

Status: PENDING

PROGRAM REQUEST
Molecular Genetics

Last Updated: Andereck, Claude David
05/10/2011

Fiscal Unit/Academic Org	Molecular Genetics - D0340
Administering College/Academic Group	Biological Sciences
Co-administering College/Academic Group	
Semester Conversion Designation	Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specialization name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)
Current Program/Plan Name	Molecular Genetics
Proposed Program/Plan Name	Molecular Genetics
Program/Plan Code Abbreviation	MOLGEN-MS
Current Degree Title	Master of Science

Credit Hour Explanation

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		45	30.0	30	0.0
Required credit hours offered by the unit	Minimum	35	23.3	23	0.3
	Maximum	45	30.0	30	0.0
Required credit hours offered outside of the unit	Minimum	0	0.0	0	0.0
	Maximum	10	6.7	7	0.3
Required prerequisite credit hours not included above	Minimum	0	0.0	0	0.0
	Maximum	0	0.0	0	0.0

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

Program Learning Goals

Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes

Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? No

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

Pre-Major

Does this Program have a Pre-Major? No

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Attachments

- MG_MS_Program.pdf
(Program Proposal. Owner: Shannon, Laurel Jean)
- MolGen MS cover letter.doc: NMS Division of Arts and Sciences cover letter
(Letter from the College to OAA. Owner: Andereck, Claude David)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Shannon, Laurel Jean	04/11/2011 06:00 PM	Submitted for Approval
Revision Requested	Vaessin, Harald Emil Friedrich	04/12/2011 09:35 AM	Unit Approval
Submitted	Shannon, Laurel Jean	04/12/2011 09:50 AM	Submitted for Approval
Approved	Vaessin, Harald Emil Friedrich	04/12/2011 09:58 AM	Unit Approval
Revision Requested	Andereck, Claude David	04/26/2011 01:54 PM	College Approval
Submitted	Shannon, Laurel Jean	05/01/2011 05:28 PM	Submitted for Approval
Revision Requested	Vaessin, Harald Emil Friedrich	05/01/2011 07:14 PM	Unit Approval
Submitted	Shannon, Laurel Jean	05/02/2011 09:11 AM	Submitted for Approval
Approved	Vaessin, Harald Emil Friedrich	05/02/2011 10:51 AM	Unit Approval
Approved	Andereck, Claude David	05/10/2011 02:19 PM	College Approval
Pending Approval	Myers, Dena Elizabeth Slotnick, Elliot E	05/10/2011 02:19 PM	GradSchool Approval



Division of Natural and Mathematical Sciences

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May 10, 2011

Dena Myers
Graduate School
250 University Hall
230 North Oval Mall
Campus

Dear Dena:

It is a pleasure to forward to you the proposal for the masters program in Molecular Genetics under semesters. The Department has recently merged with Plant Cellular and Molecular Biology, and this masters is the only one available going forward. The conversion of both the thesis and non-thesis versions is relatively straightforward. In the absence of sequences the transition for a student beginning under quarters should involve no difficulties.

Beyond my own review of the documents, the proposal has been discussed by colleagues from other NMS units at a meeting on April 26, 2011. Feedback from these discussions has been incorporated in the proposal.

If you have any questions, I would be happy to address them.

Sincerely,

A handwritten signature in black ink, appearing to read "David Andereck".

David Andereck
Professor of Physics
Associate Dean of Natural and Mathematical Sciences, College of Arts and Sciences



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To: Office of Academic Affairs

From: Anita Hopper, Chair, Department of Molecular Genetics

Handwritten signature of Anita K. Hopper in blue ink.

Mark Seeger, Associate Chair, Department of Molecular Genetics

Handwritten signature of Mark A. Seeger in blue ink.

Date: April 8, 2011

Re: Semester Program Proposal for Molecular Genetics MS Program

The Department of Molecular Genetics has the following programs that will be converted from quarters to semesters:

- 1) Undergraduate Molecular Genetics Major (BS)
- 2) Undergraduate Molecular Genetics Major with a Specialization in Plant Cellular and Molecular Biology (BS)
- 3) Undergraduate Molecular Genetics Minor
- 4) Undergraduate Plant Cellular and Molecular Biology Minor
- 5) Molecular Genetics MS
- 6) Molecular Genetics PhD

The subject of this proposal is the Molecular Genetics MS degree.

The Molecular Genetics Curriculum Committee and other subsets of Molecular Genetics and Plant Cellular and Molecular Biology (PCMB) faculty have been working on semester conversion for the past year. This process has included a critical reexamination of the Molecular Genetics Graduate Program.

The conversion of our graduate degree programs have been discussed at multiple faculty meetings during Spring Quarter 2010, Autumn Quarter 2010 and Winter 2011. Molecular Genetics and PCMB graduate students have representation at departmental faculty meetings and thus numerous opportunities for input regarding the changes outlined in this proposal. The semester plans for our graduate degree programs were approved by unanimous vote (20-0) of the Molecular Genetics and PCMB faculty at the January 2011 faculty meeting. Transition plans are provided as a component of this proposal. Given the individualized nature of graduate student advising, no additional resources are required during the transition to semesters.

The Molecular Genetics Masters Program Under Semesters

Students are not admitted directly into a Masters degree program. Instead, the MS degree is offered to give academic credit to students unable, for whatever reason, to finish the PhD program. As a consequence, our MS degree requirements are flexible and not based upon a prescribed course curriculum. There are no significant changes to the Molecular Genetics Master Program with the transition to semesters. A comparison of requirements in the semester and quarter formats is provided in tabular format.

We offer two options for MS degrees: thesis (Plan A) and non-thesis (Plan B). Both options follow Graduate School requirements, including total credit hour requirements, minimum GPA of 3.0, and format of the final Masters exam (including both written and oral components).

Thesis-based (Plan A) Masters requirements under semester format

1. A minimum of 7 semester credit hours of Molecular Genetics courses at the 6000 or 7000 level, excluding credits for MG 7800, MG 7780, or research credit hours (MG 7998 or 8999).
2. A minimum of 8 semester credit hour of research (either MG 7998 or 8999).
3. A minimum of 30 total semester credit hours with a GPA of 3.0.
4. Satisfactory completion of a written thesis that is approved by the student's committee.
5. Satisfactory completion of a final oral exam.

Non-thesis-based (Plan B) Masters requirements under semester format

1. A minimum of 7 semester credit hours of Molecular Genetics courses at the 6000 or 7000 level, excluding credits for MG 7800, MG 7780, or research credit hours (MG 7998 or 8999).
2. Research encouraged but not required
3. A minimum of 30 total semester credit hours with a GPA of 3.0.
4. Satisfactory completion of a final written exam/report.
5. Satisfactory completion of a final oral exam.

Successful completion of the PhD Candidacy exam can be used to meet requirements 4 and 5 for the non-thesis Masters degree.

Semester Transition Policy

Completion of a Masters degree is handled on an individual basis for the Molecular Genetics Graduate Program. Since students are not directly admitted into a Masters degree track, we currently do not have any students within this category. Given that there are no significant changes to the Molecular Genetics Master degree requirements, we anticipate no problems in advising or implementing these changes for Molecular Genetics Masters degree candidates. No student will be harmed or delayed in receiving a Masters degree due to semester conversion. Quarter credit

hours will be converted to semester credit hours at the ratio of three quarter credit hours for two semester credit hours. The absence of a prescribed course sequence for our Masters degree will simplify the transition process for any affected students.

Comparison of Masters degree under quarters and semesters				
Requirements	Plan A (Thesis) Semesters	Plan A (Thesis) Quarters	Plan B (Non-Thesis) Semesters	Plan B (Non-Thesis) Quarters
Molecular Genetics Courses	Minimum of 7 semester credit hours of Molecular Genetics courses at the 6000-7000 level, excluding credit for MG 7780, 7800, or thesis research	Minimum of 10 quarter credit hours of Molecular Genetics courses at the 700-800 level, excluding credit for MG800 or thesis research	Minimum of 7 semester credit hours of Molecular Genetics courses at the 6000-7000 level, excluding credit for MG 7780, 7800 or thesis research	Minimum of 10 quarter credit hours of Molecular Genetics courses at the 700-800 level, excluding credit for MG800 or thesis research
Research	Minimum of 8 semester credit hours of MG 7998 or 8999	MG 999 credit hours expected, but no minimum currently stated	Research encouraged but not required	Research encouraged but not required
Elective Credit Hours From Molecular Genetics or Other Units	Additional coursework at the 5000 level or higher to reach the 30 semester credit hours required for the degree	Up to 35 quarter credit hours of elective coursework must be completed at the 600 level or higher	Additional coursework at the 5000 level or higher to reach the 30 semester credit hours required for the degree	Up to 35 quarter credit hours of elective coursework must be completed at the 600 level or higher
Thesis	Yes	Yes	No	No
Written Exam	Thesis	Thesis	Yes	Yes
Oral Exam	Yes	Yes	Yes	Yes

Course Listing for the Molecular Genetics MS

Elective Courses Within the Department

Semester Course Number	Course Title	Semester Credit Hours	Quarter Equivalent Course Number	Quarter Credit Hours	Notes
Mol Gen 5193	Individual Studies	1-3	Mol Gen 693 and PCMB 693	1-10	Repeatable; not more than 3 semester credit hours can count towards a degree
Mol Gen 5194	Group Studies	1-3	PCMB 694	1-5	Repeatable; not more than 3 semester credit hours can count towards a degree
Mol Gen 5632	Insect Molecular Genetics	2	Mol Gen 632	3	Same content
Mol Gen 5643	Plant Anatomy	3	PCMB 643	5	Same content
Mol Gen 5650	Analysis and Interpretation of Biological Data	3	Mol Gen 650	5	Same content
Mol Gen 5797	Study at a Foreign Institution	1-15	PCMB 698.02	1-15	Not more than 3 semester credit hours of either 5797 or 5798 can count towards the degree
Mol Gen 5798	Study Tour: Domestic	1-15	PCMB 698.01	1-15	Not more than 3 semester credit hours of either 5797 or 5798 can count

Mol Gen 6623	Genetics and Genomics	2		PCMB 623	4	towards the degree
Mol Gen 6625	Plant Metabolic Engineering	2		PCMB 625	3	Slight reduction in content
Mol Gen 6630	Plant Physiology	3		PCMB 630 and 631	3 + 3	Same content
Mol Gen 6700	Systems of Genetic Analysis	3		Mol Gen 700	3	Merging of 630 and 631 with reduction in content
Mol Gen 6701	DNA Transactions and Gene Regulation	4		Mol Gen 701 and Biochem 702	3 + 3	Enhanced content
Mol Gen 6705	Advances in Cell Biology	2		Mol Gen 705	3	Merged content
Mol Gen 6715	Developmental Genetics	2		Mol Gen 715	3	7 week course; same content
Mol Gen 6725	Circadian Biology	2		PCMB 725	3	7 week course; same content
Mol Gen 6733	Human Genetics	2		Mol Gen 733	3	Same content
Mol Gen 6735	Plant Biochemistry	3		PCMB 735 and 736	3 + 3	Merging of 735 and 736 with reduction in content
Mol Gen 6741	Reproductive Biology of Flowering Plants	2		PCMB 741	3	Same content
Mol Gen 6770	Molecular Biology of Animal and Plant Viruses	4		Mol Gen 770	3	Enhanced content; this class will have merged content from Mol Gen 770, MVIMG/VBS 754 and MVIMG/VBS 841

Mol Gen 6795	Special Topics in Molecular Genetics	1-3	Mol Gen 795 or PCMB 795	1-3	Repeatable; not more than 3 semester credit hours can count towards the degree
Mol Gen 6796	Current Topics in Signal Transduction	2	PCMB 796	3	Same content
Mol Gen 7780	Molecular Genetics Laboratory Rotations	4-6 (4 semester credit hours used for a Summer offering)	Mol Gen 804 Molecular Genetics Laboratory Rotations	3	Credit hours increased to accurately reflect the time and effort dedicated to laboratory rotations. Repeatable to a maximum of 16 semester credit hours.
Mol Gen 7800	Molecular Genetics Seminar	1	Mol Gen 800	1-3	Same content. Repeatable. This course is graded S/U.
Mol Gen 7801	Advanced Topics in Developmental Genetics	2	Mol Gen 880.01	1-3	Same content
Mol Gen 7802	Advanced Topics in Cell Biology	2	Mol Gen 880.02	1-3	Same content
Mol Gen 7806	Transcriptional Regulation	2	Mol Gen 880.06	1-3	Same content
Mol Gen 7807	Post-Transcriptional Control	3	Mol Gen 880.07	3	Expanded content.
Mol Gen 7998	Thesis	1-12	PCMB 998	1-18	No change. Repeatable.

	Research				This course is graded S/U. This course is graded S/U.
Mol Gen 8999	Dissertation Research	1-12	Mol Gen 999	1-18	No change. Repeatable. This course is graded S/U.

Elective Courses From Outside the Department

Semester Course Number	Course Title	Semester Credit Hours	Quarter Equivalent Course Number	Quarter Credit Hours	Notes
Successor to Biochem 761	Advanced Biochemistry: Proteins	2	Biochem 761	3	Direct conversion
Successor to Biochem 766	Advanced Biochemistry: Nucleic Acids	2	Biochem 766	3	Direct conversion
Successor to Neuroscience 790	Developmental Neurobiology	2	Neuroscience 790	3	Direct conversion
Successor to OSPB 760	First Year Student Orientation	1	OSBP 760	1	This course covers ethics, responsible conduct of research and other related issues in graduate education.

Additional elective courses can be selected with approval of the advisor.

Molecular Genetics Masters Plan A Thesis Advising Form – Semester System

Name: _____ Quarter of Graduation: _____

7 Semester Credit Hours of Molecular Genetics coursework at 6000 level and higher (excluding MG7780, 7800, and thesis research)

<u>Course</u>	<u>Semester Credit Hours</u>
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_____	_____
_____	_____
_____	_____

8 Semester Credit Hours of MG 7998 or 8999

_____ semester credit hours of MG7998 _____ semester credit hours of MG8999

Elective Courses to Reach 30 Semester Credit Hours (5000 level or higher)

<u>Course</u>	<u>Semester Credit Hours</u>
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_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Thesis Completed (Date: _____)

Oral Exam Completed (Date: _____)

Advisor Name (Printed): _____ Advisor Signature: _____
Date: _____

Molecular Genetics Masters Plan B: Non-Thesis Advising Form – Semester System

Name: _____ Quarter of Graduation: _____

7 Semester Credit Hours of Molecular Genetics coursework at 6000 level and higher (excluding MG7780, 7800, and thesis research)

<u>Course</u>	<u>Semester Credit Hours</u>
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_____	_____
_____	_____
_____	_____

Research Encouraged But Not Required

_____ semester credit hours of MG7998 _____ semester credit hours of MG8999

Elective Courses to Reach 30 Semester Credit Hours (5000 level or higher)

<u>Course</u>	<u>Semester Credit Hours</u>
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_____	_____
_____	_____
_____	_____
_____	_____

Written Exam Completed (Date: _____)

Oral Exam Completed (Date: _____)

Advisor Name (Printed): _____ Advisor Signature: _____
Date: _____