

Name: \_\_\_\_\_

**NORTH DAKOTA STATE UNIVERSITY**  
College of Ag, Food Systems & Nat. Resources / College of Science & Math

T = Transfer Credit  
IP = Course is 'In Progress'

ID: \_\_\_\_\_

**Biotechnology**

Fall 2012

General Education Requirements - 40 Credits Required					Major Requirements: 31 - 32 Credits Required				
Course	Number	Course Title	Credits	Grade	Course	Number	Course Title	Credits	Grade
First Year Experience (F)			1 Sem Credit		BIOC	460	Found of Biochem & Molec Biol I	3	
AGRI	189 <sup>1</sup>	Skills for Academic Success	1		BIOC	461	Found of Biochem & Molec Biol II	3	
Communication (C)			12 Sem Credits		BIOC	465	Principles of Physical Chemistry	4	
ENGL	110	College Composition I	3		BIOC	474	Methods of Recombinant DNA Tech	3	
ENGL	120	College Composition II	3		MICR	350/L	General Microbiology I/Lab	3/2	
COMM	110	Fundamentals of Public Speaking	3		MICR	470	Basic Immunology	3	
ENGL	320, 321, 324, 325, 459, or MICR 354		3		MICR	471	Immunology & Serology Lab	2	
Quantitative Reasoning (R)			3 Sem Credits		MICR	482	Bacterial Genetics & Phage	3	
STAT	330	Introductory Statistics	3		MICR	491	Biotech Seminar	1	
Science & Technology (S)			10 Sem Credits		MICR	494	Senior Research	2-4	
CHEM	121/L	General Chemistry I/Lab	3/1		MICR	494	Senior Thesis	1	
CHEM	122/L	General Chemistry II/Lab	3/1		<b>Supporting Requirements: 35 Credits</b>				
PHYS	211/L	College Physics I/Lab	3/1		AGRI	150 <sup>1</sup>	Agriculture Orientation <sup>1</sup>	1	
Humanities & Fine Arts (A)			6 Sem Credits		BIOL	150/L	General Biology I/Lab	3/1	
			3		BIOL	151/L	General Biology II/Lab	3/1	
			3		CHEM	341/L	Organic Chemistry I/Lab	3/1	
Social & Behavioral Sciences (B)			6 Sem Credits		CHEM	342	Organic Chemistry II	3	
			3		CSCI	114 or 122	Microcomputer Packages or Beginning BASIC	3	
			3		MATH	146	Applied Calculus	4	
Wellness (W)			2 Sem Credits		MATH	147	Applied Calculus II	4	
			2		PHYS	212/L	College Physics II/Lab	3/1	
Cultural Diversity (D)					PLSC	315/L	Genetics/Lab	3/1	
			3		<b>Major Elective in Physiology: 3 Credits Required (choose one)</b>				
Global Perspectives (G)					BOT	380 or	Plant Phys (f) or		
			3		ZOO	460 or	Animal Phys (s) or		3
Additional Credits Required in Humanities & Fine Arts or Social & Behavioral Sciences			6 Sem Credits		MICR	480	Bacterial Phys (s)		
			3		<b>Major Elective in Biotech Technique: 4 - 6 Credits Required (choose 2)</b>				
			3		BIOC	473	Methods of Biochemical Research	3	
<sup>1</sup> Students transferring in 24 or more credits do not need to take UNIV 189.  <div style="background-color: yellow; padding: 5px; text-align: center;">A 2.50 cumulative GPA is required for graduation</div> <div style="background-color: yellow; padding: 5px; text-align: center;">Curriculum Requirements Continued on page two.</div>					BIOC	475	Computer Appl in Biochem & Mol Biol	3	
					BIOC	487	Molecular Biol of Gene Expression	3	
					BIOL	440	Biotechnology & Ethics	2	
					MICR	445	Animal Cell Culture Tech (LAB)	2	
					PLSC	411	Genomics	3	
					PLSC	484	Plant Tissue Cult & Micropropagation	2	
					PPTH	453	Microscopy	3	
					<b>Electives: 3 - 7 credits to reach 128 credits for graduation</b>				
Applies to College of Ag Only									
All courses listed on this curriculum guide are required for the major.									
<b>Total Credits Required for Graduation:</b>								<b>128</b>	

Graduation Requirements	
<b>Residency @ NDSU</b> with at least 15 credits in the major	<b>36 credits</b>
<b>Credits @ a 4-yr institution</b>	<b>60 credits</b>
<b>Courses 300/400 level or higher</b> Minimum of 15 credits @ NDSU	<b>37 credits</b>
<b>Total Credits required:</b>	<b>128 credits</b>