



Wexner  
Medical  
Center

Integrated Biomedical Science Graduate Program  
1170 Graves Hall  
333 West 10<sup>th</sup> Avenue  
Columbus, Ohio 43210-1239  
Phone: 614.292.0857 / Fax: 614.292.6226

June 15, 2012

Dr. Scott Herness  
The Ohio State University  
Associate Dean, Graduate School  
250 University Hall, 230 North Oval Mall  
Columbus, OH 43210-1366

RE: Response to corrections for IBGP M.S. Program Development Plan

Dr. Herness:

Please find in the attached file (IBGP MS Program Development Plan) modifications that are in response to the comments from you and the Graduate School Curriculum Committee. One key question was whether this MS program would be available to non-candidate students who are not progressing to PhD. The answer is “no”; this MS option is only available to students who have passed the candidacy exam but are unable to complete the PhD. These students would have some reportable progress that will comprise their Master’s thesis. There were several issues regarding the candidacy exam in Appendix D and taken from the program handbook. The first regarded the presence of the mentor in the candidacy exam – this is an innovation we have been considering since there are cases in which the exam really ends up being about the mentor and not the student. This change to procedure is being delayed until it is more thoroughly discussed by the IBGP Graduate Studies Committee. (We note that according to the Graduate School Handbook, Section 7.4, the mentor is not required to be a member of the candidacy examination committee.) We have also corrected the issues noted with our candidacy examination procedure.

The changes to the document are found on:

1. page 3, lines 9-10 clarify that the MS terminal degree option is unavailable to pre-candidacy students.
2. Appendix D: multiple corrections have been made to the description of the PhD candidacy exam in accordance with the concerns expressed by the GSCC.

We hope that the revised MS Program Development Plan is acceptable.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Joanna Groden'.

Joanna Groden, Ph.D.  
Associate Dean for Graduate Studies  
Professor and Co-Director, IBGP

A handwritten signature in blue ink, appearing to read 'Jeffrey Parvin'.

Jeffrey Parvin, M.D., Ph.D.  
Professor and Co-Director, IBGP



Wexner  
Medical  
Center

## The Integrated Biomedical Science Program

M.S. in Biomedical Sciences

Program Development Plan

June 15, 2012

The Ohio State University  
Integrated Biomedical Science Graduate Program  
Program Development Plan for IBGP Masters Program

## Designation of new degree program

We propose an extension of the existing Integrated Biomedical Science Graduate Program to include a Masters of Science. There will be no new curriculum for the M.S. degree, and we will never direct admit into the M.S. degree program. The sole motivation for developing this program is to enable post-candidacy Ph.D. students a mechanism to exit the program with a terminal degree. When a Ph.D. student is unsuccessful in their dissertation research, we need to provide a means to honor their accomplishments. To qualify for a terminal M.S. degree, the student will have passed their candidacy exam, completed the core curriculum, and completed a M.S thesis.

## Description of the proposed curriculum

The curriculum for the M.S. degree program will be the same as the newly developed PhD curriculum without the requirement of dissertation research (see **Table 1** in **Appendix C**).

First year course load:

- IBGP 8050 Research Techniques
- IBGP 7000 Biomedical Sciences Survey
- IBGP 7040 Research Problem Solving in Biomedical Sciences
- Pharm 7510 Ethics in Biomedical Sciences
- IBGP 7930 Research Rotations
- Electives (Spring semester)

Second year

- IBGP 7070/7080 Grant Writing
- PUBHBIO 6280 Biostatistics
- IBGP 8999 Research in Integrated Biomedical Sciences

All students will have been enrolled in Ph.D. program courses. During the second year, each student in the IBGP assembles a Dissertation Committee. In the Autumn semester of the third year, the Ph.D. candidacy exam is administered by the Dissertation Committee (**Appendix D**). After passing the examination, the student is a Candidate for a Ph.D. and focuses on dissertation research and elective courses.

**M.S. Thesis:** When a candidate fails to make progress toward a Ph.D., the dissertation supervisor and the student, in consultation with the Dissertation Committee, can opt for a terminal M.S. degree. The M.S. degree option is not available to pre-candidacy students. This decision can be made after completing three years in the Ph.D. program. The student must accrue 50 course credits. The student must prepare a master's thesis based on their research that conforms to the Graduate School format requirements outlined in the Graduate School Guidelines. Once the master's thesis is approved by the Dissertation Committee (now called the Master's Examination Committee), the student is examined in a closed door session. If the student satisfactorily completes the master's examination, the master's examination committee members indicate approval of the thesis by signing the Thesis Approval form. The Thesis Approval form must be submitted to the Graduate School by the published deadline for the quarter of graduation. The thesis must be submitted to the Graduate School by the published deadline for the quarter of graduation. The final thesis must be submitted electronically as a PDF document to OhioLink, the Ohio Library and Information Network.

### **Administrative arrangements for the proposed program**

This M.S. degree program will be administered by the Integrated Biomedical Science Graduate Program, the umbrella Ph.D. program of the College of Medicine at OSU. Staffing is in place for the Ph.D. program, and since the M.S. degree program will not increase the number of students, no new staff or organization will be required.

## **Evidence of need for the new M.S. degree program**

The motivation for the new MS degree program is to provide an opportunity for those students who cannot complete their Ph.D. dissertation to leave the program with a graduate degree, if they have taken the core courses, pass a candidacy exam, and pass a master's thesis exam. This new program is not motivated by needs in the workforce, but rather the motivation is fairness to students who have committed multiple years to their graduate studies. With a M.S. degree in Biomedical Science, our M.S. degree graduates will be competitive for work in business and in biotech, in consulting, and in regulatory affairs.

## **Prospective enrollment**

There will be no direct enrollment in this new M.S. degree program. Over the past 10 years, there have been six students for whom this terminal degree would have been useful.

## **Special efforts to enroll and retain underrepresented groups in the discipline**

The Integrated Biomedical Science Graduate Program continues to make efforts to recruit underrepresented minorities to the Ph.D. program. There will be no recruitment into the M.S. degree program. The program directors attend national meetings for undergraduate students who are members of underrepresented minorities to plan for graduate school (SACNAS and ABRCMS), and we work with the OSU Director of Graduate Student Recruitment and Diversity Initiatives for outreach to minority students.

### **Availability and adequacy of the faculty and facilities available for the new degree program**

The faculty and facilities are all in place for the Ph.D. program. The proposed new M.S. degree program will not recruit new students; there will be no increase in the needed faculty or facilities.

### **Need for additional facilities and staff**

There will be no increase in the needed facilities or staff

### **Projected additional costs associated with the program**

There will be no increase in costs with the M.S. degree program.

**List of Appendices:**

A: Letter from the IBGP Directors requesting the MS degree program

B: Letter from Dr. Charles Lockwood, Dean of the College of Medicine

C: Table 1, Curriculum

D: Procedure for the Candidacy exam



Wexner  
Medical  
Center

Integrated Biomedical Science Graduate Program  
1170 Graves Hall  
333 West 10<sup>th</sup> Avenue  
Columbus, Ohio 43210-1239  
Phone: 614.292.0857 / Fax: 614.292.6226

April 12, 2012

Dr. Scott Herness  
Associate Dean, Graduate School  
The Ohio State University  
250 University Hall, 230 North Oval Mall  
Columbus, OH 43210-1366

RE: Creation of a Masters of Science degree program as part of the Integrated Biomedical Science Graduate Program

Dear Dr. Herness:

The Directors of the Integrated Biomedical Science Graduate Program (IBGP) wish to extend our existing PhD program to offer a Masters of Science terminal degree. This MS degree program will not be advertised, nor will there be direct admissions into this degree program. Rather, it is designed for students in the PhD program who cannot complete the doctoral dissertation. If such a student has taken the core curriculum and if they have passed the candidacy exam, they would be eligible to earn a terminal MS degree.

The inclusion of the MS degree program in IBGP was unanimously supported by the Graduate Studies Committee.

In this packet, please find a program development plan, a list of semester courses, and semester advising sheets. A transition policy is not applicable for this proposal since there will be no change in the curriculum.

Thank you very much for your attention to this important matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Joanna Groden'.

Joanna Groden, Ph.D.  
Associate Dean for Graduate Studies  
Professor and Co-Director, IBGP

A handwritten signature in blue ink, appearing to read 'Jeffrey Parvin'.

Jeffrey Parvin, M.D., Ph.D.  
Professor and Co-Director, IBGP





Charles J. Lockwood, MD, MHCM  
Dean, College of Medicine  
Vice President for Health Sciences  
Professor, Obstetrics and Gynecology

254 Meiling Hall  
370 West 9th Avenue  
Columbus, OH 43210  
Phone: 614.292.2600 / Fax: 614.292.4254

April 12, 2012

Dr. Scott Herness  
Associate Dean, Graduate School  
The Ohio State University  
250 University Hall, 230 North Oval Mall  
Columbus, OH 43210-1366

**RE: Creation of a Master's of Science degree program as part of the Integrated Biomedical Science Graduate Program**

Dear Dr. Herness:

We wish to create a Master's of Science (MS) degree program associated with the Integrated Biomedical Science Graduate Program at the OSU College of Medicine. This request has my full support and that of the College of Medicine. As the accompanying material will detail, this program is designed to enable the IBGP to confer MS degree on those graduate students who pass their candidacy exam, take the core courses, but do not complete their Ph.D. dissertation. This new MS degree program will fill a need that is fortunately not often needed, but for those affected, one or two graduate students per year, it will be invaluable. Students who graduate with a terminal MS degree will be trained for employment in research support positions in biotech industry and in consulting.

Thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Charles J. Lockwood'.

Charles J. Lockwood, M.D.  
Dean, College of Medicine  
Vice President for Health Sciences  
Professor, Obstetrics and Gynecology

Appendix C

Table 1: Curriculum

Biomedical Sciences MS Degree Required Courses	Credits
IBGP 8050 Research Techniques and Resources (AU-yr. 1)	4 semester hours
IBGP 7000 Biomedical Sciences Survey (AU-yr. 1)	6 semester hours
IBGP 7040 Research Problem Solving in Biomedical Science (SP- yr. 1)	4 semester hours
Pharmacology 7510 Professional and Ethical Issues in Biomedical Science (SP- yr. 1)	2 semester hours
IBGP 7070 Fundamentals of Grant Writing I (AU-yr. 2)	2 semester hour
IBGP 7080 Fundamentals of Grant Writing II (SP-yr. 2)	2 semester hours
PUBHBIO 6280 Practical Biostatistics for Biomedical Laboratory Workers (SU – yr. 2)	3 semester hours
IBGP 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)
Elective Courses (may be in Biomedical Sciences or in other departments)	total of 3 semester hours
IBGP 8999 Research in Integrated Biomedical Sciences	12 semester hours
	<b>50 Total Credits</b>

## INTEGRATED BIOMEDICAL SCIENCE 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. See flow chart at end for an overview of the major parts of the exam process (Figure 1).

### **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 that include:

- 1) The advisor, who must be a member of the IBGP faculty
- 2) At least two other IBGP graduate faculty members
- 3) At least one person from outside of the advisor's home department (this person does not need to be an IBGP faculty member). This person might also be from another graduate program and not a member of the IBGP 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.

It is the student's responsibility to make all arrangements for establishing a date for the oral part 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 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

Revised April 2012

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 sign the Graduate School form that confirms that the written document is satisfactory. This form is called the "Notification of Doctoral Candidacy Examination" and can be obtained from the Graduate School. The student will designate on the form the date for the oral exam and the composition of the examination committee. This form must be delivered by the student to the Graduate School at least 2 weeks prior to the oral exam date, allowing the Graduate School enough time to commence the process of assigning the exam date officially. Also, if the document is found to be satisfactory, this will in no way negate that changes may need to be made in the document after the oral exam.

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. 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, the advisor is not a participant in the oral exam. The format for the oral exam is left up to the committee members.

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. It is the responsibility of the student to obtain all signatures for the approval form, which is a form that will be sent by the Graduate School to your mentor before the exam date. It is the student's responsibility to submit the signed form to the Program office.

**FLOW DIAGRAM OF CANDIDACY EXAM**  
(see Handbook text for specifics)

