CELL BIOLOGY & GENETICS: MAJORS

First & Second Year:

First Year (34credits)	☐ **BIOL 112** ☐ **BIOL 121 & 140**	☐ **CHEM 121 & 123** or ☐ **CHEM 111 & 113**	☐ **PHYS 101 or 121** ☐ **Elective** (3 credits)	**Two of MATH:** ☐ 100, 102, 104, 120, 180, or 184 ☐ 101, 103, 105, 121	☐ **ENGL** (6 credits of 100 level English) - ENGL 112 recommended
Second Year (31 to 32 credits)	☐ **BIOL 200** ☐ **BIOL 201**	**Any two of:** ☐ 204, 205, 209, 210, or MICB 202 ☐	☐ **CHEM 233** ☐ **CHEM 235** ☐ **CHEM 205**	☐ **Electives** (6 credits)	☐ **Arts Electives** (6 credits)

Registration Notes for 1st & 2nd year Biology:

1. BIOL 112,121, and 140 are prerequisites to the Major or Honours program options in the Biology Program. Students who have completed Biology 12 may enter into these courses directly. Students with Biology 11 may enter BIOL 112 if they have Chem 12. BIOL 112 is acceptable as the sole prerequisite for BIOL 121. Students without high school biology must take BIOL 111 before registering in BIOL 112,121, and 140.
2. Students without Physics 12 must replace elective with PHYS 100 (prior to PHYS 101).
3. Three credits of first-year English courses may be deferred to second year.

Third & Fourth Year:

Third Year (31 credits)	**One of BIOL:** ☐ **350** ☐ **351 and 352** ☐ **353**	☐ **BIOL 334** ☐ **BIOL 335**	☐ **BIOL 300** ☐ **Breadth Elective** (3 Credits)	**6 credits of:** ☐ **BIOL 302 or 303(3)** ☐ **BIOC 302 (3)**	☐ **Arts Electives** (6 credits)
Fourth Year (30 credits)	☐ **Cell & Genetics Electives** 300 level or higher (6 Credits)	☐ **Cell & Genetics Electives** 300 level or higher (6 Credits))	☐ **Cell & Genetics Electives** 300 level or higher (6 Credits))	☐ **Electives** (6 credits)	☐ **Breadth Electives** (6 credits)

Registration Notes for 3rd & 4th year Biology:

1. Students **must take** their physiology course (BIOL 350,351/352, or 353) **in third year**. If other constraints require that you take this course in 4th year you need the permission of your program advisor and let the Biology Office know.
   - If you intend to take BIOL 353 make sure you have the prerequisites BIOL 204 and CHEM 233/235
2. Biochemistry requirement – Students may take BIOC 303 instead of BIOC 302 and in this case the number of CGBI electives is reduced to 15 credits instead of 18.
3. Students are encouraged to undertake 3 to 6 credits of **Directed Studies** (BIOL 448). Three credit of BIOL 448 may be counted as a Cell Biology & Genetics Elective with the permission of either their supervisor (if in Botany/Zoology) or a Cell Biology & Genetics Program Advisor.
4. Breadth Electives – 9 credits must be in Arts or in Science outside the field of major
5. Cell & Genetics Electives - Of 18 credits, 6 must be Biology (**not including BIOL 448**) see list on reverse side.

For further information please see the Biology Program website http://www.zoology.ubc.ca/bpg/index.html or visit the Biology Program Office Rm. 2521!!!

Cell Biology & Genetics Program Electives

Some courses listed here may not be available in the current year. Please check the UBC Course Schedule website for current course availability http://courses.students.ubc.ca!!!
- 18 Credits, 6 must be BIOL (not including BIOL 448)

ANAT 390 - Introduction to Microscopic Human Anatomy
BIOC 303 - Biochemistry (taken in place of BIOC 302)
BIOC 402 - Proteins
BIOC 403 - Lipids
BIOC 410 - Nucleic Acids
BIOC 421 - Molecular Biology Lab.
BIOL 330 - Advanced Cell Biology
BIOL 331 - Developmental Biology
BIOL 332 - Protistology
BIOL 336 - Evolutionary Genetics
BIOL 337 - Genetics Laboratory
BIOL 352 - Plant Physiology II
BIOL 430 - Genome Evolution
BIOL 431 - Advanced Cell Biology - formerly called BIOL 330
BIOL 433 - Plant Genetics
BIOL 434 - Population Genetics
BIOL 435 - Molecular Biology and Biochemistry of Yeast Saccaromyces
BIOL 437 - Animal Molecular Biology Laboratory
BIOL 441 - Animal Cell Biology
BIOL 443 - Plant Breeding and Biotechnology
BIOL 444 - Plant Molecular Biology
BIOL 448 - Directed Studies
BIOL 450 - Molecular Adaption
BIOL 455 - Neurobiology
BIOL 456 - Comparative and Molecular Endocrinology
BIOL 458 - Developmental Neurobiology
BIOL 462 - Ecological Plant Biochemistry
BIOL 463 - Molecular Genetics of Development
BIOL 464 - Developmental Genetics
MATH 361 - Introduction to Mathematical Biology
MATH 462 - Mathematical Biology
MEDG 410 - Immunogenetics (same as MICB 402 Advanced Immunology)
MEDG 419 - Cytogenetics
MEDG 420 - Human Biochemical and Molecular Genetics
MEDG 421 - Genetics and Cell Biology of Cancer
MICB 302 - Immunology
MICB 306 - Molecular Virology
MICB 402 - Advanced Immunology (same as MEDG 410 Immunogenetics)
MICB 403 - Molecular Bacterial Pathogenesis
MICB 405 - Bioinformatics
MICB 409 - Microbial Genetics
MRNE 411 - Invertebrate Embryology