and/or Other Potentially Infectious Materials and primate blood and/or Other Potentially Infectious Materials shall be excluded from all undergraduate courses and laboratory work. Petitions for exemptions from this rule can be made by the course instructor to the Biohazards Committee.

**HBV Immunization and Preventive Training**

Before engaging in a University programmed activity where exposure to human blood and/or Other Potentially Infectious Materials is probable or possible, each employee and each student must present either evidence of HBV immunization, or serologic evidence of a protective antibody titer against hepatitis B virus disease (HBV) and undergo training to prevent or minimize exposure. Hepatitis B immunization is available to University employees without charge. Students should check with their health insurers about coverage of, or reimbursement for, HBV immunization. Employees or students who want to forego such immunization must sign a formal disclaimer statement.

**Exposure Follow-up**

Any University employee or student who believes that he or she may have had an exposure to blood, body fluids, or Other Potentially Infectious Materials should:

1. Promptly report to one of the designated referral centers approved by the Occupational and Environmental Medicine Clinic, University of Pittsburgh and listed in the University Exposure Control Plan;
2. Provide information to the licensed health care provider at the referral center about the circumstances under which the possible exposure occurred; and
3. Complete and submit the appropriate accident and/or Workers’ Compensation report in accordance with University policy.

Evaluation of the exposure and recommendations for follow-up will be provided at the referral centers. Any questions should be directed to the Environmental Health and Safety Office, telephone 624-9544. (Post-exposure medical treatment and follow-up as defined in the OSHA Standard.)

**Building Emergency or Inclement Weather Policy For Students**

*Scenario 1: The University is closed; the School of Medicine is closed.*

*Scenario 2: The University cancels classes; the School of Medicine cancels classes.*

1. Only the Chancellor may officially close the Pittsburgh campus of the University.
2. The University will remain open in all but the most extreme circumstances. However, University employees and students are urged to use their own discretion in deciding whether they can safely commute to work.

3. When a State of Emergency is declared by the Governor or other local governing official, school personnel are expected to abide by those directives and there will be no classes.

University Facilities & Services

The Maurice And Laura Falk Library of The Health Sciences
200 Scaife Hall
PHONE: 648-8867, www.hsls.pitt.edu/
HOURS: Monday - Thursday 7:00 a.m. - midnight
          Fridays 7:00 a.m. - 10:00 p.m.
          Saturdays 9:30 a.m. - 10:00 p.m.
          Sundays - 9:30 a.m. - Midnight

The Maurice and Laura Falk Library of the Health Sciences and its branches serve the Schools of Medicine, Dental Medicine, Pharmacy, Nursing, Health Related Professions, Public Health and affiliated hospitals. The library, a two-story facility with an entrance located on the second floor of Scaife Hall, houses a collection of over 220,000 volumes and receives 1,500 journal subscriptions.

The Falk Library is currently in the process of installing NOTIS, an integrated library automation system, which is being implemented in all University of Pittsburgh libraries. The book (post 1970) and journal holdings of the Falk Library are available via the NOTIS on-line catalog, PITTCAT. PITTCAT may be accessed from terminals located in the library or in a dial-up mode from computers on or off campus.

The library's information services include the provision of traditional reference assistance, inter-library loan, document access via telefacsimile, computerized database searching and special instruction in the use of informational resources.

The Learning Resource Center of the Library houses the audiovisual and computer software collections and a new microcomputer facility to support a variety of computer applications including database searching, word processing, computer-assisted instructions, database management, simulations, spreadsheets and graphics.

MEDLINE is available in the library and for local use via a telnet connection.

The Historical Collection includes over 15,000 volumes and features rare books in the areas of medicine, psychiatry and public health.

Additional library collections can be found in WPIC, Langley Hall and the main University library: Hillman Library.
Counseling Service/Learning Skills Center
Room 334, William Pitt Union, 648-7930
Monday - Friday 8:30 a.m. - 5:00 p.m.
Monday & Wednesday
5:00 PM – 9:00 M (fall and spring terms only)

The Learning Skills Center is a service offered free to all University students and employees. It is designed to help a person acquire "...the ability to approach new learning in a systematic and effective way." The program includes courses in college reading and speed reading, as well as study skills workshops (time management, listening and note taking, memory and concentration, essay tests), learning counseling groups, individual counseling, preparation for graduate exams and relaxation training. A more complete listing and description is available by contacting the office at the address listed above.

Student ID
You may obtain your ID by going to the main lobby of the Litchfield Towers between the hours of 7:30 AM - 10:00 PM 7 days a week. You will need to bring a photo ID and be registered and have paid your student activity fee. The fee for lost, stolen, or mutilated ID replacement is $20. You must have a copy of a police report in order for the fee to be waived for a stolen card. (412-648-1100)

University Computing
A variety of computer resources are made available to students by the Medical School and the University of Pittsburgh. Mainframe accounts, microcomputers and software are available to all students at microcomputer labs distributed throughout the campus.

Computer accounts may be obtained by going to room 1077 of the Benedum Engineering Hall Computing Lab located on O'Hara Street between University and Thackeray Streets, one block away from Scaife Hall, with your student ID. The hub of computer facilities provided by the medical school specifically for medical students is the McClain Learning Resource Center (LRC) located in Falk Library in Scaife Hall. The LRC offers a wealth of computer hardware, software and services which support the educational and research needs of students and a helpful staff to assist you in utilizing these resources. A variety of word processors, spreadsheets, graphic and telecommunications software packages are available in the LRC.

The LRC currently supports IBM Compatible PCs and Macintosh (Mac's). Several of the PCs are configured in the STARLAN network which communicates with other microcomputers and mainframes in the Health Center. One PC is dedicated for medical literature searches using GRATEFUL MED, a software package which allows students to search a variety of databases such as MEDLINE.

Two PC's can be used to access Pitt's one-line card catalog, PITTCAT, and other central computer systems the University has available. Yet another PC is configured to serve as a bulletin board system for communication between Pitt and other medical schools to exchange information on topics ranging from financial aid to housing during residence interviews.
The IBGP maintains three computers exclusively for the use of first-year students. The computers are located in the Student Lounge. The location of the Student Lounge can be determined by asking in the Graduate Studies Office.

**Housing**
When you start to look for an apartment, it is advised that you contact the Office of Property Management, 412-624-9900, [http://www.ocl.pitt.edu/](http://www.ocl.pitt.edu/).

The following suggestions may be helpful: your budget is the chief determinant of what you will finally end up getting. With all rented accommodations, it is necessary to check carefully on the hidden costs. If the rent includes utilities, you have saved yourself a little headache. However, some landlords advertise cheaper apartments but then utilities are considered extra. If the bathroom is shared with other tenants and if you are to pay utilities, it is best to find out the arrangement about paying for the water heating and other utilities...Before signing a lease, read it carefully--ONCE YOU PUT YOUR SIGNATURE TO IT YOU CANNOT GET OUT OF IT EASILY. Most real estate leases become valid three (3) days after they are signed. It may be worth your while to get leases examined by somebody who knows the details.

The *Pittsburgh Press* and the campus newspaper are obvious sources for housing information. These papers carry classified advertisement sections giving the details about efficiencies and one, two or more bedroom apartments. An efficiency apartment is a large room which includes a sink, stove, refrigerator, etc. If furnished, the bed, a few chairs, a dresser and a study desk are usually included.

Last, but perhaps the best compromise, is to share an apartment or a house with other people. Landlords are not quite so concerned about renting to mixed groups, but it is best not to make it obvious. Another method of going about looking for apartments is to go through a real estate management agency.

The standard security deposit is one month's rent, which is kept as a security for the upkeep of the place. If you don't break or damage anything, it is returned when you leave. It is beneficial to check out the distances and location of the nearest grocery store, drug store, post office and laundromat. You will soon realize the advantages of having these close, especially if you don't own a car. If you own a car, it is possible that you will need a parking place. To avoid useless hassles, find out the parking arrangement before signing the lease (*most areas in Oakland are now permit parking only*).

There are several St. Vincent de Paul, Salvation Army and Goodwill Stores that have used furniture -- proceeds from which go to rehabilitation efforts or to the poor. A complete listing of these stores can be found in the white pages. Often the Sunday *Pittsburgh Post Gazette* carries a section on garage sales.

A list of some real estate agencies that operate in the Oakland area may be found by referring the "Students Survival Guide".
Student Organization Resource Center (SORC)
833 William Pitt Union – 412-624-7115
The SORC supports the activities of Pitt’s 270 certified student organizations. It provides computer accounts, mail, fax, copy and notary service, and production support for printed materials. Student groups may obtain assistance in recruitment, financial management, facilities utilization, program planning, and community service.

The SORC also administers emergency loans of up to $300 for educational purposes to students who are registered for 6 or more credits. At the heart of the SORC is the Student Activities Business Office which administers all activity fee funded organization accounts amounting to over $1,000,000 annually.

Transportation

Parking
City parking permits may be obtained by city residents from the Parking Authority located at 232 Boulevard of the Allies. Permits cost $20 per annum (check or money order) and you must supply your driver’s license, vehicle registration, and proof of residency (utility bill with name and city address).

University parking permits entitle holders to park in specified University lots during certain hours of the evening. These permits are obtained during business hours through the Parking & Transportation Office, 624-4034, 204 Brackenridge Hall. You must complete an application and submit the license number and make of your vehicle in order to obtain permit http://www.pts.pitt.edu/.

Parking permits for the UPMC Towerview Lot are available by applying in person at the UPMC Parking Operations Office for a monthly fee.

Port Authority Transit (PAT)
All University of Pittsburgh students, staff and faculty may ride all Port Authority buses, trolleys and inclines within Allegheny County FARE-FREE 24 hours a day, seven days a week, 365 days a year. This includes the Saturday Mall Buses and the Sunday Cultural Buses. All that you have to do is show the driver a valid and current Pitt ID. Family members and guests must pay the full fare.

For schedule information, contact the Department of Parking, Transportation and Services or Port Authority at (412) 442-2000.

University Shuttle Services
University Parking & Transportation Department
William Pitt Garage
http://www.pc.pitt.edu/transportation/
Free transportation service for the University community during daylight hours Monday - Friday, and evening hours Monday - Sunday. There are five shuttle services, the Campus Bus, Inner Campus Shuttle, North Oakland Shuttle, South Oakland Shuttle, and Sutherland Bus. A schedule of the shuttle stops and times is available in the Office of Student Affairs. There is also a University Parking
Shuttle that runs from the OC Lot to Scaife Hall. This shuttle begins service at 6:40 a.m. with the last pickup at 9:00 p.m. Schedules are available in the Office of Student Affairs.

**On-call Shuttle**
The On-Call Shuttle will be radio dispatched to your location from 7:00 p.m. to 2:30 a.m., Sunday through Wednesday and from 7:00 p.m. to 3:00 a.m. Thursday through Saturday, except during the Winter Recess and other times as advertised in the Pitt News. By calling 412-624-1700, you may request a ride from buildings to parking lots and classrooms.

**Shuttle Service For Passengers With Disabilities**
Transportation arrangements for passengers with disabilities may be made by contacting 412-648-7690. A van with a wheelchair/cart lift and standard passenger seating operates between the hours of 8:30 a.m. and 7:00 p.m. Monday through Sunday when classes are in session. The On-Call shuttle is also equipped with the wheelchair/cart life service and is available after 7:00 p.m.

**Dining Facilities**
Students may purchase meals within the Medical Center at the Presbyterian Hospital Cafeteria on the 11th floor of Scaife Hall or the Montefiore Cafeteria on the 4th floor of Montefiore Hospital

PRESBYTERIAN UNIVERSITY HOSPITAL CAFETERIA (menu-line 412-647-4328)
11th floor - Presbyterian University Hospital
OPEN 24 HOURS

**Lost and Found**
Lost and Found for all of Scaife Hall is located in the UPMC Security Office. Anyone finding or losing an item in Scaife Hall may check there during office hours.

**Photocopying Services**
There are two (2) photocopy rooms in the Falk library on the 2nd floor of Scaife Hall, with four copiers in each. There are both standard and reducing machines and they are coin and venda-card operated. The venda-cards can be purchased from the Copy Cat, 246 Scaife Hall.

Cost per card is $1.00 for the card and seven (7) copies. The card may then be re-encoded by putting in another $1.00 (or more). Each dollar added will give you fifteen (15) more copy credits. If coins are used, the cost is $.10 per copy.

Copy Cat hours are Monday - Friday, 7:00 am to 7:00 pm.

**University Health Center Book Store**
3527 Forbes Avenue
M-Th 8:30-6:00, F 8:30-5:00
PHONE: 412-648-8915
The Health Sciences Book Store carries most of the books and supplies needed by medical students, as well as a variety of other paraphernalia. The University also operates the main bookstore on Fifth Avenue, next to the Lichtfield Towers dormitory area. This store is much larger and carries a wide variety of supplies, but does not generally carry textbooks for Medical School classes.

Bicycle Racks
There are bicycle racks on the second and fourth floor entrances to Scaife Hall, the fifth floor of the Biomedical Science Tower Parking Garage, and the bottom level of the School of Public Health parking garage. You may register your bicycle with the Parking Office by calling 624-0687, or emailing them at RIDESHAR+@pitt.edu

Notary Public
William Pitt Union, Room 833
Phone: 412-624-7115
Students may have documents notarized for a fee, by a notary public in the William Pitt Union.

Bulletin Boards
Information pertaining to graduate students is posted on the large black bulletin board located on the 5th floor of Scaife Hall. This should be checked regularly.

News Publications

THE PITT NEWS
The Pitt News is published by undergraduate students and contains campus news, features, sports, TV listings, calendar of events and classified ads. It is distributed three times a week in the Summer and daily in the Fall & Spring Terms.

THE UNIVERSITY TIMES
The University Times is the publication of record for the major policy-making and influencing bodies of the University. It carries news of the campus as well as off-campus news which might have a bearing on University policy. The Times is published bi-monthly during the academic year by the Department of News and Publications and is staffed by permanent university employees. These newspapers, all of which are free can be found in stacks throughout the University. The most convenient spot to pick up these newspapers is in the fourth floor lobby of Scaife Hall.

Athletic Facilities
150 Trees Hall
412-648-8210

Pitt has a large and well-equipped complex of athletic facilities. Use of the athletic facilities is divided between varsity sports, intramural, classes and individual use. Times when facilities will be open for individuals will be posted at the entrance to Trees Hall, Field House, and WPU. A valid Pitt ID is required for use of all facilities. Reservations for groups should be made 30 days in advance. Any
changes in scheduling will be announced on the schedule hotline (648-8213). Facilities include basketball courts, squash courts and track in Fitzgerald Field House; and basketball courts, gym, racquetball courts, swimming pool, volleyball courts and weight rooms in Trees Hall.

**Intramural Sports**
The intramural program is very active. The medical school competes in the Graduate/Faculty, Women's, or Independent Divisions, in the past having fielded teams in soccer, softball, basketball, women's basketball, football, co-ed volleyball, and other sports. To enter intramural competition sports, a team member should secure an entry form from the Intramural Office at Trees Hall.

**Student Health Service**
3708 Fifth Avenue
5th Floor, Medical Arts Building
M-F 9:00 am - 7:00 pm
(Hours may vary during the summer)
412-383-1800
The Student Health Service is located on the fifth floor of the Medical Arts Building. They are open Monday through Friday from 9:00 a.m. to 7:00 p.m. They offer quality primary health care by appointment with licensed medical doctors and nurse practitioners. They also offer on-site specialty services, dermatology, orthopedics, gynecology, nutrition counseling, health education, a pharmacy and health promotion planning.

**Allegheny County Health Department**
3333 Forbes Avenue
PHONE: 412-578-8026
Free screening for venereal disease and immunizations are offered at the Allegheny County Health Department located on Forbes Avenue in Oakland. Free screening for tuberculosis is also offered.

**Psychological Counseling and Referral Services**
University Counseling Center
334 William Pitt Union
412-648-7930
In addition to the services of Student Health, students may receive individual counseling through the University Counseling Center. There are five counseling psychologists and a consulting psychiatrist on staff.

Reasons why people seek help from counselors vary -- personal problems, emotional difficulties of many kinds, concerns about progress or direction. Appointments may be scheduled in advance either
in person or by phoning 412-648-7930. Appointments can usually be arranged within a few days. In case of unusual urgency, a counselor may be seen at once.