

**CELLULAR & MOLECULAR BIOLOGY/BIOCHEMISTRY BS (2009-2010 Catalog)**

Name \_\_\_\_\_ Student Number W\_\_\_\_\_

<b>Supporting courses: A minimum of 53 credits required</b>			
Course	Qtr/Yr	Credits	Substitute Course #, Name, College/University
Chem 121 – General Chemistry I (5 cr)			
Chem 122 – General Chemistry II (5 cr)			
Chem 123 – General Chemistry III (4 cr)			
<b>Or</b> Honors Chemistry 125, 126, 225 (15 cr) [See #2 on back]			
Chem 351 – Organic Chemistry I (4 cr)			
Chem 352 – Organic Chemistry II (4 cr)			
Chem 353 – Organic Chemistry III (3 cr)			
Chem 354 – Organic Chemistry Lab I (3 cr)			
Phys 121 – Physics w/Calculus (5 cr)			
Phys 122 – Physics w/Calculus (5 cr)			
Phys 123 – Physics w/Calculus (5 cr)			
Math 124 – Calculus I (5 cr)			
Math 125 – Calculus II (5 cr)			
<b>Supporting Courses Subtotal</b>			

**53 Total Basic, Breadth, Depth, and Elective Biology credits are required to complete this major**

<b>Basic Requirements: 14 credits required.</b>			
Course	Qtr/Yr	Credits	Substitute Course #, Name, College/University
Biol 204 – Evolution, Ecology, & Biodiversity (4 cr)			
Biol 205 – Cellular & Molecular Biology (5 cr)			
Biol 206 – Organismal Biology (5 cr)			
<b>Basic Courses Subtotal</b>			
<b>Breadth Requirements: 20-22 credits required</b>			
Course	Qtr/Yr	Credits	Substitute Course #, Name, College/University
Biol 321 – Genetics (4 cr)			
Biol 322 – Genetics Lab (4 cr) or Biol 346 – Microbiology Lab (2 cr)			
Biol 323 – Cell Biology (4 cr)			
Biol 324 – Molecular Biology Lab (3 cr)			
Biol 345 – Microbiology (3 cr)			
Math 240 (4 cr) or Math 341 (4 cr) Statistics			
<b>Breadth Courses Subtotal</b>			
<b>Depth Requirements: 15 credits</b>			
Course	Qtr/Yr	Credits	Substitute Course #, Name, College/University
Biol 470 – Functional Genomics (3 cr)			
Biol 471 – Molecular Biology/Biochem (3 cr)			
Biol 472 – Molecular Biology/Biochem (3 cr)			
Biol 473 – Molecular Biology (3 cr)			
Biol 474 – Biochem Lab (3 cr)			
<b>Depth Courses Subtotal</b>			
<b>Electives: 2-4 credits</b> Additional elective credits may be taken to fulfill university graduation requirements.			
*Group A (One selection from this group required): Biol 436; 451 & 453; 467 & 468; 479; 482 & 484; Biol 494 or 495 (min. of 2 cr with 4 cr max.)			
*Group B: Biol 325; 432; 445 (under advisement); 467			
Course	Qtr/Yr	Credits	Substitute Course #, Name, College/University
<b>Elective Courses Subtotal</b>			
<b>Basic, Breadth, Depth, Elective Subtotal</b>			

<b>Major Evaluation for Graduation: A minimum of 106 credits are required to complete this major</b>			
<b>Supporting Course Credit Subtotal (53 credits required)</b>		<b>Qtr/Yr you PLAN TO GRADUATE:</b>	
<b>Basic, Breadth, Depth, Elective Credit Subtotal (53 credits required)</b>			
<b>TOTAL CREDITS</b>			

Biology Adviser Signature \_\_\_\_\_ Date \_\_\_\_\_

Biology Chair \_\_\_\_\_ Date \_\_\_\_\_

## CELLULAR & MOLECULAR BIOLOGY/BIOCHEMISTRY BS

1. Planning your coursework.

<ul style="list-style-type: none"> <li>▪ Keep a working copy of your major checklist with your transcript(s) from other colleges and any waivers granted.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Keep your checklist up-to-date with the coursework you have completed and that is in progress. Note tentative plans that you and your adviser have discussed.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Bring your checklist every time you talk with your adviser.</li> </ul>
<ul style="list-style-type: none"> <li>▪ See your adviser at least 2-3 times a year:                             <ul style="list-style-type: none"> <li>- once in Fall Quarter to plan Winter, Spring Quarter classes;</li> <li>- maybe in Winter Quarter to plan internships;</li> <li>- once in Spring Quarter to plan Summer and Fall Quarters.</li> </ul> </li> </ul>

2. Instructions on how to complete this major evaluation for graduation.

<ul style="list-style-type: none"> <li>▪ As a working copy, use pencil to complete this form. <b>When you use this form to apply for graduation, this form must be completed in INK.</b></li> </ul>
<ul style="list-style-type: none"> <li>▪ The Cellular &amp; Molecular Biology/Biochemistry major is a 106 credit major. A minimum of 53 credits of supporting coursework is required, but you may wish to take more physics or math courses.</li> </ul>
<ul style="list-style-type: none"> <li>▪ You may take the Honors Chemistry series instead of Chem 121, 122, 123. List the Honors Chemistry courses as substitute courses for the General Chemistry Series.</li> </ul>
<ul style="list-style-type: none"> <li>▪ You may wish to take the Physics with Calculus series; if so, you must complete the entire series (15 cr). To indicate this substitution on the major evaluation, list Phys 121, 122, and 123 as substitutes for Phys 114, 115, and 116, respectively.</li> </ul>

3. Western's graduation policies.

<ul style="list-style-type: none"> <li>▪ You are responsible for knowing all of Western's graduation requirements. You can review the requirements at: <a href="http://www.wwu.edu/depts/registrar/degree_requirements.shtml">http://www.wwu.edu/depts/registrar/degree_requirements.shtml</a>.</li> </ul>
<ul style="list-style-type: none"> <li>▪ You must earn a C- or higher in every course applied towards your major.</li> </ul>
<ul style="list-style-type: none"> <li>▪ You need a total of <b>3 Writing Proficiency (WP) units</b> in any discipline to graduate from WWU.</li> </ul>
<ul style="list-style-type: none"> <li>▪ 50% or 45 credits in your major must be taken at WWU.</li> </ul>
<ul style="list-style-type: none"> <li>▪ To graduate with a bachelor's degree from WWU, you will need <b>60 credits of upper-division coursework</b> (300- &amp; 400-level classes). Use the worksheet below to list all of the upper-division courses you've taken, including GUR courses. If you took courses at a community college that transferred as upper-division courses at WWU (e.g. organic chemistry), you do not receive upper-division credits.</li> </ul>

4. Calculate the number of upper-division credits you've taken or plan to take.

Courses (300- or 400-level)	Credits	Courses (300- or 400-level)	Credits
		<b>TOTAL NUMBER OF CREDITS</b>	

5. Applying for Graduation [**Allow 2-3 weeks for this process**]

<ul style="list-style-type: none"> <li>▪ <b>Two Quarters</b> before you plan to graduate, totally complete this major evaluation (in <b>INK</b>). Be sure that you note the quarter/year the course is or will be completed and any substitutes granted. Submit your major evaluation to your advisor for his/her approval. Bring the signed evaluation to the Biology Department Office and give to Kim Kolb Ayre. After the Department Chair has signed your major evaluation you will be notified via email to pick up your checklist.</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Make a copy of your checklist</b> with signatures of your adviser and department chair for your records and to remind you of the final courses approved for completion of your major.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Take your major checklist to the Registrar's office along with the Degree Application (available online at: <a href="http://www.wwu.edu/depts/registrar/pdfs/degree_application.pdf">http://www.wwu.edu/depts/registrar/pdfs/degree_application.pdf</a>).</li> </ul>