

Program Worksheet: Honours Cell and Developmental Biology

First Year	BIOL 112 ____ BIOL 121 ____ BIOL 140 or 180 ____ One of CHEM 111, 121, 141 or CHEM 120 & 115 ____ CHEM 123 or CHEM 130 & 135 ____	One of: PHYS 101, 106, 107, 117, 131 ____ One of: CPSC 100, 103, 110, 301 or DSCI 100 ____	One of: MATH 100, 102, 104, 110, 120, 180, or 184 ____ One of: MATH 101, 103, 105, or 121 ____	Communication Requirement 6cr of WRDS 150; SCIE 113; any of ENGL 100, 110, 111, 112, 120, or 121; SCIE 300 or CHEM 300; APSC 176; LFS 150; FRST 150, Arts One; ASTU 100, 101: _____ and _____ Electives [3cr]: _____	31cr
Second Year	*Biology Fundamentals Courses: BIOL 200 ____ BIOL 201 ____ BIOL 230 ____ BIOL 234 ____ BIOL 260 ____	*Organismal Courses: Two from BIOL 203 ____ BIOL 204 ____ BIOL 205 ____ BIOL 209 ____ BIOL 210 ____ MICB 211 ____	One of: CHEM 233 ____ CHEM 235 ____ or CHEM 203 ____ or CHEM 223 ____ CHEM 225 ____ & CHEM 205 ____		30cr
Third Year	BIOL 300 ____ BIOL 340 ____ BIOL 341 ____ BIOL 347 ____		BIOC 302 or 303 _____	BIOL 335 ____ BIOL 336 ____ *** Cell and Developmental Biology Selections [12 to 15cr]: _____ _____ _____ _____	Arts Electives [12cr]: _____ _____ _____ _____
Fourth Year	BIOL 447 ____ BIOL 449 ____	** Life Science Selections [9cr]: _____ _____ _____		Electives [3-6cr]: _____ _____	
Minimum Total credits = 132					

* One **Organismal** and/or one of **BIOL 201, 230, 233, 234, 260** can be deferred to third year. **Note:** It is recommended that BIOL 201 be taken in second year; it is a prerequisite for several Cell and Developmental Biology Selections.

*****Life Science Selection:**

Life Science selections that count towards the Science credit requirement: Any third- or fourth-year course in BIOC, CAPS, MICB, or MRNE that is open for credit to Life Science majors plus: ENVR 430, EOSC 470, 474, 475, 478, GEOS (or GEOB) 307, 407, FNH 350, 351, 451, MATH 462, MEDG 410, 419, 420, 421, PCTH 305, 325. Life Science selections that do not count towards the Science credit requirement: APBI 311, 312, 314, 315, 318, 342, 401, 411, 418, 419, 442, 444, CONS 330, 440, 486, 496, FRST 302, 310, 385, 386, 395, 399, 444, 485, 495.

Note: Life Science Selections do not include BIOL 300 and 336. Four credits of Biology lab selections are required; additional credits from Biology Lab Selections may count as Life Science Selections [i.e., BIOL 351 (4cr) = 2cr Biology Lab Selections & 2cr Life Science Selections].

BIOL 448 – Directed Studies: A maximum of 3 credits BIOL 448 can count toward life science selections.

*****Cell and Developmental Biology Selections (6cr of 12cr MUST be 4xx level) and if the student takes BIOC 302 instead of BIOC 303 they need to complete 3 additional credits of CELL electives:**

BIOL 331- Developmental Biology
BIOL 337 – Introductory Genetics Laboratory
BIOL 338 – Introduction to Genomics
BIOL 351 – Plant Physiology I
BIOL 352 – Plant Physiology II: Plant Development
BIOL 362 – Cellular Physiology
BIOL 370 - Principles of Muscle Physiology and Energetics
BIOL 371 - Principles of Neurobiology I
BIOL 372 - Principles of Neurobiology II
BIOL 423 - Plant Stress Ecophysiology
BIOL 430 - Genome Evolution
BIOL 431 – Evolutionary Cell Biology
BIOL 432 – Research Strategies and Techniques in Cell Biology
BIOL 433 – Plant Genetics
BIOL 436 – Integrated Functional Genomics
BIOL 437 – Laboratory in Animal Cell Molecular Biology
BIOL 440 – Plant Genomics
BIOL 441 - Animal Cell Biology
BIOL 450 - Molecular Adaptation of Animals to the Environment
BIOL 451 - Comparative Neurobiology
BIOL 456 - Comparative and Molecular Endocrinology
BIOL 458 - Developmental Neurobiology
BIOL 463 - Gene Regulation in Development
BIOL 464 - Animal Developmental Genetics

Faculty of Science Elective Requirements:

(May be any level if the upper-level requirement of 48 upper-level credits including at least 30 credits from the Faculty of Science is satisfied. Also, up to 18 credits of course work in a faculty other than Science or Arts may be taken for credit.)

- **Arts Electives - 12 credits** from the Faculty of Arts.
- **Electives** – May be from any faculty.