MacEwan UNIVERSITY

BACHELOR OF SCIENCE
BIOLOGICAL SCIENCES MINOR
2016/17 Academic Year

REQUIRED JUNIOR LEVEL COURSES[1,2] — 6 CREDITS

☐ BIOL 107: Introduction to Cell Biology[3]
☐ BIOL 108: Organisms in their Environment

REQUIRED SENIOR LEVEL COURSES[4] — 3 CREDITS

ONE OF THE FOLLOWING:
☐ BIOL 207: Principles of Genetics
☐ BIOL 208: Principles of Ecology

GENERAL SENIOR LEVEL COURSES[5,6] — 15 CREDITS

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/CELLULAR BIOLOGY COURSES

☐ BICM 200: Introductory Biochemistry
☐ BIOL 201: Eukaryotic Cellular Biology I
☐ BIOL 205: Principles of Molecular Biology
☐ BIOL 211: Introduction to Microbiology

☐ BICM 310: Intermediary Metabolism
☐ BICM 320: Structure and Function of Biomolecules
☐ BICM 330: Nucleic Acid Chemistry and Molecular Biology
☐ BIOL 300: Eukaryotic Cellular Biology II
☐ BIOL 313: Animal Developmental Biology

☐ GENE 317: Genetics and Society
☐ GENE 369: Genetic Analysis of Bacteria
☐ GENE 370: Genetics Analysis of Eukaryotes

☐ BIOL 421: Techniques in Molecular and Cellular Biology
☐ BIOL 430: Pathobiology: The Cellular Basis of Disease
☐ GENE 400: Genome Organization
☐ GENE 404: Genetic Regulatory Mechanisms
☐ GENE 418: Human Genetics

ECOLOGY/DIVERSITY BIOLOGY COURSES

☐ BOTN 205: Fundamentals of Plant Biology
☐ ZOOL 224: Vertebrate Adaptations and Evolution
☐ ZOOL 250: Survey of the Invertebrates

☐ BIOL 310: Fresh Water Ecology
☐ BIOL 312: Terrestrial Ecology
☐ BIOL 314: Population Ecology
☐ BIOL 361: Marine Biology
☐ BIOL 365: Tropical Rainforest Ecology

☐ BIOL 367: Conservation Biology
☐ BIOL 371: Animal Behaviour
☐ ZOOL 324: Comparative Anatomy of Vertebrates
☐ BIOL 410: Techniques in Field Ecology
☐ ZOOL 400: Aquatic Vertebrates
☐ ZOOL 401: Terrestrial Vertebrates
☐ ZOOL 425: Introductory Entomology
☐ ZOOL 452: Principles of Parasitism

CROSS LISTED COURSES

☐ BIOL 315: History of Biology
☐ BIOL 321: Mechanisms of Evolution
☐ BIOL 337: Biostatistics and Research Design
☐ BIOL 492: Field Placement

☐ BIOL 495: Special Topics[7]
☐ BIOL 498: Independent Research[7]
☐ ZOOL 241: Animal Physiology I
☐ ZOOL 242: Animal Physiology II

➢ **Important! Please see the back of this page for planning notes.** ➢

*This planning sheet should be used only as a **guide** for course planning and it should be used in conjunction with the Bachelor of Science or Bachelor of Arts degree planner. Remember: not all courses listed are offered each year and course offerings are subject to change. In the event of a discrepancy between the information presented on this sheet and that available on myStudentSystem, the information on myStudentSystem will be considered accurate.*

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. 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 2016 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 Ecology/Diversity Biology steam, **BIOL 208** should be completed in the second year of their program.
5. The Molecular/Cellular Biology and Ecology/Diversity Biology streams are suggested paths of study; they are not formal or required concentrations. Students minoring in Biological Sciences can choose a Molecular/Cellular Biology focus, an Ecology/Diversity Biology focus, or a general Biological Sciences minor.
   - Students interested in pursuing the Ecology/Diversity 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.