



**THE OHIO STATE UNIVERSITY**

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COLLEGE OF MEDICINE

**Biomedical Sciences  
Graduate Program**

Student Handbook

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## INTRODUCTION

The Biomedical Sciences Graduate Program is the College of Medicine's PhD program. The Council of Research and Graduate Studies is the principal legislative body of the Graduate School that initiates policies and rules governing graduate programs. The Council sets the minimum standards as published in the Graduate School Handbook and serves as a primary reference for policies, rules, and general information.

The following pages contain policies, rules and general information for the Biomedical Sciences Graduate Program, which should be reviewed and consulted in conjunction with the Graduate School Handbook.

**Questions can be directed to:**

Biomedical Sciences Graduate Program Staff

1178 Graves Hall

333 W. 10<sup>th</sup> Avenue

Email: [bsgp@osumc.edu](mailto:bsgp@osumc.edu)

Website: <http://www.medicine.osu.edu/bsgp>

## **BIOMEDICAL SCIENCES GRADUATE STUDENT ORGANIZATION**

The Biomedical Sciences Graduate Student Organization (BSGO) was founded by the inaugural class of the Program in 2001. The main goal of the BSGO is to provide comradeship to all students. The BSGO functions as the communication vehicle between its membership and the administration of the graduate program. It also provides professional and social opportunities. The BSGO strives to inform, interact with, and serve the biomedical community. The BSGO also serves the public at large in ways related to biomedical research and education. During meetings, topics discussed include future course work, recruiting events, community service projects, and student concerns. The BSGO also co-sponsors the new student orientation and The OSU Medical Center Research Day. See Appendix P for the BSGO Constitution.

## **BENNETT SOCIETY**

The Bennett Society was founded in 1984 in the College of Medicine and was named in honor of the Bennett Foundation. The goals of the Bennett Society are to promote and recognize excellence in graduate research and education, as well as to enhance communication between graduate students and the faculty within the College of Medicine. The Bennett Society extends an open invitation to all graduate students in the College of Medicine to join the society to promote graduate student education and research.

## **OSUMC RESEARCH DAY**

For many years there have been several different events in the College of Medicine (COM) at which students presented results of their research. While this showcased some organizations, and it gave a few students multiple opportunities to gain experience in scientific presentations and also resulted in smaller audiences. In 2002, for the first time, the COM combined a number of events, which previously had been held individually, into one OSU Medical Center Trainee Research Day. This event is held annually. In addition to students from the Biomedical Sciences Graduate Program, this event is sponsored by research trainees from the Bennett Society, Landacre Honor Society, Medical Scientist Student Organization, medical students, including those supported by the Roessler Foundation, students in interdisciplinary graduate programs who have an advisor that is a faculty member of the COM, and existing departmental graduate programs. This is also a forum for Postdoctoral Trainees, Clinical Fellows, and Residents to present their work. **Students are strongly encouraged to present a poster at this event each year after their first year of study.**

## REGISTRATION AND SCHEDULING

### **Student First Year Advisor**

In the term preceding registration, each student will be assigned a first year faculty advisor. The first meeting with the student will usually be held on Orientation Day. The major purpose of this meeting is to determine the student's major research interest and to review plans for the laboratory rotation for the Summer session. The minutes of this meeting will be generated by the student on the appropriate report form (see Appendix D), and a copy of the signed minutes will be sent to the Biomedical Sciences Graduate Program office.

### **Buckeye Link (course registration)**

The Biomedical Sciences Graduate Program office will help register students for the first semester. **For all subsequent semesters, students will register using the Buckeye Link SIS registration system** at [www.buckeyelink.osu.edu](http://www.buckeyelink.osu.edu). You will be notified by the Registrar's Office, via e-mail, with the date and time your scheduling window opens. Courses for the first year are summarized in Appendix E. Please be mindful of registration deadlines, as a late fee will be assessed. **If a late fee is assessed the Program will not pay for it.**

### **Credit Hour Requirements**

**Post-candidacy doctoral students:** 3 credit hours per semester or summer session.

**Graduate Associates:** Graduate associates must register for at least 8 credit hours per semester, except in summer session, when the minimum is 4. Post-candidacy doctoral students must register for at least 3 credit hours each semester or summer session an appointment is held. These registration requirements can include research hours.

**Fellows and Trainees:** Students holding the titles Graduate Fellow or Graduate Trainee, regardless of the source of the funds, must register for a minimum of 12 credit hours each semester the appointment is held except in summer session when the minimum is 6. Graduate Fellows or Graduate Trainees who are post-candidacy doctoral students must register for at least 3 credit hours per semester or summer session an appointment is held. These registration requirements can include research hours.

**International Students:** International students are required to register for a minimum of 8 credit hours per semester except in summer session, when the minimum is 4, unless they hold appointments as fellows or trainees. International students who are post-candidacy must register for at least 3 credit hours. These registration requirements can include research hours.

**\*For pre-candidacy students, the maximum amount of credit hours allowed is 18.**

### **I.D. Card Processing/Replacement**

Medical Center I.D. badges may be obtained and coded from the Hospital Security Department (614-293-4452), located on the first floor of Rhodes Hall. Please report lost or stolen I.D. cards immediately. Student Buck I.D. may be obtained from the University ID Card Services in the Ohio Union. First year students will receive their Medical Center and Buck I.D.s during orientation or shortly thereafter.

**iTunesU** is a course management system that operates on only iOS devices (iPad, iPhone, or iPod touch)

When enrolling into an iTunesU course you will be sent an enrollment code then will be approved to join the course by the iTunesU Course Manager.

To enroll do **one** of the following:

- Click on the course link provided by the iTunesU Course Manager
- When students access the link from an iOS device (iPad, iPhone, or iPod touch), they can tap the link to request access. After request has been approved, students can access the course using an Apple ID

**OR**

- Enter the iTunesU App
- Click on the '+' next to 'Catalog'
- Click on 'Enroll in a Course'
- Enter the enrollment code given by iTunesU Course Manager into the 'Enter enroll code' prompt box , click 'Ok'
- After request has been approved, students can access the course using an Apple ID

## EMPLOYMENT

### Graduate Associates

During the first year of course work, students are awarded either a Graduate Research Associateship (GRA) or a Fellowship. It is the intention of the Biomedical Sciences Graduate Program that students do not require outside employment. Outside student employment must not interfere with their course of studies. See Appendix E and F for a detailed description of the curriculum requirements.

### Direct Deposit

The Ohio State University uses a paperless pay system. Students can enroll in direct deposit of their monthly pay to a bank of their choice on the BuckeyeLink website, <https://buckeyelink.osu.edu/task/all/direct-deposit>

### Fee Waivers

Students who are awarded a fellowship or GRA appointment will have their fees and tuition waived. **Students are responsible for other expenses, i.e., COTA, health insurance premium, etc.**, and should pay for their portion by the deadline established by the Registrar's office.

### Residency

Fees and tuition are based on a student's residency status. Therefore, to obtain in-state tuition rates **students are required to apply for residency status** (if applicable) after 12 consecutive months of course work. Please go to the following website for the information and forms to file for residency status: <https://registrar.osu.edu/Residency/>

## BENEFITS

**Athletic Ticket Office:** <http://www.ohiostatebuckeyes.com>

The Ohio State University's Department of Athletics offers intercollegiate competition in 31 varsity sports. Students may purchase tickets by contacting the Athletic Ticket Office.

**CABS (Campus Area Bus Service):** <https://ttm.osu.edu/cabs>

You can find the routes mapped out, service schedules, and how to get access to the handivan and charter services on this web page.

**Campus PARC:** <http://www.campusparc.com/>

Campus PARC issues parking permits to faculty, staff, students and guests. Campus traffic violations are resolved through this office. Other services offered are jump-starts and unlock locked vehicles.

**COTA Buses:** <http://www.cota.com>

Bus passes are included with fees and tuition each semester. Bus schedule information can be obtained on the COTA website.

**Credit Union:**



All employees of OSU are eligible to join the Credit Union of Ohio, which is a non-profit full service organization. This organization provides checking and savings accounts, loans, IRA accounts, and a variety of other professional financial services to university employees. In addition, Entertainment Books, Money Orders, Travelers Checks, and discounted tickets to local amusement parks are available for sale. A Notary Public is also available.

**Council of Graduate Students:** <https://cgs.osu.edu/>

The pamphlet will be in your orientation packets and the CGS will send you a packet of material in August.

**Dental Care:** <http://dentistry.osu.edu/patients/ohio-state-dental-clinics>

The Dental Clinic provides complete high quality dental care. All services provided by student dentists and student dental hygienists, are supervised by dentists and dental hygienists who are members of the college faculty.

**Disability Services:** <http://ods.osu.edu/>

The Office for Disability Services exists to improve all aspects of campus life for disabled persons by providing and coordinating academic accommodations and support services to any member of The Ohio State community.

**Environmental Health and Safety (EHS):** <http://ehs.osu.edu/>

The Office of Environmental Health and Safety formerly the Division of Environmental and Occupation Health and Safety, was established in 1979 to assist the university community to maintain a safe, healthful work environment and to comply with federal, state and local regulations. EHS is organized into eight program areas. All OSU paid personnel are expected to receive risk management training proper to their assigned work.

**Financial Aid:** <http://sfa.osu.edu>

You can find the forms and information for scholarships, student loans, and grants.

**Food Services:** <https://dining.osu.edu/>

BistrOH Cafeteria, Panera Bread, Caffeine Element, Mirror Lake Café, Marketplace, and Wendy's Old Fashioned Hamburgers are a few areas that offer food services nearby. Visit <https://dining.osu.edu/locations/> for a complete listing of campus dining service locations where cash, Buck-ID, and major credit cards are accepted. Up-to-date hours are posted here as well.

**Graduate School:**

The Graduate School Handbook can be accessed through the internet at the following web address <https://gradsch.osu.edu/>. The phone number to the Graduate School is (614) 292-6031.

**Lantern:** [www.thelantern.com](http://www.thelantern.com)

The Lantern, publishes a student newspaper Monday-Friday during the school year, and is one of the largest college papers in the country. It is written by the students and is available at various locations throughout the OSU campus. It includes editorials,

national and local news items, information regarding activities on campus, and classified ads.

**Libraries:** <http://library.osu.edu/>

Students may borrow books with a valid University I.D. card. Individuals with a current OSU I.D. card who need material that is not available on the OSU campus may request it through the Interlibrary Loan Department. The libraries offer many services like photocopying, workshops, searches, etc.

**Lost and Found:**

Anyone finding lost items should contact the Hospitals Security Department (293-8500). Every attempt is made to return items to the owner(s). Anyone inquiring about a specific item may contact this office twenty-four hours a day and an officer will check to determine whether a specific item has been collected or released.

**Name Change Procedure:**

In the event that a name change is made contact offices with updated information:

Biomedical Sciences Graduate Program: [BSGP@osumc.edu](mailto:BSGP@osumc.edu)

College of Medicine Human Resources: (614) 688-6696

Registrar's Office: <https://registrar.osu.edu/students/>

**Ohio Union:** <https://ohiounion.osu.edu/>

The Ohio Union offers a variety of recreational, dining, social, educational, and cultural activities for faculty, staff, students, alumni, and guests of the University. The one-stop area includes billiards, video games and pinball machines, a number of fast food restaurants, meeting rooms, computer labs and more.

**OSU Internet Access:**

Students are provided with an OSU user name and address, which can be activated from the Office of Information Technology's website: <https://ocio.osu.edu/>

**Postal Services:**

There are collection boxes throughout campus. However, the post office on campus is located at 242 W 18th Avenue in the Journalism Building.

**Recreational & Physical Activity Center (RPAC):** <http://recsports.osu.edu>

Students may use the RPAC facilities by presenting a University I.D. card at the Recreational and Intramural Sports Office. Some of the activities offered by OSU at RPAC, ARC, and Jesse Owens Centers are: badminton, basketball, conditioning, golf, handball, racquetball, ice skating, intramural sports, jogging, platform tennis, swimming, tennis, volleyball, and wallyball.

**Security/Campus Police:** <https://dps.osu.edu/>

The Hospitals Department of Security (293-8500) and University Campus Police (292-2121) are committed to crime prevention and faculty, staff, student, and visitor protection. Officers patrol the Hospitals 24 hours a day, resolving patient and visitor disturbances and recording and investigating criminal reports. Security officers are also available to escort staff at night and to assist with minor car problems.

**Student Advocacy Center:** <http://advocacy.osu.edu/>

Provides answers to students' questions, directs you to appropriate staff and departments, and gives general guidance on university policies and procedures.

**Student Health Insurance Program:** <http://www.shi.osu.edu>

All students are eligible for health insurance. The option to enroll appears when registering for classes and students must be enrolled for at least half time (6 hours undergrad, 5 hours graduate) to be eligible; however, exceptions may be granted.

**Student Wellness Center:** <http://swc.osu.edu/>

A comprehensive center for all dimensions of wellness (emotional, career, social, spiritual, financial, intellectual, physical, creative, and environmental).

**University Laboratory Animal Resources (ULAR):**

<http://ular.osu.edu/training/required-training/>

As mandated by the Animal Welfare Act, it is the responsibility of the research institution to ensure that all individuals using animals in research or teaching are qualified and appropriately trained. As such, Ohio State's Institutional Animal Care and Use Committee (IACUC) requires that all personnel complete the following mandatory courses/registries:

Online Animal Care and Use Course

Occupational Health Registry

Occupational Health and Safety Course

OSU Financial Conflict of Interest Screening/Disclosure

Experience and Training Narrative

If your animals are to be housed in the Biomedical Research Tower (BRT), you must also complete Facility Training.

**Veteran and Military Students:** <http://veterans.osu.edu>

In order to provide quality human resource services to faculty and staff, the Office of Human Resources supports our nation's veterans with goals to provide affirmative action assistance to covered veterans; to provide employee relations support to all faculty and staff veterans; to provide enrollment certification for student veterans participating in the GI Bill program; to serve as a focal point for all campus veteran activities; and to foster a positive campus and community atmosphere.

**Wexner Center:** <http://www.wexarts.org/>

The Wexner Center for the Arts is a multidisciplinary contemporary arts center with programs in Exhibitions, Media Arts, Performing Arts, and Education. Performing arts programs are held at Mershon Auditorium and coordinated through the Wexner Center complex.

**Wilce Student Health Center:** <https://shs.osu.edu/>

Provides medical services to students. Wilce Student Health Center is located at 1875 Milliken Rd.

**Younkin Success Center:**

The Younkin Success Center is a unique collaboration between the Offices of Academic Affairs, Student Life, Department of Athletics, and the College of Education and Human Ecology that brings together learning and teaching, students and faculty, career and holistic counseling services, and undergraduate and graduate students and student athletes. Each of these services has information on their website as well as online pamphlets, questionnaires, and service options. Help, as always, is confidential. Several offices are involved in this collaboration:

**Career Counseling and Support Services:**

<http://www.careerconnection.osu.edu>

Provides students with relevant on and off campus career resources for the career decision making process. Walk-ins are first come first served and sign-up for walk-ins begin 15 minutes before the period. Resources, links, forms, and handouts are available on the Career Connection Website.

**Counseling & Consultation Service:** <https://ccs.osu.edu/>

Provides counseling and therapy to address personal, academic, and career concerns. There is no fee for the first 10 sessions per academic year for OSU students. If you have student health insurance and are eligible to continue in counseling, there is a \$15 co-pay per session after the 10<sup>th</sup> session. Call 614.292.5766 to schedule an appointment.

**Walter E Dennis Learning Center:** <http://dennislearningcenter.osu.edu>

Provides academic learning support to students of all levels and backgrounds. All services are free to OSU students.

## APPENDICES

- A. Admission Policy
- B. Student Transfer Policy
- C. Policy for Graduate Student Financial Support
- D. Checklist for Student Meetings and Report Forms
- E. Core Curriculum Overview
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- O. Medical Scientist Training Program
- P. BSGO Constitution
- Q. Dissertation Protocol
- R. Authorship Guidelines

## BIOMEDICAL SCIENCES GRADUATE PROGRAM ADMISSION POLICY

Admission to the graduate program requires an undergraduate degree in the natural sciences that includes college level courses in life and physical science, including general chemistry, organic chemistry, biochemistry, general biology, physiology, genetics, physics, and college mathematics. An earned cumulative grade-point average (GPA) equivalent to at least 3.0 out of 4.0 in all previous undergraduate and/or graduate college-level course work is required. If the student's undergraduate GPA is below the minimum, the student may be eligible for admission only in demonstrated cases of exemplary research experience and motivation.

Students are selected based on their previous academic record, a personal statement, resume/CV, three letters of recommendation, and a personal interview. In extenuating circumstances, and at the discretion of the Graduate Studies Committee, the interview may be conducted by telephone or by Skype. International students are required to submit Test of English as a Foreign Language (TOEFL) scores. To be competitive with the best applicants, early application by December 1 is encouraged, although applications are accepted through February 1. Interested students are encouraged to read the following website <http://medicine.osu.edu/bsgp/> for more information about the Biomedical Sciences Graduate Program and application procedures. A special effort is made to recruit students from underrepresented minority groups. All domestic students are funded by the Biomedical Sciences Graduate Program or fellowships in the first year of study, and subsequently, by either their dissertation advisor or fellowships. International applicants must document that they have arranged for financial support for themselves, such as from a home government or from a Biomedical Sciences Graduate Program professor with whom they have communicated personally.

The Medical Scientist Training Program (MSTP) <http://medicine.osu.edu/mstp> at The Ohio State University exists to bridge the gap between clinical medicine and research. Highly qualified students may enroll in this rigorous program to pursue both the M.D. and Ph.D. degrees simultaneously. The MSTP provides state-of-the-art research and clinical medicine training for extraordinary students desiring a combined academic medicine/biomedical research career track. Candidates from this program must meet all the requirements of both the Biomedical Sciences Graduate Program and the M.D. program. The Medical College Admissions Test (MCAT) scores are required for admission of these students to the Biomedical Sciences Graduate Program. Admission to the MSTP can be made through one application process. This is initiated through the American Medical College Applications Service (AMCAS): <https://www.aamc.org/students/applying/amcas/>

**BIOMEDICAL SCIENCES GRADUATE PROGRAM  
STUDENT TRANSFER POLICY**

Students seeking to transfer to the Biomedical Sciences Graduate Program from another graduate program either at OSU or another institution must submit all of the application materials required for admission to the Program. An earned cumulative grade-point average (GPA) equivalent to at least 3.0 out of 4.0 in all previous undergraduate college-level course work, or 3.3 in all graduate course work is required. All other requirements are described under Admission Policy (Appendix A).

Prior to approval of the transfer, the student may request transfer of credit for graduate courses from the current or previous program to the Biomedical Sciences Graduate Program. All students are required to complete the Biomedical Sciences Graduate Program course curriculum or its equivalent. Transferring students may appeal to substitute prior coursework for credit given, but only at the discretion of the Director for each course. The Course Director must approve such requests, and the student must submit appropriate documentation of the contents of these courses for the Course Director to review, including a detailed syllabus for each course. The student must clearly summarize the contents of the courses taken previously, and indicate how these are equivalent to specific areas of the curriculum from which exemption is being requested. The Course Director may then administer an exam to the student to further ascertain competency in the areas of study.

If the student's advisor from the previous program is a faculty member in the Biomedical Sciences Graduate Program, the student can request that the Graduate Studies Committee grant exemption from laboratory rotations. The student can also request that research data obtained while the student was in another program be applied to the Biomedical Sciences Graduate Program dissertation. This request must be accompanied by a letter from the following: (a) The advisor under whom the student was working while the data were collected and signed by the advisor; (b) All other appropriate individuals associated with that study; and (c) The current Dissertation Advisory Committee members. This letter must state that the student has permission to include this information in the dissertation. All of this material must be submitted to the Biomedical Sciences Graduate Program Graduate Studies Committee for review prior to approval.

## BIOMEDICAL SCIENCES GRADUATE PROGRAM POLICIES FOR GRADUATE STUDENT FINANCIAL SUPPORT

General policies for Graduate Research Associate (GRA) and Graduate Fellowship appointments are outlined in the Ohio State University Graduate School Handbook at <http://www.gradsch.ohio-state.edu/graduate-school-handbook1.html> . Policies specific to the Medical Scientist Training Program (MSTP) differ and are described at <https://medicine.osu.edu/mstp/Pages/index.aspx>

It is the policy of the Biomedical Sciences Graduate Program that all doctoral students actively studying in the Program should be provided with financial support in the form of a GRA or from a sponsored Fellowship. GRA support will be provided by either the Biomedical Sciences Graduate Program or the student's research advisor. Fellowship support will be awarded by either the Graduate School or from sources external to Ohio State University. Consequently, admission to the Program is dependent upon the availability of multiyear financial support for the incoming student. In keeping with NIH guidelines for the Biomedical Sciences Graduate Program obtaining funds from an NIH-sponsored Training Program grant, the Biomedical Sciences Graduate Program will consider only those applicants who are U.S. citizens or registered aliens to be recipients of any financial support directly from Biomedical Sciences Graduate Program funds. Thus, international applicants must document that they have arranged for financial support for themselves, such as from a home government or from a Biomedical Sciences Graduate Program professor with whom they have communicated personally.

### **ASSOCIATESHIPS**

First Year Students: Most incoming first year students will be supported as a GRA through the Biomedical Sciences Graduate Program or University Fellowship. Initial positions are usually funded by the Biomedical Sciences Graduate Program for a period not to exceed one year, after which time the support is through the dissertation advisor. A GRA for domestic students also includes tuition and fee authorizations. GRA appointments are for 50% time, which is considered to represent 20 hours per week of research service, fulfilled in part through laboratory rotations. **Students are not permitted to hold other jobs while on GRA appointment.** Continuation of the GRA appointment by the Biomedical Sciences Graduate Program after the first year in the Program is dependent upon satisfactory performance, and will be evaluated by the Biomedical Sciences Graduate Program Graduate Studies Committee.

All Other Students: Financial support will become the responsibility of the dissertation advisor following year 1. It is expected that in most cases, financial support after year 1 will be from either the advisor's research grant or training grants/fellowships. Hours per week in the lab are determined by the dissertation advisor. Biomedical Sciences Graduate Program students do not earn vacation and sick time leave benefits. Therefore, request for vacation time is at the discretion of the faculty advisor and the needs of the lab. Longer periods of leave should be reviewed for approval by the Biomedical Sciences Graduate Program Director in compliance with OSU Graduate School policies <<http://www.gradsch.ohio-state.edu/graduate-school-handbook1.html>>



### FELLOWSHIPS

University fellowships are awarded to outstanding academic students and fund, in part, the pre-candidacy and post-candidacy exam years, depending upon the specific fellowship. Students must be nominated by the Biomedical Sciences Graduate Program for University fellowships and the Program will process the student's application. Periods of training in the Program not funded by a Fellowship will be funded by either GRA appointments provided by the Biomedical Sciences Graduate Program or the faculty research advisor, as described above.

### OTHER SUPPORT

Students that do not qualify for support from either the Biomedical Sciences Graduate Program or through Fellowships can be admitted into the Ph.D. program, but only following approval of documentation of financial support covering stipend, tuition, and fees. Stipends, in the form of a GRA appointment, must be at least equivalent to those provided to Biomedical Sciences Graduate Program students enrolled in the Program.

### OUTSIDE EMPLOYMENT

Graduate education in the Biomedical Sciences Graduate Program is a full time endeavor. Realizing this, the Biomedical Sciences Graduate Program provides financial assistance to students to reduce the financial impact of being a graduate student full time. **As a consequence, acceptance of financial assistance in any of the above forms precludes a student from being employed outside of the Biomedical Sciences Graduate Program.** Exemption from this policy will be made in only exceptional circumstances. Requests for exemption must be made in writing to the Graduate Studies Committee, and have the full support of the student's advisor and advisory committee members. Such employment should have an educational advantage for the student.

### LEAVE POLICY

**Vacation and Holidays.** Graduate students shall receive all University holidays and no more than 14 calendar days (counting all days Monday through Sunday) of vacation per year, with no year-to-year accrual. Students will continue to receive stipends during vacations and holidays. The times between academic semesters and the summers are considered active parts of the training period and are not necessarily free times. Students taking courses are expected to attend all classes and take all exams as scheduled. For advanced graduate students, vacation time should be arranged with the dissertation advisor.

**Sick Leave and Other Leave.** Graduate students may continue to receive stipends for up to 14 calendar days (counting all days Monday through Sunday) of sick leave per annum, with no year-to-year accrual. Under exceptional circumstances, additional sick days may be granted following a written request and approval by the Biomedical Sciences Graduate Program Director. Sick leave may be used for the medical conditions related to pregnancy and childbirth.

**Parental Leave.** Graduate students may also receive stipends for 6 weeks for the birth mother for a vaginal delivery and 8 weeks for a cesarean delivery. The birth father receives 3 weeks. Parental leave must be approved by the Biomedical Sciences Graduate Program Director. Medical documentation is required.

Unpaid Leave – Individuals requiring more than 14 calendar days of sick leave or more than the parental leave allowed, must seek approval from the Biomedical Sciences Graduate Program Director for an unpaid leave of absence.

### **MEMORANDUM OF UNDERSTANDING (MOU)**

Rotating through faculty research laboratories provides a Biomedical Sciences student with information regarding faculty and their research. This information proves helpful as Biomedical Sciences students both decide on their area of research interest and identify a faculty/dissertation advisor. The list of Biomedical Sciences Graduate Program faculty is available on the Biomedical Sciences Graduate Program Web site and a current list of funded faculty hosting rotating students will be made available each semester via e-mail. Successful completion of the first year of study will culminate in identification of a dissertation advisor. The Dissertation Advisor will sign an MOU documenting he/she has the resources and commitment to support a student making progress through completion of the program requirements. The Memorandum of Understanding [MOU (see below)] is the form that binds the agreement that the faculty/dissertation advisor will support the student with a stipend throughout the years until graduation. The student also signs the agreement to acknowledge that they are aware of the financial commitment being made by their advisor to promote their development as a scientist. The Chair of the advisor's home department also signs the agreement to acknowledge that they will financially support the student should the advisor have difficulty with funding.

**Memorandum of Understanding (MOU) Between  
Dissertation Advisor and Biomedical Sciences Graduate Program**

This is to document the understanding that \_\_\_\_\_ agrees to be the Dissertation Advisor for \_\_\_\_\_ with an effective date of \_\_\_\_\_. In addition to fulfilling the commitments outlined in the Biomedical Sciences Graduate Program Student Handbook, this agreement carries with it the obligation to provide a stipend for this student for each year of study until the student graduates from the Biomedical Sciences Graduate Program. This will be the amount that is determined annually by the College of Medicine (COM), which is currently \$29,300 for FY2019. Should the source of the stipend come to an end, the Dissertation Advisor will make every effort to arrange another source for the stipend. If this cannot be done, the Dissertation Advisor will notify the Biomedical Sciences Graduate Program Directors *as soon as possible* (and no less than one semester before the end of funding), so that joint efforts by the Advisor, Department Chair, and Directors can be initiated to establish a funding source for the stipend, tuition & fees. This may involve reassigning the student to a new dissertation advisor.

\_\_\_\_\_  
Jeffrey Parvin, MD, PhD  
Associate Dean, Graduate Studies  
Co-Director, Biomedical Sciences Graduate Program  
Michael Freitas, PhD  
Co-Director, Biomedical Sciences Graduate Program

\_\_\_\_\_ Date \_\_\_\_\_ Dissertation Advisor

\_\_\_\_\_  
Departmental Chair  
(Advisor's home department)

\_\_\_\_\_  
I hereby understand the investment being made by my advisor to foster my development as a research scientist. I also understand my responsibilities in this program as outlined in the Student Handbook.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_ Date

## CHECKLIST FOR STUDENT MEETINGS

Year One [with First Year Advisor (FYA)] †	
MEETING TIME	MEETING DISCUSSIONS
Before first semester	<ul style="list-style-type: none"> <li>E-mail introduction</li> </ul>
Orientation Day or by arrangement for another time	<ul style="list-style-type: none"> <li>Career &amp; Educational Goals</li> <li>Discuss Core curriculum &amp; courses</li> <li>Confirm or discuss rotation choices</li> <li><b>Meeting with First Year Advisor Form</b></li> <li><b>Lab Rotation Proposal Form</b></li> </ul>
Autumn	<ul style="list-style-type: none"> <li>Review academic performance</li> <li>Discuss lab rotations and mentor possibilities</li> <li><b>Faculty Lab Rotation Evaluation Form(s)</b></li> <li><b>Meeting with First Year Advisor Form</b></li> <li><b>Lab Rotation Proposal Form</b></li> <li><b>Lab Rotation Minutes Form</b></li> </ul>
Spring	<ul style="list-style-type: none"> <li>Review academic performance</li> <li>Discuss choice of Dissertation Lab and Mentor</li> <li>Discuss dissertation research plans</li> <li>Discuss choice of an area-of-research interest</li> <li>Set a target date for completion of candidacy exam</li> <li><b>Faculty Lab Rotation Evaluation Form(s)</b></li> <li><b>Meeting with First Year Advisor Form</b></li> <li><b>Lab Rotation Proposal Form</b></li> <li><b>Lab Rotation Minutes Form</b></li> </ul>

† For each meeting with the FYA, the student is responsible for completing the appropriate online form. See: <http://medicine.osu.edu/bsgp/current-students/student-handbook-and-forms/pages/index.aspx> This is an important mechanism for us to track a student's progress.

## Appendix D

<b>YEAR TWO</b>		
<b>MEETING TIME</b>	<b>FACULTY</b>	<b>MEETING GOALS</b>
Beginning of Autumn	Dissertation Advisor	<ul style="list-style-type: none"> <li>• Discuss dissertation project</li> <li>• Choose courses for coming year</li> </ul>
Mid-Autumn	Dissertation Advisor	<ul style="list-style-type: none"> <li>• Review progress</li> <li>• Discuss research grant proposal</li> <li>• Choose courses for Spring</li> </ul>
Beginning of Spring	Dissertation Advisor	<ul style="list-style-type: none"> <li>• Discuss research grant proposal</li> <li>• Review progress</li> <li>• Discuss courses</li> <li>• Assemble and meet with Candidacy exam Committee</li> </ul>
Mid-Spring	Candidacy/Dissertation Advisory Committee	<ul style="list-style-type: none"> <li>• General review &amp; choice of courses</li> <li>• Set date for Candidacy exam</li> <li>• Discuss written Candidacy exam</li> </ul>
<b>THIRD AND SUBSEQUENT YEARS</b>		
<b>MEETING TIME</b>	<b>FACULTY</b>	<b>MEETING GOALS</b>
Summer/ Autumn	Candidacy/Dissertation Exam Committee	<ul style="list-style-type: none"> <li>• Complete Candidacy exam</li> <li>• <b>Faculty Candidacy Exam Committee Form</b></li> <li>• <b>Candidacy Exam Committee Form</b></li> </ul>
Soon after Candidacy Exam	Dissertation Advisory Committee	<ul style="list-style-type: none"> <li>• Review of Dissertation Research</li> </ul>
Every 6-12 months	Dissertation Advisory Committee	<ul style="list-style-type: none"> <li>• Review progress &amp; courses required</li> <li>• <b>Faculty Annual Dissertation Advisory Committee Evaluation Form</b></li> </ul>

The student will arrange all meetings. After the first year and each year thereafter, students should ask their advisor and committee members to complete the [Annual Dissertation Advisory Committee Evaluation form](#). After 4 years, the Dissertation Advisory Committee must meet every 6 months with forms due at the end of each semester.

Student forms can be found at: <http://medicine.osu.edu/bsgp/current-students/student-handbook-and-forms/pages/index.aspx>

## CORE CURRICULUM

<b>Biomedical Sciences Required Courses</b>	
BSGP 8050 Research Techniques and Resources (SU-yr. 1)	4 semester hours
BSGP 7000 Biomedical Sciences Survey (AU-yr. 1)	6 semester hours
BSGP 7040 Research Problem Solving in Biomedical Science (SP- yr. 1)	4 semester hours
BIOPHRM 7510 Professional and Ethical Issues in Biomedical Science (SP- yr. 1)	2 semester hours
BSGP 7070 Fundamentals of Grant Writing (AU-yr. 2)	4 semester hour
BMI 5750 Course Methods in Biomedical Informatics and Data Science (SU – yr. 2)	3 semester hours
BSGP 7930 Individual Studies in Biomedical Sciences (AU- yr. 1; SP – yr. 1)	total of 12 semester hours (4 AU-yr. 1; 8 SP-yr.1)
BSGP 7972 Research Seminar (Student Presentation) (taken the semester before or semester of graduation)	1 semester hour
*BSGP 8999 Research in Biomedical Sciences	34 credits
Elective Courses (may be in BSGP or in other departments such as MVIMG, Neuroscience, Physiology, MCB). At least 6 credit hours of the 10 required elective credit hours must be in the classroom setting and the remainder may be seminars; electives may be consistent with recommended courses in a chosen Area of Research Emphasis.	total of 10 semester hours
	<b>80 Total Credits</b>

\*As noted in Appendix J of the BSGP Handbook, the written portion of the Candidacy Examination will be taken by the end of Autumn Semester of the third year for Ph.D. students, and by the beginning of year 4 for MSTP students. Registration for BSGP 8999 should reflect candidacy exam preparation during the semester the student completes the written portion of the exam.

**Students should register for at least three credits in the advisor's section of BSGP 8999 and one credit of BSGP 8999 for each member of the candidacy exam committee during the semester the student completes the written portion of the exam.**

Example: Mary Smith is Dr. Parvin's advisee with Committee Members: Dr. Jones, Dr. Gate, and Dr. Black. She will complete her candidacy exam this semester. Mary registers for at least 3 credits of BSGP 8999 in Dr. Parvin's section; 1 credit of BSGP 8999 in Dr. Jones' section; 1 credit of BSGP 8999 in Dr. Gate's section; and 1 credit of BSGP 8999 in Dr. Black's section for a total of 6 credits of BSGP 8999.

## FIRST YEAR CURRICULUM

Summer	Autumn	Spring
<p><b>Laboratory Rotation</b> BSGP 7930 (credit hours vary)</p> <p><b>Research Techniques and Resources</b> BSGP-8050 (4 credit hours)</p>	<p><b>Biomedical Sciences Survey</b> BSGP -7000 (6 credit hours)</p> <p><b>Laboratory Rotation</b> BSGP 7930 (4 credit hours)</p>	<p><b>Research Problems</b> BSGP -7040 (4 credit hours)</p> <p><b>Biomedical Research Ethics</b> BIOPHRM-7510 (2 credit hours)</p> <p><b>Laboratory Rotation</b> BSGP 7930 (total of 8 credit hours 2, 7-week rotations)</p>

It is very important that you are registered for the correct amount of credit hours each term to be considered a full time student. The following guidelines have been set forth by the graduate school:

**Post-candidacy doctoral students:** 3 credit hours per semester or summer session.

**Graduate Associates.** Graduate associates must register for at least 8 credit hours per semester, except in summer session, when the minimum is 4. Post-candidacy doctoral students must register for at least 3 credit hours each semester or summer session an appointment is held. These registration requirements can include research hours.

**Fellows and Trainees** Students holding the titles Graduate Fellow or Graduate Trainee, regardless of the source of the funds, must register for a minimum of 12 credit hours each semester the appointment is held except in summer session when the minimum is 6. Graduate Fellows or Graduate Trainees who are post-candidacy doctoral students must register for at least 3 credit hours per semester or summer session an appointment is held. These registration requirements can include research hours.

**International Students** International students are required to register for a minimum of eight credit hours per semester except in summer session, when the minimum is four, unless they hold appointments as fellows or trainees. International students who are post-candidacy must register for at least three credit hours. These registration requirements can include research hours.

For more information, see the Graduate school Handbook (Section 3.1: Course Load) here: <https://gradsch.osu.edu/handbook/3-1-registration-course-load>

## SECOND YEAR CURRICULUM

Summer	Autumn	Spring
<p><b>Methods in Biomedical Informatics and Data Science</b> BMI 5750 (3 credit hours)</p> <p><b>Dissertation Research</b> BSGP 8999 *+(credit hours vary)</p>	<p><b>Fundamentals of Grant Writing</b> BSGP -7070 (4 credit hours)</p> <p><b>Dissertation Research</b> BSGP 8999 *+(credit hours vary)</p> <p><b>Area of Interest or Elective Course**</b></p>	<p><b>Dissertation Research</b> BSGP 8999 *+(credit hours vary)</p> <p><b>Area of Interest: Elective Course**</b></p>

\*The number of dissertation credit hours is determined by each individual student's situation. This depends on: how many credit hours are necessary for full-time status (see below), how many credit hours are allowed for each term, and how many credit hours the student is registering for in other courses. **Students need to keep in mind that they will need at least 34 credit hours in BSGP 8999 and a total of 80 credits hours to graduate.**

+As noted in Appendix J of the BSGP Handbook, the written portion of the Candidacy Examination will be taken by the end of Autumn Semester of the third year for Ph.D. students, and by the beginning of year 4 for MSTP students. Registration for BSGP 8999 should reflect candidacy exam preparation during the semester the student completes the written portion of the exam.

**Students should register for at least three credits in the advisor's section of BSGP 8999 and one credit of BSGP 8999 for each member of the candidacy exam committee during the semester the student completes the written portion of the exam.**

Example: Mary Smith is Dr. Parvin's advisee with Committee Members: Dr. Jones, Dr. Gate, and Dr. Black. She will complete her candidacy exam this semester. Mary registers for at least 3 credits of BSGP 8999 in Dr. Parvin's section; 1 credit of BSGP 8999 in Dr. Jones' section; 1 credit of BSGP 8999 in Dr. Gate's section; and 1 credit of BSGP 8999 in Dr. Black's section for a total of 6 credits of BSGP 8999.

**\*\*Elective courses:** Elective Courses (may be in BSGP or in other departments such as MVIMG, Neuroscience, Physiology, MCB). At least 6 credit hours of the 10 required elective credit hours must be in the classroom setting and the remainder may be seminars; electives may be consistent with recommended courses in a chosen Area of Research Emphasis.



## CREDIT HOUR REQUIREMENTS

**Post-candidacy doctoral students:** 3 credit hours per semester or summer session.

**Graduate Associates.** Graduate associates must register for at least 8 credit hours per semester, except in summer session, when the minimum is 4. Post-candidacy doctoral students must register for at least 3 credit hours each semester or summer session an appointment is held. These registration requirements can include research hours.

**Fellows and Trainees** Students holding the titles Graduate Fellow or Graduate Trainee, regardless of the source of the funds, must register for a minimum of 12 credit hours each semester the appointment is held except in summer session when the minimum is 6. Graduate Fellows or Graduate Trainees who are post-candidacy doctoral students must register for at least 3 credit hours per semester or summer session an appointment is held. These registration requirements can include research hours.

**International Students** International students are required to register for a minimum of eight credit hours per semester except in summer session, when the minimum is four, unless they hold appointments as fellows or trainees. International students who are post-candidacy must register for at least three credit hours. These registration requirements can include research hours.

For more information, see the Graduate school Handbook (Section 3.1: Course Load) here:  
<https://gradsch.osu.edu/handbook/3-1-registration-course-load>

## CURRICULUM SUBSEQUENT TO SECOND YEAR

Summer	Autumn	Spring
<p><b>Dissertation Research</b> BSGP 8999 +*(credit hours vary)</p> <p><b>Area of Interest or Elective Course**</b></p>	<p><b>Dissertation Research</b> BSGP 8999 +*(credit hours vary)</p> <p><b>Area of Interest or Elective Course**</b></p>	<p><b>Dissertation Research</b> BSGP 8999+*(credit hours vary)</p> <p><b>Area of Interest or Elective Course**</b></p> <p>*** <b>BSGP Senior Seminar</b> BSGP 7972 (1 credit hour)</p>

\*The number of dissertation credit hours is determined by each individual student's situation. This depends on: how many credit hours are necessary for full-time status (see below), how many credit hours are allowed for each term, and how many credit hours the student is registering for in other courses. **Students need to keep in mind that they will need at least 34 credit hours in BSGP 8999 and a total of 80 credits hours to graduate.**

+As noted in Appendix J of the BSGP Handbook, the written portion of the Candidacy Examination will be taken by the end of Autumn Semester of the third year for Ph.D. students, and by the beginning of year 4 for MSTP students. Registration for BSGP 8999 should reflect candidacy exam preparation during the semester the student completes the written portion of the exam.

**Students should register for at least three credits in the advisor's section of BSGP 8999 and one credit of BSGP 8999 for each member of the candidacy exam committee during the semester the student completes the written portion of the exam.**

Example: Mary Smith is Dr. Parvin's advisee with Committee Members: Dr. Jones, Dr. Gate, and Dr. Black. She will complete her candidacy exam this semester. Mary registers for at least 3 credits of BSGP 8999 in Dr. Parvin's section; 1 credit of BSGP 8999 in Dr. Jones' section; 1 credit of BSGP 8999 in Dr. Gate's section; and 1 credit of BSGP 8999 in Dr. Black's section for a total of 6 credits of BSGP 8999.

**\*\*Elective courses:** Elective Courses (may be in BSGP or in other departments such as MVIMG, Neuroscience, Physiology, MCB). At least 6 credit hours of the 10 required elective credit hours must be in the classroom setting and the remainder may be seminars; electives may be consistent with recommended courses in a chosen Area of Research Emphasis.

\*\*\***BSGP 7972-** Senior Student Seminar: 1 credit hour. *Due to limited space, please contact the BSGP office in advance to be placed on a priority list for this required course.*

### **CREDIT HOUR REQUIREMENTS**

**Post-candidacy doctoral students:** 3 credit hours per semester or summer session.

**Graduate Associates.** Graduate associates must register for at least 8 credit hours per semester, except in summer session, when the minimum is 4. Post-candidacy doctoral students must register for at least 3 credit hours each semester or summer session an appointment is held. These registration requirements can include research hours.

**Fellows and Trainees** Students holding the titles Graduate Fellow or Graduate Trainee, regardless of the source of the funds, must register for a minimum of 12 credit hours each semester the appointment is held except in summer session when the minimum is 6. Graduate Fellows or Graduate Trainees who are post-candidacy doctoral students must register for at least 3 credit hours per semester or summer session an appointment is held. These registration requirements can include research hours.

**International Students** International students are required to register for a minimum of eight credit hours per semester except in summer session, when the minimum is four, unless they hold appointments as fellows or trainees. International students who are post-candidacy must register for at least three credit hours. These registration requirements can include research hours.

For more information, see the Graduate school Handbook (Section 3.1: Course Load) here:  
<https://gradsch.osu.edu/handbook/3-1-registration-course-load>

## BIOMEDICAL SCIENCES GRADUATE PROGRAM CURRICULUM POLICY

### Curriculum Prior to Candidacy Examination (Years 1 and 2)

Students will take the entire curriculum of the Biomedical Sciences Graduate Program, leading to the degree of Doctor of Philosophy. A student may modify it only by making a formal petition to the Graduate Studies Committee. ***In accordance with the requirements of the Graduate School, students must register for a minimum of 80 graduate credit*** hours to graduate with the Ph.D. degree. Graduate Research Associates holding 50 percent or greater appointments must register for at least 8 credit hours per semester, except in summer session, when the minimum is 4. Students holding the titles Graduate Fellow or Graduate Trainee, regardless of the source of the funds, must register for a minimum of 12 credit hours each semester the appointment is held except in summer session when the minimum is 6. The total number of required courses, including laboratory rotations, in the Biomedical Sciences Graduate Program is to total at least 70 credit hours. The distribution of these hours is described below.

Students will begin their first year in Summer semester. It is required that prior to choosing a dissertation advisor at the end of the first year, students complete at least two laboratory rotations (BSGP-7930) but not to exceed four. Students should spend a minimum of 3 to 4 hours in the laboratory for each credit hour of BSGP-7930. By the end of the spring semester, students are expected to have a dissertation advisor and subsequently register for laboratory research as BSGP-8999.

During the first two years of the program the students should have taken all of the didactic courses listed in the Core Curriculum table in Appendix E.

### Curriculum After Candidacy Examinations

The candidacy examination will be taken by the end of Autumn Semester of the third year for Ph.D. students, and by the beginning of year 4 for MSTP students. In the years subsequent to the candidacy exam, students must continue to enroll for a total of 3 credit hours each semester, which will include lab research (BSGP 8999) and any other advanced coursework required. There is no programmatic restriction on the number of advanced courses and seminars taken, but they should be discussed and approved by the student's Advisor and Dissertation Advisory Committee and indicated in the meeting form. Also, if credit hours will exceed the 3-credit limit post-candidacy, permission must be obtained from the Graduate Program Director. To receive Graduate Specialization Transcript Designations, students must complete the courses outlined in the descriptions of the specific areas of research interest (see both Appendix I for basic description and website for most current course/seminar requirements). **Students are required to have at least one first-author original research publication in a peer-reviewed journal that is either published or In Press at the time of the defense in order to be awarded the Ph.D.**

## BIOMEDICAL SCIENCES GRADUATE PROGRAM POLICY ON ADDITIONAL LABORATORY ROTATIONS

A student in the first year of study in the Biomedical Sciences Graduate Program will be financially supported as outlined in the “Policy for Graduate Student Financial Support.” A student whose stipend and tuition is paid by the Biomedical Sciences Graduate Program will be required to complete at least two laboratory rotations with two different Biomedical Sciences Graduate Program faculty members, but not to exceed four. The major goal of this is to identify a Biomedical Sciences Graduate Program faculty member who will serve as the student’s dissertation advisor, and as such will be responsible for the student’s stipend and tuition subsequent to the first year of study. Completing the Memorandum of Understanding (Appendix C) secures this arrangement. It is expected that such an agreement with a dissertation advisor will be reached after 3-4 laboratory rotations, although an occasional student may require an additional rotation after the first year to identify an advisor. **Financial support of a student by the Biomedical Sciences Graduate Program to conduct an additional rotation after one year will only be considered under extenuating circumstances and is not guaranteed.** To obtain such support a student must petition the Graduate Studies Committee for approval. This petition should include:

- A detailed explanation of each laboratory rotation already completed;
- Reports that were submitted to the Biomedical Sciences Graduate Program office at the end of each of the previous rotations;
- The reasons why a dissertation advisor was not identified consequent to these rotation experiences;
- The name of the graduate faculty member with whom the student will be rotating during the additional requested rotation, and an outline of what will be accomplished during this rotation;
- A letter of support from the faculty member in whose laboratory the rotation will be conducted stating:
  1. That they are in a position to support the student as their dissertation advisor, and
  2. Is willing to do so depending upon the performance of the student in the planned laboratory rotation;
- A letter from the First Year Advisor documenting the above and providing additional information as appropriate of this request;

The decision of the Graduate Studies Committee will depend on the justification of the request and the availability of funds for this purpose. If the request is denied, the student will be responsible for his or her own tuition and no stipend will be provided by the Biomedical Sciences Graduate Program during the additional rotation(s).

## TIMETABLE FOR GRADUATE STUDENTS IN THE BIOMEDICAL SCIENCES GRADUATE PROGRAM

The following is a suggested timetable for Students entering the Biomedical Sciences Graduate Program directly from an undergraduate program. Students should use this as a guideline for progress, but should attempt to complete the candidacy examination by the end of the Autumn Semester of the third year. The student should note that ***scheduling of the following meetings, as well as the preparation and submission of reports for these meetings, is the student's responsibility.*** All meeting forms are online on the BSGP web site.

### Year One

As soon as an applicant is admitted, the Graduate Studies Committee will appoint a First Year Advisor. A meeting of the student with the First Year Advisor should take place on the afternoon of Orientation Day or at another convenient time, and should be arranged ahead of time via email communication. At this meeting, the student and First Year Advisor will discuss the student's career and educational goals, the core curriculum, and other courses that may be needed by the student as well as lab rotation choices. If the student starts in the Autumn semester, then the first rotation will begin during the latter half of the Autumn semester. During the first half, when the student takes the Laboratory Methods class, they should arrange the rotation. During the academic year, rotations are expected to be 7 weeks in duration (one half semester). All rotations chosen throughout the first year should be conducted in laboratories of potential dissertation advisors. The rotations will count for BSGP-7930 course credit. At the start of each rotation, the student and rotation advisor must complete a rotation proposal form (Appendix D). At the end of each rotation, and **to receive course credit, the student must initiate the Faculty Lab Rotation Evaluation form online.**

According to the schedule outlined in Appendix D, at the end of Autumn semester the student will meet with the First Year Advisor for a general review of progress, a discussion about rotation experience and remaining rotations and courses to be taken during the next semester, and a potential choice of an Area of Research Emphasis for the second and subsequent years. If the First Year Advisor feels that there is sufficient reason to discuss any aspect of the student's progress, he/she may call a meeting of the Graduate Studies Committee with or without the student being present. The results of this meeting will be submitted to the Biomedical Sciences Graduate Program Director for inclusion in the student's file.

Toward mid-Spring semester the student must meet again with the First Year Advisor. By this time the student should have chosen a Dissertation Advisor with whom the student will begin working full time during the second summer. Decisions should also be made about the choice of an Area of Research Emphasis (see Policy for Areas of Research Emphasis, Appendix I, and the Biomedical Sciences Graduate Program website for details on required advanced courses). Other topics to be discussed will include academic performance, financial support, courses for the coming year, MOU, and a target date for the Candidacy Examination.

### Year Two

During Summer semester, students will work in the laboratory of their Dissertation Advisor. The Dissertation Advisor and student must have signed the Memorandum of Understanding [(MOU) - see Appendix C]. The student will register in BSGP-8999 for credit for work in the laboratory, and may take any available courses that will be of benefit, but only after consultation with advisor. By the end of Summer semester, the student should have a good idea for a dissertation research project, and should decide on members of the Candidacy Exam Committee (The composition of the Candidacy Exam Committee will often be the same as the Dissertation Committee, but not necessarily).

This committee should consist of a minimum of four faculty members that include:

- 1) The advisor, who must be a member of the Biomedical Sciences Graduate Program faculty
- 2) At least two other Biomedical Sciences Graduate Program graduate faculty members
- 3) At least one person from outside of the advisor's home department (this person does not need to be a Biomedical Sciences Graduate Program faculty member). This person might also be from another graduate program and not a member of the Biomedical Sciences Graduate Program faculty. However, either person must be approved by the Graduate School as having "M" or "P" faculty status). Note: "M" status faculty may sit on a candidacy exam committee, but NOT on a dissertation committee.
- 4) The advisor's spouse cannot be part of this committee.

To reiterate, all committee members of the committee should have "P" faculty status with the Graduate School, although one member may have "M" faculty status for the candidacy exam only. For "M" faculty status to be a member of the dissertation committee, the student and mentor must request approval by the Graduate Studies Committee. Any exceptions outside of "P" and "M" faculty, e.g., professors from outside of OSU, the student and mentor must request approval by the Graduate Studies Committee, who will then request the Graduate School for an official exemption.

At the beginning of Autumn semester, the student will meet with the Dissertation Advisor to discuss the dissertation project that will form the basis of the written document for the Candidacy Examination (see Policy for Candidacy Examination, Appendix J). The student must initiate the appropriate form with their Committee members online at: <http://medicine.osu.edu/bsgp/current-students/student-handbook-and-forms/pages/index.aspx> .

During Mid-Autumn semester, the student should meet with the Dissertation Advisor for a general review of progress and a discussion of courses to take in Spring semester. A target date for the Candidacy Examination should be set at this time. The student must initiate the appropriate form with their Committee members online at: <http://medicine.osu.edu/bsgp/current-students/student-handbook-and-forms/pages/index.aspx>

During Spring semester, the student will write a research grant proposal based on the proposed dissertation research (see Policy for Candidacy Examination, Appendix J). At the beginning of Spring Semester, the student will meet with the Dissertation Advisor for a general review and discussion of courses to take in Summer semester. The student must initiate the appropriate form with their Committee members online at:

<http://medicine.osu.edu/bsgp/current-students/student-handbook-and-forms/pages/index.aspx>

During Mid-Spring Semester, a target date for the Candidacy Examination should be set, and the research proposal from the grant writing class, which will form the basis for the written part of the candidacy examination, should be discussed in a meeting with the Candidacy Exam Committee. The student must initiate the appropriate form with their Committee members online at: <http://medicine.osu.edu/bsgp/current-students/student-handbook-and-forms/pages/index.aspx> The Biomedical Sciences Graduate Program Core Curriculum should be completed by the end of the Summer semester.

### Third and Subsequent Years

The Candidacy Examination must be completed by the end of Autumn Semester of the third year for Ph.D. students, and by the beginning of year 4 for MSTP students. Any exceptions to this deadline must be approved by the Program Directors. A written request must be submitted to the Program Directors in which the student and advisor discuss the reasons for a delay. The student must initiate the appropriate form with their Committee members online at: <http://medicine.osu.edu/bsgp/current-students/student-handbook-and-forms/pages/index.aspx>

Subsequently, the Dissertation Committee will be established and they will meet with the student. The Dissertation Committee meets with the student once in year 4 and twice each year thereafter. This committee must meet the same requirements for composition as the candidacy exam committee described above, with the exception that only faculty with "P" faculty status will be acceptable). At these meetings, there will be a review of the general progress in the student's classes and research. This committee should comment on the validity and feasibility of the proposed project. They will also suggest courses, seminars, etc., that the student should either take for credit or audit. The student must initiate the appropriate form with their Committee members online at: <http://medicine.osu.edu/bsgp/current-students/student-handbook-and-forms/pages/index.aspx> **Students are required to have at least one first-author original research publication in a peer-reviewed journal that is either published or In Press at the time of the defense in order to be awarded the Ph.D.**

See Appendix Q for a flow chart of what needs to be done as one begins to plan for the dissertation exam. The entire Ph.D. program should be completed in 4 to 5 years; the program must be completed within 5 years of the Candidacy Examination. The Biomedical Sciences Graduate Program office will track these events and notify the student, Advisor, and Dissertation Committee if the above is not conducted in a timely fashion.



## **BIOMEDICAL SCIENCES GRADUATE PROGRAM POLICY FOR AREAS-OF-RESEARCH EMPHASIS**

### **General**

Successful completion of the Biomedical Sciences Graduate Program leads to a Ph.D. in Biomedical Science. At the end of the first year, students choose one of several areas-of-research emphasis that highlights at least one area in which the student will take advanced courses and seminars. Completion of the requirements will result in a Graduate Specialization Transcript Designation at the completion of the Ph.D.

The following are Graduate Specialization Transcript Designations that are currently approved by the Biomedical Sciences Graduate Program Graduate Studies Committee:

- Anatomy
- Cancer Biology
- Cellular and Molecular Physiology
- Computational Biology and Bioinformatics
- Experimental Therapeutics
- Genetics and Genomics
- Immunology
- Microbial Pathogenesis
- Molecular Basis of Disease
- Neurological and Neuromuscular Disorders
- Translational Research

### **Graduate Specialization Transcript Designation**

A student may request Graduate Specialization Transcript Designation in one or more of these areas. To obtain this designation, the student should discuss the plan with the First Year Advisor. Then the student should contact the Faculty Liaison for a particular area-of-research emphasis (see Biomedical Sciences Graduate Program website for contact name) during the first year of graduate study to determine the course and seminar requirements for the area of emphasis, and to be certain that the nature of the dissertation research that is planned is appropriate for this designation. It is the responsibility of the student to be certain that all requirements for this area of emphasis are met. The student will notify the area-of-emphasis Faculty Liaison that she/he wishes to receive a Graduate Specialization Transcript Designation in the area-of-research emphasis. The Faculty Liaison will review the transcript and dissertation, and if these meet the requirements for Graduate Specialization Transcript Designation in that area-of-research emphasis, the liaison will notify the graduate program office so the office can initiate the online specialization form.

For a new area-of-research emphasis to be added, a faculty member who is willing to serve as the Faculty Liaison for this area will submit such a request to the Biomedical Sciences Graduate Program Graduate Studies Committee. This request must address the following issues:

1. The theme of an area-of-research emphasis should be potentially fundable as a Training Program Grant from a source outside of the College of Medicine.
2. The theme should fit into the Biomedical Sciences Graduate Program and College of Medicine mission of Biomedical Research, which is to improve people's lives.
2. The Graduate Studies Committee will grant official status to an area-of-research emphasis after it reviews materials presented to it by representatives of the proposed area. This proposal should address the following:
  - a) *Rationale* for identifying this area-of-research emphasis according to items 1 and 2 above.
  - b) *Relation and contributions of the Area to the goals of the Biomedical Sciences Graduate Program*. This should also address all of the issues stated above in this policy.
  - c) *Graduate Specialization Transcript Designation* This should include statements about the following:
    - Application process
    - Dissertation requirements
    - Curricular requirements, i.e., required courses and seminars
    - List of appropriate elective courses

## BIOMEDICAL SCIENCES GRADUATE PROGRAM POLICY FOR CANDIDACY EXAMINATION

For a student to take the Candidacy Examination, they must first meet the requirements of The Ohio State University Graduate School. This includes being in good standing, i.e., with a minimum grade point average of 3.0 in the Graduate School and registered for at least three graduate credit hours during the semester of the Examination. The written and oral parts of the candidacy exam will be evaluated separately.

### **Written Portion**

The written portion of the Candidacy Examination will be taken by the end of Autumn Semester of the third year for Ph.D. students, and by the beginning of year 4 for MSTP students. Any deviation from this timetable must be appealed in writing and approved by the Program Directors prior to the beginning of the expected semester. The examination will culminate in the completion of a full-length research proposal that reflects the intended area of the student's dissertation research. The proposal will be written in the format of an NIH small grant, as taught, written, and reviewed in the grant writing class in the second year. The student must write the proposal independently, although the student may consult with their Dissertation Advisor, who should approve the dissertation proposal for suitability of distribution to the Candidacy Exam Committee. The candidacy exam committee should consist of a minimum of four faculty members, **with at least two faculty members who have mentored at least one student who has graduated with his/her PhD.** The Committee must be selected and convene in the spring semester of the second year and must include:

- 1) The advisor, who must be a member of the Biomedical Sciences Graduate Program faculty
- 2) At least two other Biomedical Sciences Graduate Program faculty members
- 3) At least one person from outside of the advisor's home department. This person might also be from another graduate program and not a member of the Biomedical Sciences Graduate Program faculty. However, either person must be approved by the Graduate School as having "M" or "P" faculty status). Note: "M" status faculty may sit on a candidacy exam committee, but NOT on a dissertation committee.
- 4) The advisor's spouse cannot be part of this committee.

To reiterate, all committee members of the committee should have "P" faculty status with the Graduate School, although one member may have "M" faculty status for the candidacy exam only. For "M" faculty status to be a member of the dissertation committee, the student and mentor must request approval by the Graduate Studies Committee. Any exceptions outside of "P" and "M" faculty, e.g., professors from outside of OSU, the student and mentor must request approval by the Graduate Studies Committee, who will then request the Graduate School for an official exemption. Please see Candidacy Exam Committee form in Appendix D.

It is the student's responsibility to make all arrangements for establishing a date for the oral portion of the examination that is agreeable to all members of the examination committee. This date needs to be established early so that there will be enough time to

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complete the candidacy exam by the time stipulated by the Graduate School (end of Autumn Semester of third year). At least 4 weeks before the established oral exam date, the student must deliver the written document to the Candidacy Exam Committee members for their review. After 2 weeks of review time, the Examination Committee will determine the result of the written portion of the examination to be either satisfactory or unsatisfactory, and this result will be communicated to the mentor. It is the responsibility of the student to remind the committee that they will need to make this evaluation within 2 weeks and to communicate it to the mentor. It is also the responsibility of the student to remind the mentor to obtain the result from the committee members.

If the written exam is found to be satisfactory for moving forward, it is the responsibility of the student to ask each committee member to electronically sign the Graduate School form that confirms that the written document is satisfactory.

If the proposal is found to be unsatisfactory, the student will be given an opportunity to do a re-write according to suggestions made by the committee. The corrected written document must be re-submitted to the committee in a period of time that does not exceed one academic semester.

### **Oral Portion**

This part of the Candidacy Examination will be based on the written document, but will include any materials considered to be relevant by the Candidacy Exam Committee. At least half of the oral examination will be based on general science questions that are designed to elicit critical thinking. The oral examination will be held in compliance with the rules set by The Ohio State University Graduate School. **While the advisor participates in the evaluation of the written portion of the exam, during the oral exam the advisor should be present and in the ideal case participates minimally. The advisor must not answer for the student, may ask some questions if necessary, and is available to help other committee members as needed. The advisor may not serve as chair of the Committee. The format for the oral exam will be a chalk board presentation; computer-based presentations will be limited.**

Successful completion of the Candidacy Examination indicates that the student passed both portions, written and oral. Students who fail to pass the exam will be allowed to re-take the examination one more time, and this may or may not require revisions to the submitted proposal. The re-take of the exam should take place in a period of time that does not exceed one academic semester. Students who do not pass the candidacy examination the second time will be unable to continue the program.

**BIOMEDICAL SCIENCES GRADUATE PROGRAM  
Procedure for a Student to Change Dissertation Advisor**

Should a situation arise in which either the student or advisor believes that the student should be under the direction of a different dissertation advisor, the following steps should be taken:

- 1) Prior to seeking another advisor, the student and advisor should hold discussions to determine if the problems or situation can be satisfactorily resolved in another manner.
- 2) If a resolution between the student and advisor cannot be obtained, such that the student will remain with the advisor, a formal meeting of the student's dissertation advisory committee should be arranged by the student at which both the student and advisor will be present. Prior to this meeting both the advisor and student will submit to the committee members a summary of the situation from both points of view. The issues and any reasonable alternatives should be thoroughly discussed at the meeting. Minutes will be kept by a faculty committee member who is other than the advisor or new advisor. The minutes will be distributed to the committee members for approval of content, and the approved minutes will be sent to the Biomedical Sciences Graduate Program Directors. A copy of the minutes will be placed in the student's permanent file. If a resolution to change labs is agreed upon, then the Graduate School will be notified for further recommendations.
- 3) If a resolution that is agreeable to both the student and advisor cannot be reached at the meeting of the Dissertation Advisory Committee, so that the student can remain with the advisor, there should be a meeting of the student, advisor, and the Biomedical Sciences Graduate Program Director. The issues should be discussed and a resolution of the problems obtained, if possible. The Biomedical Sciences Graduate Program Manager will be present and write minutes of this meeting, which will be sent to the student, the advisor, the advisory committee, and the Biomedical Sciences Graduate Program Director. A copy of the minutes will be placed in the student's permanent file.
- 4) If a resolution that is agreeable to the student, advisor cannot be reached at the meeting with the Biomedical Sciences Graduate Program Director, so that the student can remain with the advisor, the issues will then be discussed by the Biomedical Sciences Graduate Program Graduate Studies Committee. Prior to this meeting, all written materials related to this issue will be provided to the committee members, and both the student and advisor will be given the opportunity to supplement these materials. The issues will be discussed at a meeting of the Graduate Studies Committee. The student and advisor may be asked to be present at this meeting. After discussing these issues, the committee will make a recommendation concerning whether or not the student can transfer to a different dissertation advisor.

5) If, after following the above procedure, the student wishes to seek a different dissertation advisor, the Biomedical Sciences Graduate Program may provide a stipend and costs of tuition and fees for up to one semester, depending upon availability of funds. After that semester, the student should have identified an advisor who is willing to pay the stipend from a grant that collects full indirect costs. The Biomedical Sciences Graduate Program will then arrange for payment of tuition and fees. If the change occurs during a semester, the credit hours for independent research should be divided between the two advisors, according to the amount of time the student spends under the direction of each advisor. The student and new advisor may wish to form a different dissertation advisory committee.

**BIOMEDICAL SCIENCES GRADUATE PROGRAM  
ACADEMIC STANDARDS AND ACADEMIC MISCONDUCT**

The Biomedical Sciences Graduate Program **requires all students to adhere to the rules and intent of The Ohio State University Graduate School and the University Code of Student Conduct**

**Biomedical Sciences Graduate Program Academic Standards**

The Graduate School requires all students enrolled in graduate programs at The Ohio State University to maintain a grade point average of 3.0 or above to be in good standing. Students who fail to do so are placed on academic probation until they raise their GPA to 3.0 or above within a maximum of 2 academic semesters or sessions. As per university rules, students whose GPA remains below 3.0 following two semesters of academic probation will be denied future registration in the Biomedical Sciences Graduate Program.

**Academic Misconduct**

All students are expected to follow the OSU Code of Student Conduct. The code applies to on-campus and off-campus conduct of students. All students are informed that copying or paraphrasing paragraphs, sentences, or phrases directly from textbooks, journal publications, or any form of written or electronic document, and then submitting them as answers for any examination or fulfillment of other academic assignment is an act of plagiarism. Plagiarism includes the use of someone else's words or ideas as your own, without proper documentation. In no instance will any form of academic misconduct be tolerated. Students found violating the codes of academic honesty will receive a failing grade and be reported to the Office of Academic Affairs according to University policy. Sanction may include expulsion from the program.

**BIOMEDICAL SCIENCES GRADUATE PROGRAM  
PETITIONS AND GRIEVANCE PROCEDURES AND GUIDELINES**

**Petitions**

A student may petition for relaxation of, or modification to, any rules in the Biomedical Sciences Graduate Program handbook by submitting a written petition to the Biomedical Sciences Graduate Program Graduate Studies Committee (GSC). Such a petition by a student should be accompanied by a letter of support from the first year advisor or dissertation advisor.

**Grievance Procedures**

Occasionally, conflicts may arise either between graduate students or between students and faculty and/or staff members. Sincere attempts should be made to resolve conflicts among the involved parties before any grievance policy is activated. Conflicts between a student and the dissertation advisor that cause either party to seek a change in the student's advisor must follow the "Procedure for a Student to Change Dissertation Advisor (Appendix K)."

If a grievance remains after exhausting the informal process between the involved parties, the person having the unresolved complaint may file a written grievance with the Biomedical Sciences Graduate Program GSC. The following protocol will be used:

- 1) The Biomedical Sciences Graduate Program GSC will act as the Graduate Student Grievance Committee (GSGC).
- 2) One of the Biomedical Sciences Graduate Program Directors will chair the GSGC, unless personally involved, in which case the Chair will be excluded from all deliberations on the matter and the GSC will select a Chair from among the remaining Biomedical Sciences Graduate Program GSC members.
- 3) Members of the Biomedical Sciences Graduate Program GSC directly involved in the case will also be disqualified from sitting on the panel for that specific case. In such circumstances, the Chair will designate an alternate, when possible, from the same area of expertise as the disqualified member.
- 4) The Chair of the Biomedical Sciences Graduate Program GSGC will set a hearing date no later than two weeks after the grievance statement is received.
- 5) At least 72 working hours prior to the hearing, the chair of the GSGC will provide to all parties a written statement of the specific grievance, a notification of the time and place of the hearing, and copies of documents relevant to the grievance hearing.
- 6) Each party will appear in person to present his or her case.
- 7) The Chair will preside over the hearing and determine all procedural matters. This is an administrative proceeding and, therefore, the formal rules of legal procedures do not apply.
- 8) All parties will be entitled to an expeditious hearing.
- 9) The final decision of the GSGC will be reported in writing to the parties involved no later than two weeks after the hearing. The report on this decision will also include a statement concerning the validity of the complaint.
- 10) Throughout this process the GSGC will attempt to mediate a resolution.



11) Cases not resolved at this level will be referred to the Graduate School, and formal grievance procedures shall be activated as defined by the Graduate Associate Grievance Procedures Guidelines (available from the Graduate School).

## **BIOMEDICAL SCIENCES GRADUATE PROGRAM POLICIES FOR GRADUATE FACULTY AND GRADUATE TEACHING FACULTY**

### **I. Mission**

The mission of the Biomedical Sciences Graduate Program is to train successful researchers in the area of biomedical sciences. The BSGP Faculty are required to have sufficient mentoring time and research funding to support these activities. Graduate Faculty Status in the Biomedical Sciences Graduate Program is for faculty with at least a 25% appointment in the College of Medicine who are independent regular or research faculty.

### **II. Expectations of the BSGP Graduate Faculty**

It is fully expected that all Graduate Faculty will contribute in a substantive way to the program. Faculty members who do not make a substantive contribution to the program will have their Graduate Faculty status with the Biomedical Sciences Graduate Program revoked.

- 1) Mentor students and faculty in the Biomedical Sciences Graduate Program.
- 2) Teach in the core Biomedical Sciences Graduate Program curriculum or any other Biomedical Sciences Graduate Program course.
- 3) Serve the Biomedical Sciences Graduate Program through participation on student mentoring / development committees, lead core course modules, aid in graduate admissions and recruiting.

### **III. Requirements to Recruit and Mentor New Graduate Students**

Faculty seeking to mentor BSGP graduate students must meet the following criteria:

- 1) Faculty must have P status in the BSGP program (See definition of M and P status below)
  - a) Regular tenure track faculty with extramural funding or sufficient startup funding who commit to meeting the expectations outlined above may be granted P-status by the Director(s) of the program.
  - b) Research track faculty may be eligible for P status but require a strong record of mentoring, scholarship and independent research support. Applications will require a full review and vote by the BSGP GSC.
- 2) Faculty must demonstrate a strong desire to be a good mentor. Evidence of active engagement in mentoring include:
  - a) A sustained track record of successful graduation and placement of students.
  - b) Completion of an OSU sponsored course on implicit bias.
  - c) Completion of the OSU UITL Teaching Practices Inventory survey.
  - d) Completion of BSGP required mentor training.
  - e) Honors and recognition by students for teaching and mentoring.
  - f) Junior faculty with limited experience will be required to have an experienced co-mentor appointed to the graduate student's mentoring committee.

- 3) Faculty member must have at a minimum of five years of independent funding available for student expenses at the time the student begins work in the lab. Faculty and their Department chair will be required to submit a signed MOU that funding is in place to support the student (See example at end of document).
- 4) Faculty member must have sufficient research space to support the research needs of the student. Faculty and their Department chair will be required to submit a signed MOU that space is assigned to the faculty member to support the student (See example at end of document).

#### **IV. Appointments to the BSGP Graduate Faculty**

Appointments to the BSGP graduate Faculty are made by the Director(s) of the Program and the Graduate Studies Committee. Appointments consist of a five-year term with renewal dependent upon Faculty's continued contribution to the BSGP program in the form of mentoring, teaching and service on committees. Faculty may apply for membership in the graduate program using the online form provided on the BSGP website. The Program Director(s) will review all applications and approve faculty applications that comply with the policy above. Exceptions to the policy or challenges to the Director(s) decision will be reviewed by the Graduate Studies Committee (GSC). The GSC has the ability to request further documentation and conduct interviews with Faculty applicants. The GSC will render a decision via majority vote to approve or deny the request. The Directors of the Biomedical Sciences Graduate Program will prepare the required forms for the Graduate School and inform the applicant of the decision.

#### **V. Category P and Category M Membership**

The Graduate School Handbook describes the criteria for appointment and responsibilities of graduate faculty with Category M or P status (see below). Briefly, Category P faculty advise PhD and MS students; category M faculty advise MS students only. Category M faculty may serve on dissertation exam and advisory committees of PhD students only upon the approval of the Graduate Studies Committee. Please see guidelines below, as described in Graduate School Handbook.

### **FROM THE GRADUATE STUDENT HANDBOOK**

#### **Qualifications, Rights and Responsibilities**

##### **SECTION 12.4**

#### **Minimum Category P Qualifications.**

The faculty member:

- holds a tenure-track or research faculty appointment
- holds an earned PhD, DMA, or petitions the Graduate School for an equivalent degree
- is engaged and primarily directs an active program of research, scholarship, or creative activity, or demonstrates significant promise of establishing such a program

- has engaged and demonstrated experience in mentoring graduate students

**Rights and Responsibilities of Category P Graduate Faculty.**

- acts as the primary advisor for master's and doctoral students
- participates in the governance of graduate education at all levels within the university
- serves on doctoral examination committees
- serves as a GFR on second candidacy examinations and final oral examinations

**Minimum Category M Qualifications.**

The faculty member:

- holds a tenure-track or clinical faculty appointment
- holds a master's degree or higher, or equivalent

**Rights and Responsibilities of Category M Graduate Faculty.**

- acts as the primary advisor for master's students
- participates in the governance of graduate education at all levels within the university
- serves on doctoral examination committees at the discretion of the Graduate Studies Committee

**Memorandum of Understanding (MOU) Between  
Dissertation Advisor and Biomedical Sciences Graduate Program**

This is to document the understanding that Dr. \_\_\_\_\_ agrees to be the Dissertation Advisor for \_\_\_\_\_ with an effective date of \_\_\_\_\_ . In addition to fulfilling the commitments outlined in the Biomedical Sciences Graduate Program Student Handbook, this agreement carries with it the obligation to provide a stipend for this student for each year of study until the student graduates from the Biomedical Sciences Graduate Program. This will be the amount that is determined annually by the College of Medicine (COM), which is currently \$30,179 for FY2020. Should the source of the stipend come to an end, the Dissertation Advisor will make every effort to arrange another source for the stipend. If this cannot be done, the Dissertation Advisor will notify the Biomedical Sciences Graduate Program Directors *as soon as possible* (and no less than one semester before the end of funding), so that joint efforts by the Advisor, Department Chair, and Directors can be initiated to establish a funding source for the stipend, tuition & fees. This may involve reassigning the student to a new dissertation advisor.

\_\_\_\_\_  
Jeffrey Parvin, MD, PhD  
Associate Dean, Graduate Studies  
Co-Director, Biomedical Sciences Graduate Program  
Michael Freitas, PhD  
Co-Director, Biomedical Sciences Graduate Program

\_\_\_\_\_  
Date      Dissertation Advisor

\_\_\_\_\_  
Departmental Chair  
(Advisor's home department)

\_\_\_\_\_  
I hereby understand the investment being made by my advisor to foster my development as a research scientist. I also understand my responsibilities in this program as outlined in the Student Handbook.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

## **MEDICAL SCIENTIST TRAINING PROGRAM (MSTP)**

For the most updated description of the MSTP, please refer to the following website: <https://medicine.osu.edu/mstp/Pages/index.aspx>

The College of Medicine has an excellent program for combining clinical training leading to the MD degree with training in research culminating in the PhD degree. The Biomedical Sciences Graduate Program works closely with the Medical Scientist Training Program (MSTP) at all stages, from recruiting through to graduation with both degrees. This has resulted in a curriculum that minimizes redundancy and optimizes time utilization by the students without compromising the quality of education in either area.

*Lead. Serve. Inspire* will be the curriculum for tomorrow's medicine, designed to shape the physician for the future. The MSTP has worked closely with the Medical School and Graduate School Leadership to develop a curriculum specifically for MSTP students - the *Lead. Serve. Inspire. Inquire. Investigate (or LSI<sup>3</sup>)* curriculum. The LSI<sup>3</sup> curriculum incorporates the new Medical School curriculum and the curricula of the Biomedical Sciences Graduate Program to provide MSTP students with a unique, rewarding, and challenging curriculum.

- Fully integrated basic science and clinical science
- Early longitudinal practice based clinical service that allows students to apply classroom knowledge to real patients
- Self-directed learning with multiple assessment methods to provide individualized learning by standardized outcomes
- MSTP Roundtable, a new course specifically designed for MSTP students, incorporates faculty and topics relevant to students seeking a career as a physician-scientist.
- During the time focused on dissertation research, all MSTP students participate in a Clinical Preceptorship.

### **Sample Course of Study**

<b>Year in program</b>	<b>MSTP in Biomedical Sciences Graduate Program</b>
1	Med 1 MSTP Roundtable
2	Med 2 (through Dec 1) Grad Yr 1 MSTP Roundtable
3	Grad Yr 2
4	Thesis Research

5	(formulate plan for med re-entry in Dec/Jan)
6	
7	Med 3
8	Med 4

## BIOMEDICAL SCIENCES GRADUATE PROGRAM

### CONSTITUTION FOR THE BIOMEDICAL SCIENCES GRADUATE STUDENT ORGANIZATION

#### Article I - Name, Purpose, and Non-Discrimination Policy of the Organization

**Section 1** - Name: Biomedical Sciences Graduate Student Organization at The Ohio State University (further referred to as BSGO)

**Section 2** - Purpose: The main goal of BSGO is to provide support to all students enrolled in the Biomedical Sciences Graduate Program at The Ohio State University. It will also provide professional and social opportunities outside of the BSGO for its membership. The BSGO will strive to inform, interact with and serve the community, and public at large in ways related to biomedical research and education. The BSGO will also function as the communications vehicle between its membership and the faculty, staff, and administration of The Ohio State University.

**Section 3** - Non-Discrimination Policy: The organization will not discriminate against any person or group of persons based on race, color, creed, religion, sexual orientation, national origin, sex, age, gender identity/expression, handicap, or veteran status.

#### Article II - Membership: Qualifications and categories of membership

Membership will be open to all students in the Biomedical Sciences Graduate Program (BSGP), and those who are members of the M.D./Ph.D. program associated with the BSGP. All members of BSGP are full members of the organization. Members may choose not to be affiliated with BSGO after the first year of study. Full members are required to attend at least one meeting each quarter. Honorary membership is extended to all OSU faculty, staff and alumni.

#### Article III - Organization Leadership: Titles, terms of office, type of selection, and duties of the leaders

The organization leaders will be the President, Vice-President, Secretary, Treasurer and Service/Social Chair. The leaders will be nominated; either by the voting body or self-nomination, and a vote will be conducted to appoint the positions. All executive members must receive the majority of votes at the election meeting, held at the start of fall semester. The terms of office are on a one-year basis, with re-election limited to one term. All of the past year's executive committee, whose members are defined in Article IV, remain active members of the organization during the subsequent year.

#### **President:**

- Chair and conduct meetings of the main body and executive committee
- Represents the organization to the university
  
- Ensure that officers and Committee heads are fulfilling their job descriptions
- Ensure that the organization is abiding by rules and regulations of the university and of this Constitution



- Ensure that Office of Student Activities (OSA) forms and paperwork are completed and submitted by their specified deadlines
- Has the ability to make executive decisions in the event that an immediate decision is necessary, and no other executives can be reached. This power excludes all matters that require a vote of the general body or executive committee, such as amendments and dissolution of the organization, etc
- Upon election, the president will be the organization's representative to the Council of Graduate Students
- Is jointly responsible for, along with the Vice-President, working with the BSGP coordinator to facilitate recruitment weekends

### **Vice-President:**

- Aids the president at all general meetings and serves in the president's place when absent
- Is the representative to the Bennett Research Society
- Oversee spending of finances
- Is jointly responsible for, along with the treasurer, the management of a checking account for organizational funds
- Is jointly responsible for, along with the President, working with the BSGP coordinator to facilitate recruitment weekends

### **Secretary:**

- Is responsible for recording agenda/minutes from both the executive committee meetings and general body meetings, in addition to sending e-mail notices to the members of the BSGO
- Is responsible for creating and maintaining a membership list
- Is a member of the Graduate Studies Committee

### **Treasurer:**

- Has the responsibility of overseeing all organizational finances and expenditures
- Maintains the accounting in such a manner that he/she will not be personally made vulnerable by the mishandling of any other member
- Is jointly responsible for, along with the Vice-President, the management of a checking account for organizational funds
- Must give quarterly reports to the executive committee concerning the state of the finances
- Responsible for year end audit as well as any other reports
- The Treasurer will be the BSGO representative on the OSUWMC research day committee

### **Social Chair:**

- Is responsible for organizing/publicizing social events open to all BSGO members

### **Service Chair:**

- Creates opportunities for BSGO members to be involved in community service/philanthropic activities
- Responsible for raising funds towards a biomedical charitable organization

Article IV - Executive Committee: Size and composition of the Committee

The executive committee comprises the President, Vice-President, Secretary, Treasurer and Service/Social Chair. The purpose of the executive committee will be to represent the organization as a whole in issues related to the well being of the student body. The executive committee will meet at least one week prior to a general meeting to discuss issues to be presented to the general body.

An advisory panel, composed of the executive board of the previous year, will be available to offer thoughtful insight to the members of the current executive board regarding executive duties as well as general operational concerns. The president of the previous year's executive board will serve as the student liaison between the current executive board and the advisory panel. The advisory panel will not have voting authority. Any and/or all members of the advisory panel will attend executive meetings at the request of the current executive board.

A presentation of the executive positions by the current executive board will be made the 1st Friday of the fall semester to the incoming class. Nominations for executive positions will be made by email to the current president, and are due the following Thursday at 5:00pm. Voting will be held the 2nd Friday of fall semester.

Article V - Standing Committees: Names, purpose, and composition (Ad-Hoc committees)

There are no standing committees within this organization. Ad-hoc committees will be established on a need be basis to help plan and organize special events.

Article VI - Method of Selecting and/or Removing Officers and Members

The organization is open to all students that are active graduate students in the Biomedical Sciences Graduate Program (BSGP) which is part of The Ohio State University's Medical School. It is also open to students that are MD/PhD students and also accepted in the BSGP. Members are not selected nor removed as long as they are a student of the BSGP.

Officers are selected by an election vote during the Fall Semester by the first year graduate students in BSGP. Students can nominate themselves or others for positions. If multiple students are nominated for the same position then an election will be held. The first year students will vote for which candidates should have which positions.

Officers can be removed from their position at any time by a majority vote of the first year graduate students. Officers can also step down at any time if they have a

replacement for the position that the first year graduate students agree to elect into the position. Officers can also be asked to step down by the faculty advisor.

If a general member needs to be removed because of misconduct an election will be held amongst the officers of the club. Majority vote will decide if the member is to be removed from the organization. In the case of a tie then the faculty advisor will make the final decision. Once removed from the organization that person cannot rejoin. They can appeal this exiled status to the faculty advisor who will decide if this person is able to partake in organization events.

Article VII - Advisor(s) or Advisory Board: Qualification Criteria

The advisor(s) for BSGO will be a director or instructor of the Biomedical Sciences Graduate Program or a director or instructor of the M.D./Ph.D. program. If the same person fulfills both positions, then there will only be one advisor.

Article VIII - Meetings of the Organization: Required meetings and their frequency

General meetings of the organization will be held at a minimum of one time per quarter including the summer semester. If an issue arises during an interim period, the executive committee may call additional meetings.

Article IX - Method of Amending Constitution: Proposals, notice, and voting requirements

**Section 1 - Submission of Proposals:** Any BSGO member may submit amendments. Proposed amendments must be in writing and submitted to the BSGO executive committee. The executive committee will meet to determine the details and language of the proposed amendment and vote on the final version to be presented. A majority vote of four out of six executive committee members approving the proposal is required to proceed to the process laid out in Article IX section 2.

**Section 2 - Voting:** The Executive Committee will present the amendment proposal to the main body (BSGP first-year students) in writing (email is acceptable) and a voting date announced at least a week prior voting. Voting may take place at a BSGO meeting or via a suitable absentee method. A vote of at least two-thirds of the main body is required to for the amendment to pass.

Article X - Method of Dissolution of Organization

The executive committee has the authority to begin the disbanding of BSGO. Said motion must first pass the executive committee unanimously. If said vote is successful, the main group must also pass the motion by a three-fourths vote. If the group decides to dissolve, the executive committee is responsible to take care of all debts incurred by the group through the solicitation of donations and/or fundraising activities.

**BIOMEDICAL SCIENCES GRADUATE PROGRAM  
DISSERTATION DEFENSE PROTOCOL**

**THE STUDENT IS RESPONSIBLE FOR MAKING SURE THAT ALL REQUIREMENTS FOR  
GRADUATION HAVE BEEN FULFILLED**

See Checklist for Doctoral Degree Procedures and Requirements for Graduation  
<http://www.gradsch.osu.edu/Depo/PDF/DoctoralChecklist.pdf>

**BIOMEDICAL SCIENCES GRADUATE PROGRAM**  
**ADDENDUM TO THE OHIO STATE UNIVERSITY PUBLICATION POLICY**  
**BSGP GUIDELINES FOR AUTHORSHIP ORDER AND INCLUSION IN SCIENTIFIC**  
**PUBLICATIONS**

Almost uniformly, guidelines for authorship from the NIH or journals (<https://jme.bmj.com/content/42/3/199.long>, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2544445/> ) or OSU (see below) cover whether an individual merits inclusion as an author and how these disputes are mediated. Very few guidelines or scholarly articles address issues of authorship order. This lapse in enumerating common practice in authorship has potentially important consequences for the careers of trainees since authorship and authorship order are the currencies by which the trainee is judged and advanced in the next level. This document should complement other policies, such as OSU policy on publications in document <http://orc.osu.edu/files/ResearchDataPolicy.pdf>.

Proposed guidelines:

The OSU publication policy is recommended to include a new section in <http://orc.osu.edu/files/ResearchDataPolicy.pdf>:

#### IV. Publication

C. Order of authorship in publications is guided by (in order of importance): 1) experimental results; 2) analysis. Generally, the first author leads the experimental findings and writes the first draft of the manuscript. It is the responsibility of the PI to consult with all authors in open discussion to appropriately assign order of authorship prior to submission of the manuscript.

Details of the proposed guidelines:

1. Research disciplines differ on the placement of authors. In the biomedical sciences, the most common practice is for the senior scientist acting as responsible/corresponding author to be the last author in the list, and the experimenter who led the project as first.
2. Authorship in a potential publication is best discussed at the onset of a project and openly discussed as new scientists join the project and as the manuscript is drafted.
3. It is general practice that the first author is the individual who is primarily responsible for the completion of laboratory experiments that are used as figures in a manuscript to be submitted for publication. When multiple individuals contribute experimental data, then authorship order can be guided by: a) the number of figures; b) the impact of figures; c) the preliminary work that established the initial finding; and d) the concept or idea that has led to the experimental rationale. In practice, it is generally clear which individual has led a project from idea to completed results, and this author is listed first.

4. Completion of research projects can sometimes be complicated by, for example, if the prime mover for a project leaves the laboratory. In such a case, there must be a reasonable incentive to recruit another individual to complete the manuscript, and co-first authorship is a useful mechanism.
5. Data analytics have increasingly become important in the interpretation of experimental results, and often a second individual is the prime mover behind the analytics. In such circumstances in which the analyst applies standard approaches that may elevate the conclusions of a study, they are often listed as second author. If they have created novel algorithms and completed a high level of analysis, as may be found typically in genomics research, then the analyst may be listed as co-first. If the analytics preceded the experimental data, then the lead analyst may be first.
6. The order of authorship of other contributing scientists from second to penultimate positions on the author list should reflect the relative contributions to the study and are based on discussions between the first and senior authors.
7. It is important that all authors have the opportunity to discuss their relative contributions with the other authors during the preparation of the manuscript and the design of the figures, and certainly prior to submission of the manuscript. Ultimately, the senior author decides the final order on the manuscript.
8. Collaborations between laboratories are common, and an open discussion of authorship is essential in these cases. Co-first authorship and co-senior authorship are often appropriate in such a study.
9. The first author generally writes the first draft of the manuscript, and commonly the first author controls all of the drafts as the paper is edited and prepared for submission.