TO: Graduate Students in the Plant Breeding, Genetics and Biotechnology Program:

On behalf of the faculty of the Plant Breeding, Genetics and Biotechnology Program (PBGB), I welcome new graduate students to our program and the Michigan State University campus. The PBGB Graduate Program is interdepartmental with faculty and students in Plant, Soil & Microbial Sciences, Horticulture, Plant Biology and Forestry participating. We hope that you will get to know all the faculty and graduate students in the near future.

Your participation in the PBGB Graduate Program marks a new or renewed professional commitment. Your decision to proceed with an in-depth study of a selected area in this scientific field is likely to be one that will have a far-reaching impact on your future endeavors. We assure you that we will help you in every way possible to achieve your academic and professional goals. Your major professor and guidance committee members will work with you to design an academic and research program to meet those goals.

You have selected our graduate studies program because of its outstanding reputation and you have been admitted based on your prior record of outstanding academic achievement. You are expecting a lot from the PBGB program and your PBGB faculty will be expecting a lot from you. In contrast to undergraduate programs, you will be expected to do more independent research work and planning.

The PBGB Program holds an annual event that you should plan to attend and take part in. A “Mini-Symposium” on a special topic is held in December with outstanding speakers from other institutions giving presentations. Time is provided for PBGB graduate students to meet with the speakers.

Please do not hesitate to seek additional assistance from any of us. We sincerely hope that you and your family will favorably remember your graduate years in the Plant Breeding, Genetics and Biotechnology Program at MSU.

Sincerely,

David Douches, Director
Plant Breeding, Genetics and Biotechnology Program
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GRADUATE EDUCATION IN THE PLANT BREEDING, GENETICS
AND BIOTECHNOLOGY PROGRAM

Introduction

You were selected as a graduate student because of your accomplishments and expressed desire for further your educational and research experience. Graduate training involves learning through research, teaching, and extension/outreach experiences, as well as courses in a total program of education developed specifically for you.

Students entering graduate school must assume responsibility for maximum personal development through their own learning efforts. Formal learning situations such as classes and thesis development are important, but in themselves, do not provide the intellectual maturity needed for degree completion and post-degree responsibilities. Students are expected to develop more fully on their own initiative through individual study and thought, interaction with other students and faculty, and by taking advantage of other learning opportunities that are a part of their academic environment.

Many facets of graduate study are not identified in the MSU Academic Programs book. It indicates only the requirements necessary for a minimum level of accomplishment. Although these certain minimum requirements must be satisfied, students, under the direction of their major advisors and guidance committees, are given wide range and latitude in developing programs. It is, however, important that students accept the responsibility for making early and thoughtful decisions with regard to total program content. Though program changes may be required at a later date, it is important that the overall direction of a student’s program, including research, be developed at an early date.

Semester and summer breaks should find you actively engaged in research, literature reviews, and related endeavors. If you are on an assistantship, you must clear any time off with your major professor. Graduate education is a full time commitment.

Policies regarding graduate education are established at university, college, department, and program levels. As a result, there is no single complete policy statement. Thus, this handbook brings these policies into focus and clarifies many important points particular to the PBGB program.

Policy precedence proceeds from university to college to department to program to committee. Program policies are established to insure the best graduate education possible. This policy system reflects the true nature of the University and places more responsibility on the department, program, student, major advisor, and guidance committee.
Please study carefully the contents of this handbook as the information will be important to you as you pursue your goal of an advanced degree from MSU. If you have any questions, please do not hesitate to contact your major advisor.

The general University and College requirements for graduate programs are found at http://www.reg.msu.edu/academicprograms/. It should be consulted even though many of the relevant university and college requirements are included herein. This document is intended to establish policy guidelines to clarify college and university requirements and to relate to certain requirements with respect to graduate education in the Plant Breeding, Genetics & Biotechnology Program.

All students should obtain a copy of the graduate handbook from their home department and follow the department guidelines as well as the guidelines in this handbook.

SUMMARY OF ADMISSION REQUIREMENTS

MASTERS DEGREE (M.S.)

a. Completion of B.S. or equivalent
b. Minimum GPA of 3.0
c. GRE exam score of:
   - Verbal Reasoning 153
   - Quantitative Reasoning 144
   - Analytical Reasoning 3.0
d. Three letters of recommendation
e. All international applicants must pass the TOEFL English language test with minimum average scores, on a paper-based test of 550, no sub-score below 52. Internet-based tests must have no sub-score below 19 for reading, listening and speaking, no writing sub-score below 22; with a minimum average score of 80. Provisional scores must be a minimum of 520 for paper-based and an average score of at least 70 for internet-based.
f. A faculty member must have agreed to serve as major advisor.
g. A graduate student not in PBGB, but regularly enrolled at MSU, may be admitted after attaining a 3.25 GPA for one semester, depending on courses completed.
h. The PBGB Advisory Committee may be petitioned for exceptions to these requirements.

Course Credit Requirements (Plan A Only)

30 credit hours total, including research credits; 16 credits at 800 level or above.

Transfer Credits

A maximum of nine credits may be transferred if approved by the major professor, guidance committee and dean.

Research Credit Requirements
6 credit hours of 899, but no more than 10.

**Guidance and Examining Committee**

a. A minimum of three regular faculty members from at least two departments or graduate programs. Two must be members of the PBGB faculty.
b. The committee should be established during the first semester, excluding summer.
c. The committee chairperson shall be the major professor.
d. The candidate and major professor will plan the program of study, as well as the thesis research, subject to approval by the guidance committee.

**Program of Study**

a. The program must include the current PBGB core courses (see Appendix) required or the equivalent of such course(s) completed at another university.
b. The M.S. program must be filed by the end of the second semester.
c. Each candidate’s program will be reviewed by the PBGB faculty at a PBGB faculty meeting.

**Language Requirement**

None

**Teaching Requirement**

Participation in the teaching of an organized course for at least one semester if your home department requires it.

**Seminar Requirements**

Participation in the PBGB seminar course (892), GEN 800 or HRT 894 for at least 2 credits is required.

**Final Oral Examination**

a. The final examination is given when the thesis is in the final form, after being reviewed by the guidance committee members.
b. The final examination may be scheduled no earlier than two weeks after a DRAFT of the thesis is approved by the major professor and has been given to guidance committee members.
c. ALL MEMBERS of the guidance committee must be present for the entire exam period. If a guidance committee member must be absent, the member must appoint someone to represent that member.
d. A program seminar will precede the examination.
e. Upon scheduling the seminar, a “Final Examination” form must be filed with the PBGB secretary at least 14 days before the examination.
f. A notice will be sent by the PBGB secretary to all PBGB faculty and students with a copy of the abstract at least seven days prior to the exam.

**Thesis and Abstract**


b. The thesis is based on research conducted in partial fulfillment of requirements for the M.S. degree and is prepared under the supervision of the student’s major professor. It must be approved by the student’s guidance committee.

c. An abstract, not exceeding one page, must also be prepared.

**Academic Standards**

For retention, the major professor and guidance committee make the decision. For graduation, a GPA of at least 3.0 in prescribed courses, exclusive of collateral courses and research, is required. A student not meeting academic requirements may be terminated at any time, subject to Graduate Student Rights and Responsibilities procedures. [http://grad.msu.edu/gsrr/docs/GSRR-2010.pdf](http://grad.msu.edu/gsrr/docs/GSRR-2010.pdf).

**Residence**

A minimum of six credits must be earned in residence on campus.

**Work in Absentia**

Courses taken at MSU off-campus centers are of equal value to on-campus courses. Courses taken should have prior approval of the major professor, guidance committee, PBGB director or dean. Courses taken without approval may or may not be accepted for credit. Research in absentia may be done with guidance committee approval.

**Time Limits**

The M.S. degree must be completed within five (5) calendar years from the date of initial enrollment.

**DOCTOR OF PHILOSOPHY (Ph.D.)**

a. Completion of M.S. or approval by PBGB advisory committee
b. Minimum GPA of 3.0
c. GRE exam score of:
   - Verbal Reasoning 153
   - Quantitative Reasoning 144
   - Analytical Reasoning 3.0
d. Three letters of recommendation
e. All international applicants must pass the TOEFL English language test with minimum average scores, on a paper-based test of 550, no sub-score below 52. The internet-based test must have no sub-score below 19 for reading, listening and speaking, no writing sub-score below 22; with a minimum average score of 80. Provisional scores must be a minimum of 520 for paper-based and an average score of at least 70 for internet-based.

f. A faculty member must have agreed to serve major advisor.

g. The PBGB Advisory Committee may be petitioned for exceptions to these requirements.

Course Credit Requirements

There is no credit requirement for the Ph.D.

Transfer Credits

A maximum of 1/3 of total credits may be transferred from another institution if they have not been used for another degree.

Research Credit Requirements

All doctoral students must register for and successfully complete a minimum of 24 credits and no more than 36 credits of doctoral dissertation research (course number 999). After 24 credits and passing the comprehensive exam, the university will require only one credit per semester.

Guidance Committee

a. The committee must be composed of a minimum of four regular faculty members from at least two departments. Two must be members of the PBGB faculty.
b. The committee should be established during the first semester, including summer.
c. The major professor will serve as the committee chairperson.
d. The candidate, major professor and guidance committee will plan the program of study, as well as the dissertation research.

Examining Committee for Comprehensive and Final Oral Exams

The committee is composed of the guidance committee, plus a member of the PBGB Advisory Committee serving as chairperson during the exam.

Program of Study

Current PBGB core courses (see Appendix) or equivalent.

Language Requirement

None
**Teaching Requirement**

Participation in the teaching of an organized course for at least one semester if your home department requires it.

**Seminar Requirements**

Participation in the PBGB seminar course (892), GEN 800 or HRT 894 for at least 3 credits is required.

**Comprehensive Examination**

Written AND oral examinations are to be taken during the first semester following completion of 80% of course work. A notice is distributed to the PBGB faculty at least 7 days prior to the examination. If the student fails to pass, the examination may be rescheduled after a minimum of one semester and a maximum of two semesters of additional study. Failure to pass the second examination within the time limits shall constitute dismissal from the Ph.D. program. The exam may be repeated only once.

**Final Oral Examination**

a. The final examination is given when the dissertation is in the final form, after being reviewed by the guidance committee, but before being submitted to the Graduate School.

b. The final examination may be scheduled **no earlier than two weeks** after a FINAL DRAFT of the dissertation, approved by the major professor(s), has been given to the guidance committee members.

c. ALL MEMBERS of the guidance committee must be present for the entire exam period. If a guidance committee member must be absent, the member must appoint someone to represent that member.

d. A seminar preceding the examination will be open to faculty and non-voting members of the public.

e. Upon scheduling the seminar, a “Final Examination” form and a copy of the dissertation abstract must be filed with the PBGB secretary at least **14 days** before the examination.

f. A notice will be sent by the PBGB secretary to all PBGB faculty and students with a copy of the abstract at least **seven days** prior to the exam.

**Dissertation and Abstract**

MSU only accepts electronic dissertations submitted via ProQuest.


b. The dissertation is based on research conducted in partial fulfillment of requirements for the Ph.D. degree and is prepared under the supervision of the student’s major professor. It must be approved by the student’s guidance committee.

c. An abstract, not exceeding two pages, must also be prepared.
**Academic Standards**

For retention, the major professor and guidance committee make the decision. For graduation, a GPA of at least 3.0 in prescribed courses, exclusive of collateral courses and research, is required. A student not meeting academic requirements may be terminated at any time, subject to Graduate Student Rights and Responsibilities procedures. [http://grad.msu.edu/gsrr/docs/GSRR-2010.pdf](http://grad.msu.edu/gsrr/docs/GSRR-2010.pdf).

**Residence**

A minimum of six credits must be earned in residence on campus.

**Work in Absentia**

Courses taken at MSU off-campus centers are of equal value to on-campus courses. Courses taken should have prior approval of the major professor, guidance committee, PBGB director or dean. Courses taken without approval may or may not be accepted for credit. Research in absentia may be done with guidance committee approval.

**Time Limits**

a. Comprehensive examinations for the Ph.D. degree must be taken within five (5) calendar years, and the degree completed with eight (8) years from initial enrollment. The Ph.D. degree must be completed within three (3) years after passing the comprehensive examination, or the examination must be repeated.

b. Students may petition the PBGB Advisory Committee for an extension in time under extenuating circumstances. An extension must be approved by the Dean and the Graduate School.
PLANT BREEDING, GENETICS AND BIOTECNOLOGY
GENERAL POLICIES

Admission

Applications for admission should be completed at: http://grad.msu.edu/apply/. As soon as the application is submitted, it is available for review by the Plant Breeding, Genetics and Biotechnology Program (PBGB).

Any student who has completed (or is completing) at least a bachelor of science or arts with a GPA of 3.0 or better on a 4.0 scale can apply for post-graduate education in PBGB. The GPA for admission to graduate school will be calculated on the basis of courses taken during the last two academic years. The average will be determined whether under a first or second Bachelor’s degree or Master’s degree.

To be accepted as a graduate student in PBGB, the Graduate Record Examination (GRE) must be taken and the following minimum standards attained:

- Verbal Reasoning 153
- Quantitative Reasoning 144
- Analytical Reasoning 3.0

Prior to admission, an applicant must be accepted by a PBGB faculty member who is willing to serve as the major professor. However, no commitment, either verbal or written, will be made by a faculty member until the completed application is submitted and reviewed by the PBGB Advisory Committee for acceptance as well as the home department (e.g. PSM, HRT, PLB, FOR, PLP).

A complete packet includes the following:

a. Application, completed online at http://grad.msu.edu/apply/
b. Three letters of recommendation
c. Official transcripts from each college/university attended. The student should have official transcripts sent directly from the college/university to the University Admissions Office. Transcripts from Michigan State University need not be requested. International transcripts must be translated into English and certified if originals are in another language (include original). All applicants who have earned degrees from universities in China must submit not only transcripts and graduation certificates, but must also obtain verification of these documents from the China Academic Degrees and Graduate Education Development Center (CDGDC), http://www.chinadegrees.cn/en/.
d. Graduate Record Exam scores (verbal, quantitative and analytical sections).
e. International students without funding (scholarship, fellowship, assistantship, etc.): Financial statement and evidence of financial ability to meet educational and maintenance expenses for each year of their proposed study.
f. TOEFL exam results (for international students).
After an applicant’s file is complete, a notice is sent to all faculty members indicating the student’s areas of interest and need for financial assistance, if applicable. Special funding is sometimes available to assist in recruiting and supporting minority and female candidates, and thereby fulfilling affirmative action goals. If, after three months, no PBGB faculty member has indicated an interest in serving as advisor, the applicant is advised and the file is closed. In all instances, acceptance for international applicants is not formally granted until the English Language Center and/or the University Graduate Admissions Office have approved the application for admission. Formal notice of acceptance will be sent to the student by the Admissions Office, with a copy to the PBGB Director.

Applicants considering a graduate degree program may be admitted on a regular or provisional status.

**Regular Status**
- a. At least one college course in Algebra, Physics, Genetics, Trigonometry, or Organic Chemistry
- b. 15 credit hours in plant sciences
- c. GPA of 3.0
  - GRE exam score of Verbal Reasoning 153, Quantitative Reasoning 144, Analytical Reasoning 3.0

Exceptions must be approved by the PBGB Advisory Committee

**Provisional Status**
A student may be admitted to graduate school on a provisional status provided that no more than 8 collateral credits are needed. This indicates the student is lacking certain courses considered essential to their program (as listed for “regular” admission. Courses taken to fulfill deficiencies will be listed as collateral and will not apply towards the minimum number of credits required for the degree. A grade of 3.0 or better must be achieved in collateral courses. Collateral courses will be specified at the time of admission and may include other courses specified by the major professor.

**Transfer Credits**

Graduate credits earned at another institution, but not used for another degree, may be transferred (up to 9 credits) for the M.S. degree, and 1/3 of the total credits for a Ph.D. degree to Michigan State University and used as partial fulfillment of the degree requirements. Credit acceptance is determined by the major professor and guidance committee and must be approved by the PBGB Director and the Associate Dean. The credits must be appropriate to your degree and earned within the specified time limits for M.S. or Ph.D. degrees. You must furnish evidence that the credit were not used for another degree.
**Responsibilities**

Completion of the requirements for the M.S. and Ph.D. degrees are the responsibility of the candidate (student) with appropriate guidance from the major professor.

The candidate will file and maintain correct records of progress with the major professor, together with the PBGB Program. The PBGB graduate secretary maintains all student files.

The candidate, major professor and guidance committee in the M.S. and Ph.D. programs will plan the program of study, as well as the thesis or dissertation research.

The candidate’s major professor is the most important partner in a graduate degree program. Committee members serve a valuable function and should be selected early. Candidates should keep the major professor informed of their activities and progress. Frequent, short conferences are better than infrequent, long conferences. Such contact helps prevent disappointment at a later date.

**PBGB Program Advisory Committee**

The goal of the Plant Breeding, Genetics and Biotechnology Program Advisory Committee (PBGBAC) is to maintain high standards of graduate education. The committee is composed of four faculty members elected by the PBGB faculty with each serving a 2-year term.

The PBGBAC reviews and approves student applications to the program and recommends program graduate policies to the PBGB Director and assures adherence to them. The Committee may review the progress of each student and try to avert irregularities that might develop. Committee members serve as moderators of PBGB oral and comprehensive exams. The Committee is available to meet with graduate students, as a group or individually, to discuss graduate education.

The PBGBAC members are also available for consultation regarding problems affecting progress in acquiring an advanced degree. A student may discuss problems with members of the committee, file a written report, or meet with the committee.
**Major Professor**

In many instances the student’s major professor is determined before the student arrives, in accordance with the academic and commodity interests of the student and the availability and willingness of a faculty member to serve in that capacity. Students should contact the major professor immediately upon arrival at MSU. Students accepted into a rotation program must choose a major professor before the first year of funding is completed.

If a student desires a change in major professor for any reason, the change must be requested before the end of the second semester. Any changes must first have the approval of the PBGB Director and both the PRESENT AND FUTURE major professor. Failure to do so may result in a request for withdrawal from graduate studies.

**Guidance Committee**

The guidance committee will be determined by the student and the major professor. The guidance committee appointment form must be completed and filed by the major professor, with the PBGB Director by the end of the student’s second semester, excluding summer. The major professor will serve as chairman of the guidance committee. Each member of the guidance committee must be contacted by the student and be willing to serve before the appointment form is submitted. The guidance committee for the M.S. degree will be composed of at least three members (one is the major professor) from at least two different departments or programs, with a minimum of two members from the PBGB faculty. The committee for the Ph.D. degree will be composed of at least four members (one is the major professor) from at least two departments or programs, with a minimum of three members from the PBGB faculty. All committee members must be regular faculty or fixed-term faculty approved to serve as major professors.

The guidance committee serves two main functions: 1) to direct the program of study and research, and 2) to administer examinations and the defense of the thesis or dissertation. The final examination or dissertation defense will include a one-hour seminar presentation, followed by an examination conducted by the guidance committee and other faculty members based on the content of the thesis or dissertation. A student is encouraged and should feel free to contact any members of the guidance committee regarding any phase of his/her graduate work.

**Direct Admission to Ph.D.**

A student may be admitted for a Ph.D. without completion of a M.S. degree, with the approval of the major professor. Such requests should be in writing to the Graduate Programs Committee and are subject to approval by the PBGB Director. Students who plan to pursue work toward a doctorate without earning a Master’s degree will have enrolled as Master’s candidates until they have earned 30 graduate credits. Any student admitted to this program must take an oral exam administered by his/her guidance committee after 30 credits of study.
**Readmission**

If your program of study is interrupted for one or more semesters, exclusive of summer, you must apply for readmission. Readmission forms are available on line at: [http://www.reg.msu.edu/StuForms/ReAdmission/ReAdmission.asp](http://www.reg.msu.edu/StuForms/ReAdmission/ReAdmission.asp). Readmission is based on the applicant’s graduate student standing and the availability of a faculty member to serve as the applicant’s major professor.

**Teaching Requirement**

The PBGB graduate program does not require that all graduate students participate in a meaningful teaching experience as part of their graduate program. There may be departmental requirements, and such activity will enhance their overall qualifications and academic experiences. Please note that the PBGB graduate program does support a limited number of single semester ¼ teaching assistantships for PBGB courses needing a TA.

**Seminars**

All students must register for and complete two seminar credits for the M.S. degree and three credits for Ph.D. degree. Formal graduate student seminar course numbers are CSS, FOR or HRT 892. GEN 800 may be used to fulfill this requirement.

**Comprehensive Examination for the Ph.D.**

A comprehensive knowledge of the student’s major and related fields must be demonstrated to the guidance committee by examination, written and oral. The comprehensive examination must be scheduled during the first semester following completion of 80% of the course work. A student who does not meet this requirement may not be allowed to register for the following semester. The examination shall be **written** and **oral**, and must be passed before the oral defense of the thesis can be scheduled. The written exam will be 8 hours in length; the length of the oral will be determined by the examining committee. The written exam shall be given and completed at least two weeks prior to the oral exam.

Announcement of the oral comprehensive exam must be made to the faculty in writing by the PBGB Secretary at **least 7 days** prior to the exam. The student will provide the necessary information for the announcement to the PBGB Secretary at **least 24 hours** before the announcement is due. The announcement concerning the comprehensive examination will include the following statement: “All members of the comprehensive committee, or their designated representatives, must be present during the entire examination.” An absent member will name his/her representative.

The Comprehensive Committee will be chaired by a member of the PBGB Advisory Committee, or a PBGB faculty member if a PBGBAC member is not available. The chairperson of the
committee shall not have voting privileges, but shall ensure that the student is given a fair examination. Other faculty members attending the examination may question the candidate and discuss student performance, but will be excused immediately prior to voting by the Comprehensive Exam Committee.

The comprehensive examination may be passed with a maximum of one dissenting vote of the committee. If the student does not pass, the examination may be rescheduled after a minimum of one semester and a maximum of two semesters of additional study. Failure to pass the second examination within the time limits shall constitute dismissal from the graduate program. The chairperson of the examining committee shall return the examination decision form to the PBGB Secretary within 24 hours of completion of the oral exam.

**Final Examination for M.S. and Ph.D.**

All changes in a program of study and any incomplete or deferred grades (except 899 and 999) must be cleared before the examination can be scheduled. The examination will determine whether the student has achieved a minimum level of competence in the general area of plant breeding and a comprehensive knowledge of their major area of specialization. It shall encompass both the course of study and defense of thesis. The final decision to pass or fail the student will be rendered by the examining committee. While a unanimous decision is usual, a two-thirds majority vote to pass is sufficient for successful completion of the examination. Each member of the committee will sign the exam certification form for transmittal by the major professor to the program Director. A student may be required to repeat the exam. If the second exam is not passed, the student will be required to withdraw from graduate studies in PBGB.

The final examination should be scheduled after the thesis or dissertation has been reviewed by all members of the guidance committee and their suggestions have been incorporated. The thesis or dissertation must conform to University format as directed in Graduate School Thesis and Dissertation ELECTRONIC Submissions: [http://grad.msu.edu/etd/](http://grad.msu.edu/etd/).

Upon scheduling the seminar, a “final examination” form and a copy of the thesis or dissertation abstract must be filed with the PBGB Secretary at least eight days before the examination. Faculty will be notified by the PBGB Secretary at least seven days prior to the examination. The oral examination may cover any course work taken, seminars given in the Department, the research project selected, and any related work.

Within 48 hours after the conclusion of the examination, the major professor shall submit a final examination form to the PBGB Secretary. Following the final examination, the dissertation shall be modified as directed by the committee and submitted, as outlined in the Graduate School Thesis and Dissertation ELECTRONIC Submissions.
Final Certification

The PBGB Director approves the final certification form, which is received the semester the student indicates during registration that they will be completing degree requirements. If all requirements are complete, the form is verified and returned to the Degree Certification Office. The following information is included on the final certification.

1. Date of the final exam
2. Name and rank of the major professor
3. Name and rank of the guidance committee chairperson
4. Number of thesis or dissertation credits and grade
5. All courses, with grades, on the program of study

It is the responsibility of the student to maintain a current file of their progress as a degree candidate in the PBGB Secretary’s office.
GRADUATE ASSISTANTSHIPS

All candidates for assistantships must satisfy the requirements for admission to regular or provisional status. Additional criteria include courses taken, performance as reflected in transcripts, practical experience in the specific area to be investigated, strength of recommendations, and GRE scores. Assistantships are awarded on the basis of availability, area of interest and ability without regard to race, sex, or religions preference.

General Policies

PBGB supports four ¼-time teaching assistantships per year. Graduate research assistantships may be on a quarter- or half-time basis. Assistantship appointments are for periods of one semester to two years. The stipend, activities and course load are proportional to the percent of time designated by the assistantship. Assistantships established by use of university or research contract funds are at three levels:

- **Level 1**: Assistants with a bachelor’s degree and less than two semester's experience as a graduate assistant.
- **Level 2**: Assistants with a Master's degree (or equivalent); OR 30 or more grad semester credits or equivalent; OR at least two semester's experience as a graduate assistant or full-support fellow.
- **Level 3**: Assistants with a Master’s degree (or equivalent); successful completion of doctoral comprehensive exams, as defined by the department in which the student is enrolled; 6 semesters as a graduate Research/Teaching (R/T) Assistant at MSU, or equivalent. The definition of equivalence is left to the discretion of the chairperson of the appointing unit, but it is expected that only experience in research-oriented assignments count toward the 6 semesters of experience as an RA.

An increase in stipend accompanies an increase in level.

Tuition, up to 9 credits per semester (5 credits for summer semester), is waived for graduate assistants, and health care is provided during the semesters a student is supported by an assistantship. Fees and taxes are the responsibility of the student.

Each graduate assistant is responsible to his/her major professor and will have responsibilities for at least one research project. Therefore, responsibilities of assistantships will vary. Enrollment in courses, credit load per semester, training activity, etc., should be approved by the major professor before registering. The major professor is responsible for seeing that the assistantship appointment forms are initiated out of the office of the PBGB Secretary in order for them to be ready upon arrival of the student. A student must meet the requirements for academic standards and retention, as described in Article 4.5.3 of Spartan Life, to retain financial assistance: [http://splife.studentlife.msu.edu/graduate-student-rights-and-responsibilities](http://splife.studentlife.msu.edu/graduate-student-rights-and-responsibilities).
**Responsible Conduct of Research (RCR)**

All graduate students must complete RCR training. MSU offers several of the periodic workshop series held by the MSU Graduate School on Responsible Conduct of Research. The specific workshops to be attended will be outlined in orientation upon arrival. For details regarding such workshops as well as expectations associated with the responsible conduct of research at MSU, see [http://grad.msu.edu/rcr/](http://grad.msu.edu/rcr/). For recommended readings and other materials, see also: [http://grad.msu.edu/rcr/investing.aspx](http://grad.msu.edu/rcr/investing.aspx). Note: these workshop materials are also available on-line: [http://grad.msu.edu/researchintegrity/Epigeum.aspx](http://grad.msu.edu/researchintegrity/Epigeum.aspx) and individuals can register for and access these courses at no cost through their D2L (Desire2Learn) account. The courses required vary with the home department. Horticulture, as one example, requires three of the seven training workshops offered by the Graduate School: Workshop #2 (Scientific Communication, Rights to Data, and Authorship); Workshop #3 (Crediting the Works of Others and Avoiding Plagiarism); and Workshop #5 (Misconduct in Research & Creative Activities). In addition, each student is expected to read “On Being a Scientist, A Guide to Responsible Conduct in Research”.

Graduate research experimental designs, original data, and analyses should be archived in a bound laboratory notebook plus computer files, as appropriate. The **major professor should have established research group procedures and standards for recording, storing, and presenting data.** Students should routinely back up all data in both their personal files/computers and in a common file/computer of the major professor’s designation. The course NSC 830 (Nature and Practice of Science) is a valuable 1-credit review of recommended scientific best practices, including principles and practices of research integrity and professionalism.

Students should discuss both raw and analyzed data at regular intervals with their major professors. Regular discussion of data is vital to successful analysis, interpretation, and ultimately peer-reviewed publication of experimental research. The **original data, notebooks, and files from all graduate work remain the property of Michigan State University, although copies may be made for graduating students to retain when they leave MSU.**
APPENDIX

Records and Forms

A complete set of all records and actions is maintained in each student’s file by the PBGB Secretary. Each student is responsible for keeping his/her file current and complete. Each phase of progress should be reported to the PBGB Program via the Secretary on the proper forms.

The following forms are used for your records and may be obtained from the PBGB Secretary. Some examples are given on the following pages.

General – All Candidates

- Appointment of Examining Committee
- Graduate Teaching Requirement as required by student’s home department
- Graduate Student Evaluation as required by student’s department
- Scheduling of Final Oral Exam

M.S. Candidates

- Proposed Academic Program – used to report program of study
- Result of Final Defense

Ph.D. Candidates

- Examining Committee Report – used to report program of study approval by examining committee
- Record of Comprehensive Examination
- Record of Dissertation and Oral Examination

PBGB Philosophy for Teaching Experience

The recommended method of satisfying the teaching requirement is for the student to participate in the teaching of an organized course during at least one academic semester while enrolled for each advanced degree. The student is to work in conjunction with the course instructor and to participate fully in all aspects pertaining to the organization, conduct and evaluation of the course. Duties could include, but are not limited to, helping organize a new course reorganizing an existing course; determining what plans, material and supplies are needed for securing them; assembling, preparing, or revising teaching materials; teaching one or more lectures or laboratories; teaching on or more laboratory sections; helping design, prepare, proctor, and grade exams; grade papers or other assignments; help organize and conduct field trips; help coordinate undergraduate teaching assistants who are teaching laboratory sections; and other assignments related to teaching. Generally, graduate students can meet this requirement by spending 8-12 hours per week during one semester. This will vary depending upon a student’s background, experience, course
requirement, and needs of the program. The student, after consultation with the major professor, shall be responsible for contacting the PBGB Director to arrange for completion of the teaching requirement.

The primary responsibility for determining how the teaching requirement is to be fulfilled rests with the student and the PBGB Director, based on the teaching assistance requests of the faculty. Graduate students will be matched as closely as possible with the semester they request to fulfill this requirement and the course(s) most closely related to their expertise and request.

The PBGB Advisory Committee will serve in an advisory role and review capacity on the teaching requirement to assist in obtaining consistent standards among graduate programs.

An evaluation and certification of assistance in teaching by the course instructor will be placed in the student’s file upon completion of the teaching requirement. This form may be obtained from the PBGB Secretary before the teaching assignment begins. Any graduate student who has served as an assistant in a course cannot subsequently take that course for credit.

All teaching assistants must attend the MSU Teaching Assistant Orientation.

International Students: Graduate teaching assistants must be interviewed by the English Language Center faculty before teaching begins. If a student fails to pass the minimum all-University standards of English proficiency for regular admission status, he/she may not teach classes without the approval of the English Language Center.
To the Dean of the College of Agriculture and Natural Resources:

The following faculty members are recommended as members of the Examining Committee for:

____________________________________  __________________________
Candidate’s Full Name                 A-PID

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Approved by:

____________________________________  _______________________________________
PBGB Director                        Academic Dean
Date                                  Date

College of Agriculture and Natural Resources
PLANT BREEDING, GENETICS AND BIOTECHNOLOGY

GRADUATE TEACHING REQUIREMENT

The Plant Breeding, Genetics and Biotechnology Program requires all graduate students to participate in a meaningful teaching experience as a part of their graduate program (see PBGB handbook). For Ph.D. students, the requirement must be fulfilled at least one semester before graduation.

____________________________________________________  ______________________________
(Student’s Name) (Student A-PID)

REQUEST: To fulfill the teaching requirement, I would like to be a teaching assistant in ________________, _____________ Semester.

APPROVALS:

____________________________________________________  ______________________________
(Major Professor) (Instructor)

____________________________________________________
(Director, Plant Breeding Genetics and Biotechnology)

CONFIRMATION: The above named student completed the requirement by teaching:

_______________________________________________________________________
_______________________________________________________________________

In ____________, ___________ Semester.

____________________________________________________
(Instructor)

C: Graduate Program Chair
Student
COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

MASTER OF SCIENCE DEGREE PROPOSED ACADEMIC PROGRAM

(To be submitted before student’s second semester)

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Tentative Thesis/Research Topic

**Program of Study** (Group courses by Departments):

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**Total Program Credits**

Collateral Courses

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List Examining Committee Members and their Departments:

Major Professor

1. 
2. 
3. 
4.
PLANT BREEDING, GENETICS AND BIOTECHNOLOGY PROGRAM

NOTICE OF SEMINAR/THESIS DEFENSE
M.S. DEGREE
to
Plant Breeding, Genetics and Biotechnology Faculty

Candidate’s Name:

Examination Information:

Date:

Time:

Place:

Thesis title:

*Members of the Examining Committee and their Departments:

1)

2)

3)

*All members of the Comprehensive Committee, or their designated representative, must be present during the entire examination.

cc: Faculty
PLANT BREEDING, GENETICS AND BIOTECHNOLOGY

Result of Final Defense
for the
M.S. Degree
in Plant Breeding, Genetics and Biotechnology

Name: _________________________________  A-PID: ______________________

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Brief description of modifications (if any) to be made to the thesis/research project.

Signed:

______________________________  ________________________________
Chairperson of Guidance        PBGB Graduate Programs
Committee                      Chair

Date                           Date
PLANT BREEDING, GENETICS AND BIOTECHNOLOGY

College of Agriculture and Natural Resources

Michigan State University

To the Dean of the College of Agriculture and Natural Resources:

The following faculty members are recommended as members of the Examining Committee for:

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Approved by:

______________________________  __________________________
PBGB Director                   Academic Dean

______________________________  __________________________
Date                             Date

College of Agriculture and Natural Resources
PLANT BREEDING, GENETICS AND BIOTECHNOLOGY PROGRAM
NOTICE OF ORAL EXAMINATION
Ph.D DEGREE
to
Plant Breeding, Genetics and Biotechnology Faculty

Candidate's Name:

Examination Information:

Date:

Time:

Place:

Dissertation subject or areas for intensive examination:

*Members of the Examining Committee and their Departments:

1)

2)

3)

4)

Graduate program committee member to serve as chairman of the examination:

*All members of the Comprehensive Committee, or their designated representative, must be present during the entire examination.

cc: Faculty

An abstract must be attached.
PLANT BREEDING, GENETICS AND BIOTECHNOLOGY PROGRAM

NOTICE OF SEMINAR/DISSERTATION DEFENSE
Ph.D. DEGREE
to
Plant Breeding, Genetics and Biotechnology Faculty

Candidate’s Name:

Examination Information:

Date:

Time:

Place:

Dissertation subject or areas for intensive examination:

*Members of the Examining Committee and their Departments:

1)

2)

3)

4)

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cc: Faculty

An abstract must be attached.