Washington State University

MAJOR CHANGE FORM - REQUIREMENTS
(Submit original signed form and TEN copies to the Registrar's Office, zip 1035.)
See https://www.ronet.wsu.edu/ROPubs/Apps/HomePage.ASP for this form.

*Submit an additional copy to the Faculty Senate Office, French Administration 338, zip 1038.

Department Name: School of Molecular Biosciences

1. CHECK PROPOSED CHANGES.
   * ☐ Change department/program name from ________ to ________
   * ☐ New degree or program in ________
   * ☐ Change name of degree from ________ to ________
   * ☐ Drop degree or program in ________
   * ☐ Extend existing degree or program to ____________ campus
     ☐ New Major in ________
     ☐ Change name of Major from ________ to ________
     ☐ Revise Major requirements in Ph.D. in Molecular Biosciences
     ☐ Drop Major in ________
     ☐ Revise certification requirements for the Major in ________
     ☐ New Option in ________
     ☐ Revise requirements for the Option in ________
     ☐ Drop Option in ________
     ☐ New Minor in ________
     ☐ Revise Minor requirements in ________
     ☐ Drop Minor in ________
     ☐ New Undergraduate Certificate in ________
     ☐ Revise Undergraduate Certificate requirements in ________
     ☐ Drop Undergraduate Certificate in ________
     ☐ Other ________

Effective term/year: Fall 2014

<table>
<thead>
<tr>
<th>Dr. Mary Hunzicker-Dunn</th>
<th>335-5614</th>
<th><a href="mailto:mehd@wsu.edu">mehd@wsu.edu</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Person</td>
<td>Contact Phone No.</td>
<td>Contact email</td>
</tr>
</tbody>
</table>

2. GIVE REASONS FOR EACH REQUEST MARKED ABOVE. (Attach additional paper if necessary; see reverse side.) See attached.

4. SIGN AND DATE APPROVALS.

Chair Signature/date: Oct 10 2013
Dean Signature/date: 9-26-13
General Education Com/date: 
Catalog Subcom/date: 
Academic Affairs Com/date: 
Graduate Studies Com/date: 
Senate/Date: 

VGS
MEMORANDUM

TO: Bill Andrefsky, Dean, The Graduate School

FROM: Mary Hunzicker-Dunn, Associate Director, School of Molecular Biosciences (SMB)

DATE: September 16, 2013

SUBJECT: Reducing number of graded credits required for PhD degree in SMB

This memo is in response to the policy change of the WSU Graduate School to reduce the required number of graded credits from 21 to 15 for a PhD degree. The SMB is requesting a reduction to 15 graded credits for the Molecular Biosciences PhD degree. This proposed policy change was formulated by the SMB Graduate Studies Committee; when presented to the faculty, there was a unanimous vote for approval.

The details of this proposal for reducing the required number of graded credits are presented in the attached documents:

1. Summary of the current and proposed requirements
2. Detailed "typical timeline" for the current PhD program
3. Detailed "typical timeline" for the proposed PhD program

The reduction in graded credits was arrived at by two mechanisms. First we will add one discipline specific course, MBioS 574, Protein Biotechnology, to the three current discipline specific courses (MBios 541, General Biochemistry II; MBios 501, Cell Biology; MBios 550, Microbial Physiology). Students take one of these four courses. Second, we are deleting all year two required courses, that include MBioS 508, Quantitative Approaches (2 credits), and two electives (4-7 electives). We are also deleting MBios 507 (2 credits) as a required graded course.

These changes will allow students to complete their didactic coursework within the first year of graduate study, thus reducing time-to-degree. Students will be able to accelerate their focus on research related to their dissertation.
Summary of Current and Proposed graded credit hours for the PhD in Molecular Biosciences

Current Program Requirements

Didactic graded course work (21 credits):
MBioS 503 – Molecular Biology I – 3 credits
MBioS 504 – Molecular Biology II – 3 credits
MBioS 513 – General Biochemistry I – 3 credits
*MBioS 507 – Critical Analysis of Scientific Literature – 2 credits
*MBioS 508 – Quantitative Approaches in Molecular Biosciences – 2 credits
Discipline-specific course, either:
   MBioS 514 – (Biochem) General Biochemistry II – 3 credits
   MBioS 501 – (GenCB) Cell Biology – 3 credits; MBioS 529 – Selected Topics in Cell
   Biology – 1 credit
   MBioS 550 – (Micro) Microbial Physiology – 3 credits
Elective coursework – 4 to 7 credits, typically two courses

Non-didactic course work (11 credits):
MBioS 541 – Research Seminar (P/F) – 1 credit
MBioS 579 – SMB Seminar – (not graded) – 2 credits for each semester, total of 6 credits
MBioS 593 – First Research Proposal (P/F) – 2 credits
MBioS 800 – Second Research Proposal (S/U) – 2 credits

The balance of the credits will be in MBioS 800 – research credits to bring the total program
credits to 72 hours.

Proposed Program Requirements

Didactic graded course work (15 credits):
MBioS 503 – Molecular Biology I – 3 credits
MBioS 504 – Molecular Biology II – 3 credits
MBioS 513 – General Biochemistry I – 3 credits
Discipline-specific course, either:
   MBioS 514 – (Biochem) General Biochemistry II – 3 credits
   MBioS 501 – (GenCB) Cell Biology – 3 credits; MBioS 529 – Selected Topics in Cell
   Biology (1 credit)
   MBioS 550 – (Micro) Microbial Physiology – 3 credits
   MBioS 574 – Protein Biotechnology – 3 credits
Elective course – 3 credits

The balance of the credits will be in MBioS 800 – research credits to bring the total program
credits to 72 hours.

*The following two courses will remain but will not be required:
MBioS 507 – Critical Analysis of Scientific Literature – 2 credits
MBioS 508 – Quantitative Approaches in Molecular Biosciences – 2 credits
CURRENT

TYPICAL TIMELINE OF PHD GRADUATE PROGRAM

SUMMER PRIOR TO FIRST YEAR: Optional 6-week laboratory rotation

FIRST YEAR

A. FIRST SEMESTER

- Course enrollment (total 12 credit hrs)

<table>
<thead>
<tr>
<th>Course enrolling (total 12 credit hrs)</th>
<th>MBioS 513</th>
<th>3 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Biochemistry</td>
<td>MBioS 503</td>
<td>3 credits</td>
</tr>
<tr>
<td>Molecular Biology I</td>
<td>MBioS 507</td>
<td>2 credits</td>
</tr>
<tr>
<td>Skills in Critical Assessment of</td>
<td>MBioS 541 (S/F)</td>
<td>1 credit</td>
</tr>
<tr>
<td>Molecular Biosciences Literature</td>
<td>MBioS 800 (S/U)</td>
<td>3 credits</td>
</tr>
<tr>
<td>Mini-Seminar</td>
<td>MBioS 514 (Biochem)</td>
<td>3 credits</td>
</tr>
<tr>
<td>Doctoral Research</td>
<td>MBioS 501 (GenCB)</td>
<td>2 credits</td>
</tr>
<tr>
<td></td>
<td>MBioS 550 (Micro)</td>
<td>4 credits</td>
</tr>
</tbody>
</table>

- Two 8-week lab rotations: complete rotation evaluation form for each.

B. SECOND SEMESTER

- Course enrollment (total 12 credit hrs)

<table>
<thead>
<tr>
<th>Course enrolling (total 12 credit hrs)</th>
<th>MBioS 504</th>
<th>3 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Biology II</td>
<td>MBioS 514 (Biochem)</td>
<td>3 credits</td>
</tr>
<tr>
<td>Discipline specific course</td>
<td>MBioS 501 (GenCB)</td>
<td>2 credits</td>
</tr>
<tr>
<td></td>
<td>MBioS 550 (Micro)</td>
<td>4 credits</td>
</tr>
<tr>
<td>Seminar</td>
<td>MBioS 579 (S/F)</td>
<td>2 credits</td>
</tr>
<tr>
<td>Doctoral Research</td>
<td>MBioS 800 (S/U)</td>
<td>4 credits</td>
</tr>
</tbody>
</table>

- Third 8-week lab rotation: complete rotation evaluation form.

- Selection of thesis advisor: Submit a preference list of two potential thesis advisors by the end of the third rotation.

- Begin dissertation research to obtain preliminary data for the first research proposal.

- Choose dissertation committee members – at least three faculty members in addition to the research advisor. Two members must be core SMB faculty.

- Hold a thesis committee meeting before the end of the semester.

- Complete and submit the annual evaluation form.

C. SUMMER

- Research The summer is the first opportunity for a student to carry out research that will count towards her/his degree without the interruptions of classes or teaching. Students are encouraged to make the most of this time to collect preliminary data as well as plan and write their first research proposal.

- Coursework If possible, enroll in Phil 530 (Bioethics), a required course, offered in an on-line, blended format.

- First research proposal (MBioS 593)

  Follow the SMB Guidelines for Proposals and Guidelines for Proposal I in Section F of the SMB Graduate Handbook.
• Prepare the "Program of Study" (form available on the Graduate School website); have this document ready for approval and signing by your committee at the first proposal defense.

SECOND YEAR

A. THIRD SEMESTER

• Course enrollment (Total of 12 credit hrs)

<table>
<thead>
<tr>
<th>Research Proposal</th>
<th>MBioS 593 (S/F)</th>
<th>2 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative Approaches in Molecular Biosciences</td>
<td>MBioS 508</td>
<td>2 credits</td>
</tr>
<tr>
<td>Phil 530</td>
<td></td>
<td>2 credits</td>
</tr>
<tr>
<td>One or two electives</td>
<td>Must have a minimum 21 graded credits for MS degree</td>
<td>2-6 credits</td>
</tr>
<tr>
<td>Doctoral Research</td>
<td>MBioS 800 (S/U)</td>
<td>To total of 12 credits</td>
</tr>
</tbody>
</table>

• Oral defense of the first research proposal (MBioS 593), completed by October 31st.

• Have the "Program of Study" signed by the thesis committee members at the first proposal defense. Deliver signed document to Graduate program coordinator for approval and signing by the Associate Director of Graduate Studies. The Program of Study will then be filed with the Graduate School for final approval.

B. FOURTH SEMESTER

• Course enrollment (Total of 12 credit hrs)

| One or two electives | Must have a minimum 21 graded credits for Ph.D. degree | 2-6 credits |
| Phi 530 | | 2 credits |
| Doctoral Research | MBioS 800 (S/U) | To total of 12 credits |

• Research review by student's dissertation committee in spring semester of each year

• Annual review of graduate students at the end of each academic year

THIRD YEAR

A. FIFTH SEMESTER

• Course enrollment (total of 12 credit hrs)

<table>
<thead>
<tr>
<th>Seminar</th>
<th>MBioS 579 (S/F)</th>
<th>2 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral Research</td>
<td>MBioS 800 (S/U)</td>
<td>Up to 10 credits</td>
</tr>
</tbody>
</table>

• Seminars Attend student seminars and invited speaker seminars. Present second seminar (MBioS 579) on dissertation research.

• Prepare Second Proposal (Preliminary Examination) Follow the SMB Guidelines for Proposal and Guidelines for Proposal II in Section F of SMB Graduate Handbook.
B. SIXTH SEMESTER

- Stipend level increased to RAI or TAI level if student has passed "Preliminary Examination (Second Proposal)."
- All graded course work should be completed. Student should be eligible for an ABD (all-but-dissertation) tuition waiver if supported by an RA from an external grant. Work with Graduate Academic Coordinator to file the appropriate paperwork with the Graduate School.
- Course enrollment (total of 12 credit hrs)
  | Doctoral Research | MBioS 800 (S/U) | To total of 12 credits |
- Seminars: Attend student seminars and invited speaker seminars
- Research review by the student's thesis committee
- Annual review of graduate students

FOURTH AND SUBSEQUENT YEARS

- Course enrollment (total of 12 credit hrs)
  | Doctoral Research | MBioS 800 (S/U) | Up to 12 credits |
- Research review by student's thesis committee, at least once each year (usually in the Spring)
- Annual review of graduate students at the end of each academic year.

FINAL SEMESTER

- The beginning of the semester in which you graduate, apply for graduation through the Graduate School and pay your $50 graduation fee.
- Schedule the public seminar and dissertation examination with committee members and through the Graduate School using the Dissertation/Thesis Scheduling Form. At least ten working days prior to your dissertation defense, submit the signed Dissertation/Thesis Scheduling Form to the Graduate School as well as upload your final draft dissertation in a PDF format to UMI/Proquest.
- After the defense, within 5 working days submit your digital thesis in an appropriate electronic format (PDF) to the thesis/dissertation website.
PROPOSED (Changes highlighted in red.)

TYPICAL TIMELINE OF PHD GRADUATE PROGRAM

SUMMER PRIOR TO FIRST YEAR: 6-week laboratory rotation (no longer optional)

FIRST YEAR

A. FIRST SEMESTER
   • Course enrollment (total 12 credit hrs)
     | Course                          | MBioS | Credits |
     | General Biochemistry            | 513   | 3       |
     | Molecular Biology I             | 503   | 3       |
     | Elective                        |       | 3       |
     | Mini-Seminar                    | 541 (S/F) | 1 |
     | Doctoral Research               | 800 (S/U) | 3 |
   • Two 8-week lab rotations: complete rotation evaluation form for each.
   • Selection of thesis advisor: Submit a preference list of two potential thesis advisors by the end of the third rotation. (Moved ahead one semester as a result of summer rotation.)

B. SECOND SEMESTER
   • Course enrollment (total 12 credit hrs)
     | Course                              | MBioS | Credits |
     | Molecular Biology II                | 504   | 3       |
     | Discipline specific course          | 514 (Biochem) |
     |                                    | 501 (GenCB) |
     |                                    | 550 (Micro) |
     |                                    | 574 (Protein Biotech) |
     | Seminar                             | 579 (S/F) | 2 |
     | Doctoral Research                   | 800 (S/U) | 4 |
   • Begin dissertation research to obtain preliminary data for the first research proposal.
   • Choose dissertation committee members – at least three faculty members in addition to the research advisor. Two members must be core SMB faculty.
   • Hold a thesis committee meeting before the end of the semester.
   • Complete and submit the annual evaluation form.

C. SUMMER
   • Research The summer is the first opportunity for a student to carry out research that will count towards her/his degree without the interruptions of classes or teaching. Students are encouraged to make the most of this time to collect preliminary data as well as plan and write their first research proposal.
   • First research proposal (MBioS 593)
     Follow the SMB Guidelines for Proposals and Guidelines for Proposal I in Section F of the SMB Graduate Handbook.
   • Prepare the "Program of Study" (form available on the Graduate School website); have this document ready for approval and signing by your committee at the first proposal defense.
SECOND YEAR

A. THIRD SEMESTER
- Course enrollment (Total of 12 credit hrs)

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<tr>
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<td>Doctoral Research</td>
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- Oral defense of the first research proposal (MBioS 593), completed by October 31\textsuperscript{st}
- Have the "Program of Study" signed by the thesis committee members at the first proposal defense. Deliver signed document to Graduate program coordinator for approval and signing by the Associate Director of Graduate Studies. The Program of Study will then be filed with the Graduate School for final approval.

B. FOURTH SEMESTER
- Course enrollment (Total of 12 credit hrs)

| Doctoral Research | MBioS 800 (S/U) | To total of 12 credits |

- Research review by student’s dissertation committee in spring semester of each year
- Annual review of graduate students at the end of each academic year

THIRD YEAR

A. FIFTH SEMESTER
- Course enrollment (total of 12 credit hrs)

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<th>MBioS 579 (S/F)</th>
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<td>Doctoral Research</td>
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- Seminars Attend student seminars and invited speaker seminars. Present second seminar (MBioS 579) on dissertation research.
- Prepare Second Proposal (Preliminary Examination; MBioS 800)
  Follow the SMB Guidelines for Proposal and Guidelines for Proposal II in Section F of SMB Graduate Handbook. This examination must be completed by December 6\textsuperscript{th}.

B. SIXTH SEMESTER
- Stipend level increased to RAII or TAIII level when student has passed "Preliminary Examination (Second Proposal)."
- All graded course work should be completed. Student should be eligible for an ABD (all-but-dissertation) tuition waiver if supported by an RA from an external grant. Work with Graduate Academic Coordinator to file the appropriate paperwork with the Graduate School.
- Course enrollment (total of 12 credit hrs)

| Doctoral Research | MBioS 800 (S/U) | To total of 12 credits |

- Seminars: Attend student seminars and invited speaker seminars
- Research review by the student’s thesis committee
• Annual review of graduate students

FOURTH AND SUBSEQUENT YEARS

• Course enrollment (total of 12 credit hrs)
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• Research review by student's thesis committee, at least once each year (usually in the Spring)

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FINAL SEMESTER

• The beginning of the semester in which you graduate, apply for graduation through the Graduate School and pay your $50 graduation fee.

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• After the defense, within 5 working days submit your digital thesis in an appropriate electronic format (PDF) to the thesis/dissertation website.