

**Microbiology and Molecular Genetics-Masters of Business Administration  
2009-2010 Academic Year**

Student's Name: \_\_\_\_\_

Major:        Microbiology\_\_\_\_\_                      Molecular Genetics\_\_\_\_\_

**University Credit Requirements for Undergraduates: 120 course credits  
cumulative GPA > 2.0**

**Masters of Business Administration: 30 credits**

**College of Agriculture & Life Sciences Core Competencies:**

**1. Knowledge:**

**A. Science**

- 1. Physical and Life Sciences: satisfied by Program Core Requirements.
- 2. Social Science (Anthropology, Community Development and Applied Economics, Economics, Geography, History, Political Science, Psychology, Sociology).

1. EC 011 \_\_\_\_\_ 2. EC 012 \_\_\_\_\_ (6 credits)

**B. Humanities and Fine Arts** (Art, Classics, Drama, Music, Philosophy, Religion, Foreign language, Literature, Poetry, Film).

1. \_\_\_\_\_ 2. \_\_\_\_\_ (6 credits)

**2. Skills:**

**A. Communication skills:**

1. Oral: (3 credits)

**AGRI 83:** Communication Methods \_\_\_\_\_

Three graded oral presentations, which can be satisfied in one or more courses: \_\_\_\_\_  
\_\_\_\_\_

2. Written: (3 credits)

**ENGS 001** or **ENGS 050** \_\_\_\_\_

Three graded "process" papers (papers requiring redrafting), which can be satisfied in one or more courses: \_\_\_\_\_  
\_\_\_\_\_

**B. Information Technology Skills:** (3 credits)

**AGRI 85:** Computer Applications \_\_\_\_\_

Applications of Information Technology are satisfied by Program Core Requirements

**C. Quantitative Skills:**

- 1. Mathematics: satisfied by Program Core Requirements
- 2. Statistics: **STAT 141**; satisfied by Program Core Requirements
- 3. Quantitative Skills Application: satisfied by Program Core Requirements

**D. Critical Thinking Skills:** satisfied by Program Core Requirements

**E. Interpersonal Skills:** satisfied by Program Core Requirements

**3. Values:**

**A. Citizenship and Social Responsibility:** Two 3-credit University Approved Diversity Courses. All students are required to complete 6 credits addressing race relations and ethnic diversity before graduation, 3 of which have to come from Category 1 courses.

Course options can be found at: <http://www.uvm.edu/provost/diversity/>

**Category 1** \_\_\_\_\_

**Category 1 or 2** \_\_\_\_\_

**B. Environmental Stewardship:** satisfied by Program Core Requirements

**C. Personal Growth:** satisfied by Program Core Requirements

**For Transfer Students:**

The University's Transfer sheet, which will arrive with a transferring advisee's folder, will list the course(s) being transferred and whether UVM accepts or rejects the transfer. The course(s) may be acceptable to UVM but not for a particular UVM course, in which case it will be listed with X's in the number. It will then be up to the MMG Undergraduate Program Director to decide if this course will replace one of the required or elective courses. If so, it will be noted with a copy to the advisee's file. It is recommended that transfer students take **CALS 085/183** instead of CALS 001/002

**Program Core Requirements:** (can also be found at [http://www.uvm.edu/microbiology/ugrad\\_program\\_overview.htm](http://www.uvm.edu/microbiology/ugrad_program_overview.htm))

<b><u>Major Requirements:</u></b>	<b><u>Semester &amp; Year completed</u></b>
First-Year Colloquium: <b>MMG 001</b>	_____ (1 credit)
Exploring Biology: <b>BCOR 11 &amp; 12</b>	_____ (8 credits)
Calculus: <b>MATH 19 &amp; 20</b> <u>or</u> <b>21 &amp; 22</b>	_____ (6/8 credits)
General Chemistry: <b>CHEM 31 &amp; 32</b>	_____ (8 credits)
Organic Chemistry: <b>CHEM 141 &amp; 142</b> <u>or</u> <b>143 &amp; 144</b>	_____ (8 credits)
Physics: <b>PHYS 11, 12</b> with <b>21/22</b> <u>or</u> <b>31 &amp; 42</b> with <b>21/22</b>	_____ (10 credits)
Microbiology & Infectious Disease: <b>MMG 101</b>	_____ (4 credits)
Intro. to Recombinant DNA Tech.: <b>MMG 104</b>	_____ (2 credits)
Genetics: <b>BCOR 101</b>	_____ (3 credits)
Cell Biology: <b>BCOR 103</b>	_____ (4 credits)
Biochemistry I: <b>MMG 205</b>	_____ (3 credits)
Biochemistry II: <b>MMG 206</b>	_____ (3 credits)
Statistics: <b>STAT 141</b>	_____ (3 credits)
Senior Seminar: <b>MMG 296 (Spring)</b>	_____ (1 credit)

**Additional Requirements for Microbiology Majors:***Nine credits chosen from among the following electives:*

MMG 201	Molecular Cloning Lab	_____	(3 credits)
MMG 203	Mammalian Cell & Molecular Biology Lab	_____	(4 credits)
MMG 222/MLS 255	Clinical Microbiology	_____	(4 credits)
MMG/MLRS 223	Immunology	_____	(3 credits)
MMG 225	Eukaryotic Virology	_____	(3 credits)

*Six additional credits chosen from the list above or the following electives:*

MMG 195,196	Special Topics	_____	(variable)
MMG 295,296	Special Topics	_____	(variable)
MMG 197,198	Undergraduate Research	_____	(6 credits maximum with 297/298)
MMG 207	Biochemistry Laboratory	_____	(2 credits)
MMG 297,298	Undergraduate Research	_____	(6 credits maximum with 197/198)
MMG 211	Prokaryotic Molecular Genetics	_____	(3 credits)
MMG 240	Int. Macromol.Struct. Proteins & Nucleic Acids	_____	(3 credits)
MMG 262	Nature of Sensing and Response	_____	(3 credits)
MMG 320*	Cellular Microbiology	_____	(4 credits)
XXX 200+	200-level course in life sciences ( <u>permission of academic advisor</u> ) <b>For example (but not limited to):</b> ASCI 216 (Endocrinology); BIOC 212 (Biochemistry of Human Disease); BIOL 223 (Developmental Biology); BIOL 261 (Neurobiology); BIOL 267 (Molecular Endocrinology); BOT295 (Nature of Sensing & Response); NFS 203 (Food Microbiology); MLRS 244 (Immunology Lab); PHRM 272 (Toxicology); PHRM 290 (Topics in Molecular & Cell Pharmacology)		

**\* 300-level courses should only be taken with permission of both the course instructor and the student's faculty advisor.**

**Additional Requirements for Molecular Genetics Majors:**

MMG 211	Prokaryotic Molecular Genetics	_____	(3 credits)
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**Six credits chosen from among the following electives:**

MMG 201	Molecular Cloning Lab	_____	(3 credits)
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MMG 203	Mammalian Cell & Molecular Biology Lab	_____	(4 credits)
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MMG/MLRS 223	Immunology	_____	(3 credits)
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MMG 225	Eukaryotic Virology	_____	(3 credits)
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MMG 231	Bioinformatics	_____	(3 credits)
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MMG 312*	Eukaryotic Genetics	_____	(3 credits)
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MMG 352*	Protein:Nucleic Acid Interactions	_____	(3 credits)
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**Six additional credits chosen from the list above or the following electives:**

MMG 195,196	SpecialTopics	_____	(variable)
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MMG 295,296	Special Topics	_____	(variable)
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MMG 197,198	Undergraduate Research	_____	(6 credits maximum with 297/298)
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MMG 207	Biochemistry Laboratory	_____	(2 credits)
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MMG 297,298	Undergraduate Research	_____	(6 credits maximum with 197/198)
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MMG 240	Int. Macromol.Struct. Proteins & Nucleic Acids	_____	(3 credits)
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MMG 262	Nature of Sensing and Response	_____	(3 credits)
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MMG 320*	Cellular Microbiology	_____	(4 credits)
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XXX 200+	200-level course in life sciences: <b>For example (but not limited to):</b> BIOC 212 (Biochemistry of Human Disease); BIOL 263 (Genetics of Cell Cycle Regulation); BIOL 265 (Developmental Molecular Genetics); MLRS 244 (Immunology Lab)		
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**Additional Requirements for Microbiology and Molecular Genetics Double Majors:**

Double majors must take **12** additional credits beyond the 15 credits required for a single major **and** must satisfy the requirements of each major. Only **one** of these courses may be double-counted.

**Additional Requirements for Microbiology and Molecular Genetics Major/Minor:**

Major/Minors must take **6** additional credits beyond the Major; **no** courses may be double-counted.

**Masters of Business Administration Core Courses:**

Principles of Macroeconomics: <b>EC 011</b>	_____	(3 credits)
Principles of Microeconomics: <b>EC 012</b>	_____	(3 credits)
Fundamentals of Accounting: <b>BSAD 65</b>	_____	(4 credits)
Prin Mgmt & Org Behavior: <b>BSAD 120</b>	_____	(3 credits)
Legal & Political Envir of Bus: <b>BSAD 132</b>	_____	(3 credits)
Mgmt Information Systems: <b>BSAD 141</b>	_____	(3 credits)
Marketing Management: <b>BSAD 150</b>	_____	(3 credits)
Production&Operations Analysis: <b>BSAD 173</b>	_____	(3 credits)
Managerial Finance: <b>BSAD 180</b>	_____	(3 credits)

**Total: 28 credits**

**5<sup>th</sup> Year MBA courses – 30 credits of advanced BSAD courses:**

Fall Semester:

**3 Functional Area Courses**

**2 Elective Courses**

Spring Semester:

**3 Functional Area Courses**

**Elective Course**

**BSAD 396**

**Functional Area Courses (one selected from each area):**

1. Accounting and Finance: **BSAD 260, BSAD 261, BSAD 262, BSAD 263, BSAD 264, BSAD 266, BSAD 267, BSAD 268, BSAD 282, BSAD 285, BSAD 360, BSAD 365, BSAD 380, Special Topics**
2. Economic and Political Environment: **Special Topics**
3. Human Resources Management: **BSAD 222, BSAD 226, BSAD 331, BSAD 375, BSAD 376, BSAD 379, Special Topics**
4. Marketing: **BSAD 251, BSAD 252, BSAD 258, BSAD 352, Special Topics**
5. Management Information Systems: **BSAD 345, Special Topics**
6. Production and Operations Management and Quantitative Methods: **BSAD 270, BSAD 293, Special Topics**

## 4 + 1 MMG-MBA Advising Form 2009-2010

The following description is only intended as one of many examples.

### 4 + 1 MMG-MBA MAJOR

#### FALL SEMESTER

##### FIRST YEAR

BCOR 11	4 credits
CHEM 31	4 credits
MATH 19 (or 21)	3 (4) credits
EC 11	3 credits
MMG 001	1 credit

#### SPRING SEMESTER

BCOR 12	4 credits
CHEM 32	4 credits
MATH 20 (or 22)	3 (4) credits
EC 12	3 credits

##### SECOND YEAR

CHEM 141 (or 143)	4 credits
MMG 101	4 credits
BSAD 65	4 credits
ENGS 001 (or 50)	3 credits

CHEM 142 (or 144)	4 credits
BSAD 120	3 credits
MMG 104	2 credits
STAT 141	3 credits
AGRI 85	3 credits

##### THIRD YEAR

BSAD 132	3 credits
BCOR 101	3 credits
MMG 223 or 225	3 credits
MMG 205	3 credits
MMG 207	2 credits
BSAD 141	3 credits

BCOR 103	4 credits
Hum/Fine Arts	3 credits
BSAD 150	3 credits
MMG 206	3 credits
AGRI 183	3 credits

##### FOURTH YEAR

PHYS 11 or 31 /21	5 credits
MMG 197/297	3(var) credits
Hum/Fine Arts	3 credits
MMG 223 or 225	3 credits
BSAD 173	3 credits

PHYS 12 or 42 /22	5 credits
MMG 198/298	3(var) credits
MMG 222	4 credits
BSAD 180	3 credits

##### FIFTH YEAR

MBA courses	15 credits
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MBA courses	15 credits
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