# Molecular Biotechnology (738) Ogden College of Science and Engineering Western Kentucky University

## Molecular Biotechnology Major - 4 year plan

**Spring Semester** 

### Success Markers FIRST YEAR

|                                                                                                                                                                          |                                                                                                    |       | 1 0                                                                                   |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------|-------|
| Visit the Learning<br>Center for free                                                                                                                                    | BIOL 120/121 or BIOL<br>122/123 (Biological Concepts &                                             | 4     | BIOL 120/121 or BIOL<br>122/123 (Biological Concepts &                                | 4     |
| tutoring link to site                                                                                                                                                    | BIOL 212 (Genome Discovery)                                                                        | 2     | BIOL 312 (Bioinformatics)                                                             | 4     |
| Chemistry and Math depends on                                                                                                                                            | BIOL 388* (Contemporary Issues)                                                                    | 0     | BIOL 388* (Contemporary Issues)                                                       | 0     |
| Placement scores and must be passed                                                                                                                                      | MATH 116 or higher                                                                                 | 3     | CHEM 120/121 (Coll Chem I & Lab)                                                      | 5     |
| with a "C" or better                                                                                                                                                     | ENGL 100                                                                                           | 3     | MATH 117 or higher                                                                    | 3     |
|                                                                                                                                                                          | Colonnade Foundation                                                                               | 3     |                                                                                       |       |
|                                                                                                                                                                          | TOTAL CREDIT HOURS                                                                                 | 15    | TOTAL CREDIT HOURS                                                                    | 16    |
| SECOND YEAR                                                                                                                                                              | Fall Semester                                                                                      |       | Spring Semester                                                                       |       |
|                                                                                                                                                                          |                                                                                                    |       |                                                                                       |       |
|                                                                                                                                                                          | BIOL 226/227 (Microbial Biology)                                                                   | 4     | BIOL 319/322 (Intro Cell Mol & lab)                                                   | 4     |
| Independent Research<br>or a Study Abroad Trip                                                                                                                           | BIOL 226/227 (Microbial Biology) BIOL 327/337 (Genetics & Lab)                                     | 4     | BIOL 388* (Contemporary Issues)                                                       |       |
| Independent Research<br>or a Study Abroad Trip<br>for the Summer<br>(contact Biology                                                                                     | BIOL 327/337 (Genetics & Lab) BIOL 388* (Contemporary Issues)                                      |       | BIOL 388* (Contemporary Issues) BIOL 399 or 369**                                     | 0     |
| Independent Research<br>or a Study Abroad Trip<br>for the Summer<br>(contact Biology<br>faculty about                                                                    | BIOL 327/337 (Genetics & Lab)                                                                      | 4     | BIOL 388* (Contemporary Issues)                                                       | 0     |
| Independent Research or a Study Abroad Trip for the Summer (contact Biology faculty about opportunities!)                                                                | BIOL 327/337 (Genetics & Lab) BIOL 388* (Contemporary Issues) CHEM 222/223 (Collage Chem II        | 4 0   | BIOL 388* (Contemporary Issues) BIOL 399 or 369** CHEM 340/341 (Organic Chem I        | 0     |
| Plan an Internship, Independent Research or a Study Abroad Trip for the Summer (contact Biology faculty about opportunities!) Ask at Office of Scholar Development about | BIOL 327/337 (Genetics & Lab) BIOL 388* (Contemporary Issues) CHEM 222/223 (Collage Chem II & Lab) | 4 0 5 | BIOL 388* (Contemporary Issues) BIOL 399 or 369** CHEM 340/341 (Organic Chem I & Lab) | 0 1 5 |

**Fall Semester** 

| SUMMER TERM | Summer Term        |   |
|-------------|--------------------|---|
|             |                    |   |
|             |                    |   |
|             |                    |   |
|             | TOTAL CREDIT HOURS | 0 |

Consider conducting research, an internship or study abroad

| THIRD YEAR                                   | Fall Semester                                                 |       | Spring Semester                                                                                   |                  |
|----------------------------------------------|---------------------------------------------------------------|-------|---------------------------------------------------------------------------------------------------|------------------|
|                                              | BIOL 350 (Recomb Genetics)                                    | 3     | BIOL 382 (Biostatistics)                                                                          | 3                |
| Visit Career Services                        |                                                               |       |                                                                                                   |                  |
|                                              | <b>BIOL</b> 388* (Contemporary Issues)                        | 0     | BIOL 388* (Contemporary Issues)                                                                   | 0                |
|                                              | <b>BI</b> OL 399 or 369**                                     | 1     | BIOL 399 or 369**                                                                                 | 1                |
| Writing Center                               |                                                               |       |                                                                                                   |                  |
| offers free help!!!                          | CHEM 342/343 (Organic Chem II &                               | 5     | BIOL 446/447 (Biochem I & Lab)                                                                    | 5                |
| dírect línk                                  | PHYS 231/232 (Biophysics I &                                  |       | PHYS 322/233 Biophysics II &                                                                      |                  |
|                                              | Lab)                                                          | 4     | Lab)                                                                                              | 4                |
|                                              | COMM 145                                                      | 3     | ENGL 300                                                                                          | 3                |
|                                              | TOTAL CREDIT HOURS                                            | 16    | TOTAL CREDIT HOURS                                                                                | 16               |
|                                              |                                                               |       |                                                                                                   |                  |
| FOURTH YEAR                                  | Fall Semester                                                 |       | Spring Semester                                                                                   |                  |
|                                              | BIOL 388* (Contemporary Issues)                               | 0     | DIOI 200* (C                                                                                      | 1                |
|                                              | DIOL 300 (Contemporary issues)                                | U     | BIOL 388* (Contemporary Issues)                                                                   | 1                |
| Apply for                                    | BioTech Elective***                                           | 4     | BIOL 489 (Professional Aspects)                                                                   | 1                |
| Apply for Graduation (YFA)                   |                                                               |       |                                                                                                   |                  |
| Apply for Graduation (YEA)  directlink       | BioTech Elective***                                           | 4     | BIOL 489 (Professional Aspects)                                                                   | 1                |
| Apply for<br>Graduation (YEA)<br>direct link | BioTech Elective*** BioTech Elective***                       | 4     | BIOL 489 (Professional Aspects) BIOL 411 (Cell Biology)                                           | 1 3              |
|                                              | BioTech Elective*** BioTech Elective*** Colonnade Connections | 4 4 3 | BIOL 489 (Professional Aspects) BIOL 411 (Cell Biology) Biotech Elective***                       | 1<br>3<br>3      |
|                                              | BioTech Elective*** BioTech Elective*** Colonnade Connections | 4 4 3 | BIOL 489 (Professional Aspects) BIOL 411 (Cell Biology) Biotech Elective*** AMS 371 or 390 or 430 | 1<br>3<br>3<br>3 |

#### This is a suggested program of study.

Student must maintain a "C" or better in each Biology course and in some supporting courses. Course prerequisites are in parentheses and italics after each course listing.

#### \*\*\*Elective determined with faculty advisor

#### For more Information:

**Website:** http://www.wku.edu/biology/mbiotech/ **Email:** molecular.biotechnology@wku.edu

<sup>\*</sup>BIOL 388: Examination of recent advances, ethics and career opportunities in Biotechnology through discussions, seminars and field trips. All majors will take this course together every semester with credit bearing in the last semester. The course meets a few times in a semester.

<sup>\*\*</sup>BIOL 369 or 399: Students have the opportunity to choose a 369 Cooperative Internship in place of 399 Research in Biology or take both. The internship or research course can also be taken during the summer.