Genetics and Genomics Graduate major

Iowa State University

Ph.D. deadlines.

http://www.genetics.iastate.edu/currcheckdline.html

**Program Deadlines, Pre-requisites, IG2 Checklist, POS Requirements based on semester began in program.**

**Prerequisites**

Students who do not complete an upper level biochemistry course and an upper level statistics course comparable to BBMB 404 and STAT 401 will take BBMB 404 and STAT 401 at Iowa State by the end of their 4th semester (counts summer).

**Deadlines**

- The [IG2 CHECKLIST](http://www.genetics.iastate.edu/currcheckdline.html) is filled out and returned to the program coordinator between September 1 and November 1 of each year. New students (most recent summer and fall admits) are not required to complete the checklist their first year. The document should NOT be printed but emailed. Print your name in the Signature block.
- Ph.D. Students: The POSC (program of study and committee) must be completed at the end of the first year in your permanent lab for Ph.D. students. Students should meet with their committee members as a group prior to submitting the POSC on-line. This group meeting must have at least 3 committee members present (Ph.D.) The student will meet independently with the remaining committee members who are unable to attend the group meeting.
- M.S. Students: The POSC (program of study and committee) must be completed by the end of the second semester in your permanent lab. Students should meet with their committee members as a group prior to submitting the POSC on-line. This group meeting must have at least 2 committee members present (M.S.) The student will meet independently with the remaining committee member who are unable to attend the group meeting.
- GRST 565 completed by end of first year in the program to meet NIH and NSF requirements.
- BBMB 404 and STAT 401 completed by end of 4th semester (counts summer) in program.
- It is expected that you will take and complete your prelim no later than the end of the third year in the graduate program.
- Students who passed their prelim will be expected to meet with their POS committee members on a yearly basis. The purpose of this meeting is to discuss progress (and remediation if lack of progress), goals, and plans for completion of thesis research and publications. Students and committees may also discuss job opportunities and professional development. At least three members must be present as a group and any remaining committee members must be met with independently.
- Graduation time-line: The University’s 7 year rule applies for both MS and Ph.D. students.
Genetics and Genomics Curriculum Effective for Students admitted Summer 2014 or later

Doctor of Philosophy

All Ph.D. candidates take a core curriculum comprising one course each from the following four categories and attend seminars, workshops, and approved activities as described.

- I. Transmission Genetics (GDCB 510)
- II. Molecular Genetics (GDCB 511)
- III. Genomics, Bioinformatics and Statistical Genetics
- IV. Evolution, Population and Quantitative Genetics
  - EEOB 540X, AnSci/Agron 561, EEOB 562, EEOB 563, EEOB 566, EEOB 567, GDCB 536

Required Support Courses. STAT 401, BBMB 404.
Incoming students should complete these courses during their first year if they have not previously taken these or equivalent courses during their undergraduate training. Prior to arrival at Iowa State to begin Graduate Training (and no later than the beginning of their first semester in the program) a student may send a copy of the syllabus to Linda (lmwild@iastate.edu) for the courses they believe meet STAT 401 and BBMB 404 to be evaluated. They should include the institution where the courses were taken and the grade awarded. The instructor for BBMB 404 at Iowa State will review your syllabus. Dr. Jack Dekkers (jdekkers@iastate.edu) of the Genetics Curriculum Committee will review your syllabus meeting STAT 401. A student may also opt to take a comprehensive "test-out" examination (40 multiple choice questions) during Orientation week for BBMB 404 (need 70% correct). Test-out dates will/would have been provided in the New Genetics Student Orientation Schedule. To prepare for "test out" the student should review the syllabus and text for this class.

Students will also take the following seminars:

- Student Research Seminar (GENET 690), taken three times, offered fall and spring
- Faculty Research Seminar (GENET 691), taken two times, offered fall
- Workshop in Genetics (GENET 591), taken two times, offered fall
- Conceptual Foundations of Genetics (GENET 692), taken one time, offered fall
- Responsible Research Conduct (GRST 565), must have a B or better in this course, offer fall and spring, take the first year in the program
- Ethics & Biological Sciences (GENET 539), taken one time, offered spring

A total of 72 credits is required for a Ph.D. Students will take additional courses of interest, research credits (GENET 699) and courses as directed by their committee members. Research rotation credits (GENET 697) may also be used towards this total.

Master of Science

M.S. students take the above core courses, seminars, workshops, and activities, but are required to
participate in only one Workshops in Genetics (GENET 591) and in only one student research seminar (GENET 690). 32 credits are required for an M.S. degree in Genetics and Genomics. Students will take additional courses of interest, research credits (GENET 699) and courses as directed by their committee members.

Minor in Genetics and Genomics

Students minoring in genetics and genomics at the Ph.D. level must meet the following requirements: completion of three of the four categories of required core lecture courses listed above. One semester of seminar in genetics (GENET 690 or 691 or 692) is recommended. One member of the student's Program of Study committee must be an Interdepartmental Genetics and Genomics faculty member.

A typical First Year of Coursework may look like the following:

FALL

- GDCB 510
- BBMB 404, or STAT 401, or a course from Core Groups III and IV
- GENET 692
- GENET 691
- Research, GENET 699 or GENET 697 (register for enough to bring your total coursework to 12 credits)

SPRING

- GDCB 511
- BBMB 404 (on-line), STAT 401, or a course from Core Groups III and IV
- GRST 565
- GENET 539
- Research, GENET 699 or GENET 697 (register for enough to bring your total coursework to 12 credits)

SUMMER

- BBMB 404 (on-line), or STAT 401, or research
- If you register for more than 2 credits during the summer, you must clear this with your major professor
- Summer tuition charges are charged per credit hour between 2 and 5 credits so the fewer the number of credits you take the less in tuition charges. A minimum of 2 credits is charged even if you sign up for 1 credit. 5 or above credits are the same charge.
Genetics and Genomics Curriculum for Students admitted between (and including) Summer 2010 and Spring 2014.

Doctor of Philosophy

All Ph.D. candidates take a core curriculum comprising one course each from the following four categories and attend seminars, workshops, and approved activities as described.

- I. Transmission Genetics (GDCB 510)
- II. Molecular Genetics (GDCB 511)
- III. Genomics, Bioinformatics and Statistical Genetics
- IV. Evolution, Population and Quantitative Genetics
  - EEOB 540X, AnSci/Agron 561, EEOB 562, EEOB 563, EEOB 566, EEOB 567, GDCB 536

Required Support Courses. STAT 401, BBMB 404.
Incoming students should complete these course(s) during their first year if they have not previously taken these or equivalent courses during their undergraduate training. A student who has not taken BBMB 404 at Iowa State University may request a "test-out" of the course. This is done on-line at the ISU testing center. Contact Linda at lmwild@iastate.edu about this activity. To prepare for "test out" the student should review the syllabus and text for this class. If a student has not taken STAT 401, but believe they have met the requirements of this course, they can provide appropriate documentation (catalog description and syllabus) to the Jack Dekkers of the IG Curriculum Committee (jdekkers@iastate.edu) for review and a decision.

- Student Research Seminar (GENET 690), taken three times
- Faculty Research Seminar (GENET 691), taken two times
- Workshop in Genetics (GENET 591), taken three times
- Conceptual Foundations of Genetics (GENET 692, taken one time

Students attend approved training in Scientific Ethics and Bioethics. A total of 72 credits is required for a Ph.D. Students will take additional courses of interest, research credits (GENET 699) and courses as directed by their committee members. Research rotation credits (GENET 697) may also be used towards this total.

Master of Science

M.S. students take the above core courses, seminars, workshops, and activities, but are required to participate in only two Workshops in Genetics (GENET 591) and in only one student research seminar (GENET 690). 32 credits are required for an M.S. degree in Genetics and Genomics. Students will take additional courses of interest, research credits (GENET 699) and courses as directed by their committee members.

Minor in Genetics and Genomics

Students minoring in genetics and genomics at the Ph.D. level must meet the following requirements: completion of three of the four categories of required core lecture courses listed above. One semester of
seminar in genetics (GENET 690 or 691 or 692) is recommended. One member of the student's Program of Study committee must be an Interdepartmental Genetics and Genomics faculty member.

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Curriculum for Genetics and Genomics Graduate Students admitted prior to Summer 2010

Doctor of Philosophy

All Ph.D. candidates take a core curriculum comprising one course each from the following four categories and attend seminars, workshops, and approved activities as described.

- I. Transmission Genetics (GDCB 510)
- II. Molecular Genetics (GDCB 511 or BBMB 502)
- III. Biochemistry (BBMB 404 or BBMB 501).
- IV. Quantitative, Population OR Evolutionary Genetics (QPE)
  - ANSCI/Agron 561--Population and Quantitative Genetics for Breeding
  - EEOB 562--Evolutionary Genetics
  - EEOB 563--Molecular Phylogenetics
  - EEOB 566--Molecular Evolution
  - EEOB 567--Empirical Population Genetics

- Student Research Seminar (GENET 690), taken three times
- Faculty Research Seminar (GENET 691), taken two times
- Workshop in Genetics (GENET 591), taken three times
- Conceptual Foundations of Genetics (GENET 692, taken one time)

Students attend approved training in Scientific Ethics and Bioethics. A total of 72 credits is required for a Ph.D. Students will take additional courses of interest, research credits (GENET 699) and courses as directed by their committee members. Research rotation credits (GENET 697) may also be used towards this total.

Master of Science

M.S. students take the above core courses, seminars, workshops, and activities, but are required to participate in only two Workshops in Genetics (GENET 591) and in only one student research seminar (GENET 690). 32 credits are required for an M.S. degree in Genetics and Genomics. Students will take additional courses of interest, research credits (GENET 699) and courses as directed by their committee members.

Minor in Genetics and Genomics

Students minoring in genetics and genomics at the Ph.D. level must meet the following requirements: completion of three of the four categories of required core lecture courses listed above. One semester of seminar in genetics (GENET 690 or 691 or 692) is recommended. One member of the student’s Program of Study committee must be an Interdepartmental Genetics and Genomics faculty member.