### REQUIRED JUNIOR LEVEL COURSES
- BIOL 107: Introduction to Cell Biology [FALL/WINTER]
- BIOL 108: Organisms in their Environment [FALL/WINTER]

### REQUIRED SENIOR LEVEL COURSES
- BIOL 207: Principles of Genetics [FALL/WINTER]
- BIOL 208: Principles of Ecology [FALL]

### GENERAL SENIOR LEVEL COURSES
- Within the 15 credits required to meet this minor’s general requirements, a minimum of 6 credits must be completed at the 300- or 400-level.

#### MOLECULAR GENETICS COURSES
- BICM 200: Introductory Biochemistry [FALL/WINTER]
- BICM 330: Nucleic Acid Chemistry and Molecular Biology [WINTER]
- BICM 320: Structure and Function of Biomolecules [FALL]
- BICM 300: Eukaryotic Cellular Biology II [WINTER]
- BICM 313: Animal Developmental Biology [FALL]
- GENE 317: Genetics and Society [WINTER]
- GENE 369: Genetic Analysis of Bacteria [WINTER]
- GENE 370: Genetics Analysis of Eukaryotes [FALL]
- GENE 400: Genome Organization [WINTER]
- GENE 404: Genetic Regulatory Mechanisms [FALL]
- GENE 418: Human Genetics [WINTER]
- GENE 420A: Techniques in Molecular Biology I
- GENE 420B: Techniques in Molecular Biology II
  [GENE 420A and 420B must be taken in consecutive FALL/WINTER terms.]

#### ENVIRONMENTAL BIOLOGY COURSES
- BOTN 205: Fundamentals of Plant Biology [FALL]
- ZOOL 224: Vertebrate Adaptations and Evolution [FALL]
- ZOOL 250: Survey of the Invertebrates [WINTER]
- BIOL 310: Fresh Water Ecology [ODD FALL]
- BIOL 312: Terrestrial Ecology [EVEN FALL]
- BIOL 314: Population Ecology [ODD WINTER]
- BIOL 361: Marine Biology [WINTER]
- BIOL 365: Tropical Rainforest Ecology [SPRING]
- BIOL 367: Conservation Biology [FALL]
- BIOL 371: Animal Behaviour [FALL]
- ZOOL 324: Comparative Anatomy of Vertebrates [WINTER]
- BIOL 410: Techniques in Field Ecology [SUMMER]
- ZOOL 400: Aquatic Vertebrates [FALL]
- ZOOL 401: Terrestrial Vertebrates [WINTER]
- ZOOL 425: Introductory Entomology [FALL]
- ZOOL 452: Principles of Parasitism [WINTER]

#### CROSS LISTED COURSES
- BIOL 315: History of Biology [FALL]
- BIOL 321: Mechanisms of Evolution [FALL/WINTER]
- BIOL 337: Biostatistics and Research Design [WINTER]
- BIOL 492: Field Placement [NOT OFFERED 2014/15]
- BIOL 495: Special Topics [VARIABLE – FALL/WINTER 2014/15]
- BIOL 498: Independent Research [FALL/WINTER]
IMPORTANT PLANNING NOTES

1. **Biol 107** and **Biol 108** should be completed in the first year of a program and can be taken in either order. **Biol 107** and **Biol 108** can be used to satisfy core requirements in the Bachelor of Science degree.

2. Students are required to consult with the MacEwan University Academic Calendar to ensure they meet the prerequisites for all Biological Sciences courses they enrol in.
   - Some courses in this minor require prerequisites from another discipline. For example, **BICM 200** requires a minimum grade of C- in **Biol 107**, **Chem 101**, and **Chem 261**. Students should consult the MacEwan University Academic Calendar.

3. The typical term in which courses are offered is indicated. All students minoring in Biological Sciences should take careful note of the terms in which courses are offered; many senior-level Biological Sciences courses are offered only once a year. For example, **Biol 208** is only offered in the Fall term. Some senior level courses are offered in alternate years. Students should confirm course offerings with the Program Office.
   - The following Biological Sciences courses will be offered in the Spring/Summer 2015 term, dependent upon enrolment numbers: **Biol 107**, **Biol 108**, **Biol 205**, **Biol 207**, **Biol 208**, and **BICM 200**.

4. For students interested in pursuing the Molecular Genetics stream, **Biol 205** and **Biol 207** should be completed in the second year of their program. For students interested in pursuing the Environmental Biology stream, **Biol 208** should be completed in the second year of their program.

5. The Molecular Genetics and Environmental Biology streams are suggested paths of study; they are not formal or required concentrations. Students majoring in Biological Sciences can choose a Molecular Genetics focus, an Environmental Biology focus, or a general Biological Sciences major.
   - Students interested in pursuing the Environmental Biology stream are encouraged, but not required, to take **Stat 151** in their first year. While it is not a prerequisite for **Biol 208**, it can be helpful with some of the material covered in the course.

6. Arts students who choose a Biological Sciences minor must comply with Bachelor of Science minor residency requirements. Science minors must complete a minimum of nine senior level MacEwan University credits, including a minimum of three credits at the 300- or 400-level.

7. Students may take **Biol 495** and **Biol 498** for credit a maximum of two times each, as long as the course topic is different each time they take either course.