

<b>SENATE PROGRAM PROPOSAL FORM</b> for: <ul style="list-style-type: none"> <li>• CHECK ONE: <input type="checkbox"/> Add, <input checked="" type="checkbox"/> Change, <input type="checkbox"/> Combine, <input type="checkbox"/> Drop, <input type="checkbox"/> Archive</li> <li>• CHECK ONE: <input checked="" type="checkbox"/> Degree program, <input type="checkbox"/> Minor, <input type="checkbox"/> Certificate, <input type="checkbox"/> Emphasis area</li> </ul>			(Do not write in this space) <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <th style="text-align: left; padding: 5px;">ROUTING:</th> <th style="text-align: center; padding: 5px;">Initials</th> <th style="text-align: center; padding: 5px;">Date</th> </tr> <tr> <td style="padding: 5px;">Academic Affairs</td> <td style="text-align: center; padding: 5px;"><b>BAT</b></td> <td style="text-align: center; padding: 5px;"><b>1/25/13</b></td> </tr> <tr> <td style="padding: 5px;">Graduate School (if applicable)</td> <td style="text-align: center; padding: 5px;"><b>MEH</b></td> <td style="text-align: center; padding: 5px;"><b>2/15/13</b></td> </tr> <tr> <td style="padding: 5px;">Senate C &amp; I</td> <td style="text-align: center; padding: 5px;"><b>MTA</b></td> <td style="text-align: center; padding: 5px;"><b>3/1/13</b></td> </tr> <tr> <td style="padding: 5px;">Reported to Senate</td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> </tr> <tr> <td style="padding: 5px;">Academic Affairs</td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> </tr> </table>			ROUTING:	Initials	Date	Academic Affairs	<b>BAT</b>	<b>1/25/13</b>	Graduate School (if applicable)	<b>MEH</b>	<b>2/15/13</b>	Senate C & I	<b>MTA</b>	<b>3/1/13</b>	Reported to Senate			Academic Affairs		
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From: <u><b>Biochemistry and Biotech</b></u> Department	Approved By: <u><b>Cynthia Dupureur</b></u> Department Chair	Date: <u><b>1/14/13</b></u>																					
From: <u><b>Arts &amp; Sciences</b></u> School or College	Approved By: <u><b>Ronald Yasbin</b></u> Dean	Date: <u><b>1/14/13</b></u>																					
Title of Degree, Minor, or Certificate Program: <b>MS in Biochemistry &amp; Biotechnology</b>																							
Page(s)            and year <b>2012-2013</b> of the current Bulletin listing.																							
If other departments are affected by this proposal, please secure "sign-offs" and indicate for each department the following:																							
<b>Department</b>	<b>Contact Person</b>	<b>Phone #</b>																					
1. <b>Chemistry</b>	<b>Chris Spilling</b>	<b>5437</b>	Proposal received: <input type="checkbox"/> No major objections, <input type="checkbox"/> Objections																				
2. <b>Biology</b>	<b>Patty Parker</b>	<b>6576</b>	Proposal received: <input type="checkbox"/> No major objections, <input type="checkbox"/> Objections																				
3.			Proposal received: <input type="checkbox"/> No major objections, <input type="checkbox"/> Objections																				
<b>Current Bulletin listing:</b>		<b>Proposed Bulletin listing:</b>		<b>Rationale:</b>																			
<b>Master of Science in Biochemistry and Biotechnology</b> The Biochemistry and Biotechnology Program offers two types of Master of Science degrees. One is a non-thesis option suitable for those with laboratory research experience or for others, such as educators, who do not require research experience. The other option includes laboratory-based research under the supervision of one of the program faculty members, leading to a written thesis. All students admitted to the graduate program are considered to be in the non-thesis program. They may transfer into the thesis program after they have been accepted as a thesis student by one of the faculty.	<b>Master of Science in Biochemistry and Biotechnology</b> The Biochemistry and Biotechnology Program offers two types of Master of Science degrees. One is a non-thesis option suitable for those with laboratory research experience or for others, such as educators, who do not require research experience. The other option includes laboratory-based research under the supervision of one of the program faculty members, leading to a written thesis. All students admitted to the graduate program are considered to be in the non-thesis program. They may transfer into the thesis program after they have been accepted as a thesis student by one of the faculty.																						
<b>M.S. Admission Requirements</b> Applicants to the M.S. program must submit a completed application and personal data forms, two letters of recommendation from faculty at previously-attended colleges or universities,	<b>M.S. Admission Requirements</b> Applicants to the M.S. program must submit a completed application and personal data forms, two letters of recommendation from faculty at previously-attended colleges or universities,																						

<p>and transcripts of all previous postsecondary academic work. Applicants whose undergraduate degree is from a university outside of the United States must submit GRE scores (verbal, quantitative, and analytical). For students with a degree from a U.S. university, submission of Graduate Record Examination scores, although not required, is highly recommended. Admission as a regular graduate student requires graduation from an accredited college with a minimum grade point overall and in biology and chemistry courses of 3.0 (where A=4.0). Students will generally be expected to have completed a major in biology, chemistry, biochemistry or biotechnology. In addition to the Graduate School admission requirements, applicants should have completed an undergraduate course in biochemistry (equivalent to Biology/Chemistry 4712). Successful applicants will typically have completed courses in organic chemistry, cell biology, and genetics. Applicants may be asked to make up any deficiencies in these areas as a condition of enrollment.</p> <p>All international applicants, except those from countries where English is the primary language, must take the TOEFL. Ordinarily, a score of 213 on the computer-based exam (550 on the paper-based exam or 80 on the internet-based exam) or better is required.</p>	<p>and transcripts of all previous postsecondary academic work. Applicants whose undergraduate degree is from a university outside of the United States must submit GRE scores (verbal, quantitative, and analytical). For students with a degree from a U.S. university, submission of Graduate Record Examination scores, although not required, is highly recommended. Admission as a regular graduate student requires graduation from an accredited college with a minimum grade point overall and in biology and chemistry courses of 3.0 (where A=4.0). Students will generally be expected to have completed a major in biology, chemistry, biochemistry or biotechnology. In addition to the Graduate School admission requirements, applicants should have completed an undergraduate course in biochemistry (equivalent to Biology/Chemistry 4712). Successful applicants will typically have completed courses in organic chemistry, cell biology, and genetics. Applicants may be asked to make up any deficiencies in these areas as a condition of enrollment.</p> <p>All international applicants, except those from countries where English is the primary language, must take the TOEFL. Ordinarily, a score of 213 on the computer-based exam (550 on the paper-based exam or 80 on the internet-based exam) or better is required.</p>	
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<p><b>Requirements</b> Both the thesis and non-thesis options require a total of 30 graduate credit hours, of which at least half must be at the 5000-level or above. A maximum of 12 or 5 credit hours of Graduate Research (BIOL or CHEM 6905) may be applied toward the 30 credit hour total for the thesis or non-thesis options, respectively.</p> <p><b>1) Required Courses</b> <b>CHEM 4722</b>, Advanced Biochemistry <b>CHEM 5774</b>, Bioinformatics <b>BIOL 6615</b>, Advanced Biotechnology Laboratory II <b>BIOL 6602</b>, Advanced Molecular Biology or <b>BIOL 6612</b>, Advanced Molecular Genetics of Bacteria <b>BIOL 6889</b>, Graduate Seminar</p> <p><b>2) Elective Courses</b> <b>CHEM 4733</b>, Biochemistry Laboratory <b>CHEM 4764</b>, Interdisciplinary Topics in Biochemistry <b>CHEM 4772</b>, Physical Biochemistry <b>CHEM 5694</b>, Special Topics in Organic Chemistry <b>CHEM 5794</b>, Special Topics in Biochemistry <b>CHEM 6787</b>, Problem Seminar in Biochemistry <b>CHEM 6905</b>, Graduate Research</p>	<p><b>Requirements</b> Both the thesis and non-thesis options require a total of 30 graduate credit hours, of which at least half must be at the 5000-level or above. A maximum of 12 or 5 credit hours of Graduate Research (BIOL or CHEM 6905) may be applied toward the 30 credit hour total for the thesis or non-thesis options, respectively. <b>Students must have a 3.0 GPA in non-research courses.</b></p> <p><b>1) Required Courses</b> <b>CHEM 4722</b>, Advanced Biochemistry <b>CHEM 5774</b>, Bioinformatics <b>BIOL 6615</b>, Advanced Biotechnology Laboratory II <b>BIOL 6602</b>, Advanced Molecular Biology or <b>BIOL 6612</b>, Advanced Molecular Genetics of Bacteria <b>BIOL 6889</b>, Graduate Seminar</p> <p><b>2) Elective Courses</b> <b>CHEM 4733</b>, Biochemistry Laboratory <b>CHEM 4764</b>, Interdisciplinary Topics in Biochemistry <b>CHEM 4772</b>, Physical Biochemistry <b>CHEM 5694</b>, Special Topics in Organic Chemistry <b>CHEM 5794</b>, Special Topics in Biochemistry <b>CHEM 6787</b>, Problem Seminar in Biochemistry <b>CHEM 6905</b>, Graduate Research</p>	<p>While BIOL 6905 is graded satisfactory/unsatisfactory, CHEM 6905 remains a graded course. This change prevents students with course GPAs below 3.0 from using CHEM 6905 to elevate his/her GPA. This better emphasizes coursework performance. The basis of research grades is variable among faculty, and grade inflation is common.</p>
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<p><b>BIOL 4842</b>, Immunobiology</p> <p><b>BIOL 5069</b>, Topics in Cell and Molecular Biology</p> <p><b>BIOL 6442</b>, Advanced Developmental Biology</p> <p><b>BIOL 6550</b>, Advanced Bacterial Pathogenesis</p> <p><b>BIOL 6602</b>, Advanced Molecular Biology</p> <p><b>BIOL 6612</b>, Advanced Molecular Genetics of Bacteria</p> <p><b>BIOL 6622</b>, Advanced Cellular Basis of Disease</p> <p><b>BIOL 6632</b>, Advanced Nucleic Acid Structure and Function</p> <p><b>BIOL 6642</b>, Advanced Plant Molecular Biology &amp; Genetic Engineering</p> <p><b>BIOL 6652</b>, Advanced Virology</p> <p><b>BIOL 6699</b>, Graduate Internship in Biotechnology</p> <p><b>BIOL 6889</b>, Graduate Seminar</p> <p><b>BIOL 6905</b>, Graduate Research</p> <p><b>BIOL 6920</b>, Topics in Biology (2-5 credits), when relevant.</p>	<p><b>BIOL 4842</b>, Immunobiology</p> <p><b>BIOL 5069</b>, Topics in Cell and Molecular Biology</p> <p><b>BIOL 6442</b>, Advanced Developmental Biology</p> <p><b>BIOL 6550</b>, Advanced Bacterial Pathogenesis</p> <p><b>BIOL 6602</b>, Advanced Molecular Biology</p> <p><b>BIOL 6612</b>, Advanced Molecular Genetics of Bacteria</p> <p><b>BIOL 6622</b>, Advanced Cellular Basis of Disease</p> <p><b>BIOL 6632</b>, Advanced Nucleic Acid Structure and Function</p> <p><b>BIOL 6642</b>, Advanced Plant Molecular Biology &amp; Genetic Engineering</p> <p><b>BIOL 6652</b>, Advanced Virology</p> <p><b>BIOL 6699</b>, Graduate Internship in Biotechnology</p> <p><b>BIOL 6889</b>, Graduate Seminar</p> <p><b>BIOL 6905</b>, Graduate Research</p> <p><b>BIOL 6920</b>, Topics in Biology (2-5 credits), when relevant.</p>	
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Revised: October, 2008