BIOLOGY AND PSYCHOLOGY – SPECIALIZATION (SCIENCE) – BACHELOR OF SCIENCE (HONOURS)

BIPS-P-BSH

Subject: Administered by the Departments of Biology and Psychology.
Plan: Consists of 84.00 units as described below.
Program: The Plan, with sufficient electives to total 120.00 units, will lead to a Bachelor of Science (Honours) Degree.

Note: Requirements for this program have been modified. Please consult the 2023-2024 (https://queensu-ca-public.courseleaf.com/archive/2023-2024/)*Calendar* for the previous requirements.

Code	Title	Units
1. Core		
– BIOLOGY CORE –		
A. Complete the following:		
BIOL 102	Fundamentals of Biology: Molecular and Cell Biology	3.00
BIOL 103	Fundamentals of Biology: Organisms to Ecosystems	3.00
B. Complete the following:		
CHEM 112	General Chemistry	6.00
C. Complete the following:		
BIOL 200	Diversity of Life	3.00
BIOL 205	Mendelian and Molecular Genetics	3.00
BIOL 206	Evolutionary Genetics	3.00
BIOL 212	Scientific Methods in Biology	3.00
D. Complete the following:		
BIOL 300	Ecology	3.00
E. Complete 3.00 units from the following:		**3.00**
BIOL 334	Comparative Biochemistry	
BIOL 339	Animal Physiology	
BIOL 341	Plant Physiology	
F. Complete the following:		
BIOL 330	Cell Biology	3.00
– PSYCHOLOGY CORE –		
G. Complete the following:		
PSYC 100	Principles of Psychology	6.00
H. Complete 3.00 units from the following:		**3.00**
BIOL 243	Introduction to Statistics	
PSYC 202	Statistics in Psychology	
I. Complete the following:		
PSYC 203	Research Methods in Psychology	3.00
2. Option		
– BIOLOGY OPTION –		
A. Complete 3.00 units from the following:		**3.00**
BIOL at the 300-level or above		
BIOL_Subs_A		
B. Complete 6.00 units from the following:		**6.00**
BIOL at the 300-level or above		
BIOL_Subs_A		
BIOL_Subs_B_Excluding_PSYC		
– PSYCHOLOGY OPTION –		
C. Complete 12.00 units from the following:		**12.00**
PSYC 221	Cognitive Psychology	
PSYC 236	Introduction to Clinical Psychology	
PSYC 241	Social Psychology	
PSYC 251	Developmental Psychology	
PSYC 271	Brain and Behaviour I	
D. Complete 3.00 units from the following course list:		**3.00**
PSYC_Labs_BIPS		
E. Complete 3.00 units from the following course list:		**3.00**
PSYC_Cognitive_Neuroscience		
F. Complete one course from 2 of the 3 following course lists:		**6.00**
a. 3.00 units from PSYC_Clinical		
b. 3.00 units from PSYC_Developmental		
c. 3.00 units from PSYC_Social		
G. Complete 6.00 units from the following:		**6.00**
PSYC at the 200-level or above		
PSYC_Subs_B_Excluding_BIOL		
Electives		
Elective Courses		36.00
Total Units		**120.00**

3. Additional Requirements

A. Maximum of 3.00 units from PSYC_Subs_B_Excluding_BIOL.

NOTE: Students have the *option* to take a course from the PSYC_Subs_B_Excluding_BIOL course list; they are *not required* to take a course from this list.

4. Substitutions

A. BCHM 310 (or the combination of BCHM 315 and BCHM 316) may be substituted for 3.00 units from (BIOL 334 or BIOL 339 or BIOL 341) with the

remaining units applied toward Option Course requirements in the degree program.

B. Students registered in a BIOL Plan prior to May 1, 2016 may use BCHM 218 as an alternative to BIOL 330 to satisfy requirement **1.F.**

5. Notes

A. PHYS 115 and PHYS 116 (or PHYS 104 or PHYS 106 or PHYS 118) are highly recommended but not required.

B. A maximum of 6.00 units from courses offered by other Faculties and Schools may be counted toward the program and/or Plan requirements. This includes courses in BMED, COMM, GLPH, HSCI, LAW, NURS, and courses offered by Smith Engineering.

Biology and Psychology Course Lists

The following lists contain courses offered through other Departments. In accordance with Academic Regulation **2.6** (Access to Classes), students do not have enrolment priority in all of these courses. Access to these courses may only be made available during the Open Enrolment period, and then only if space permits.

BIOL_Subs_A

Code	Title	Units
Biology Substitutions List A		
ANAT at the 300-level and above		
BCHM at the 300-level and above		
LISC at the 300-level and above		
MICR 221	Fundamental Microbiology	3.00
MICR 271	Introduction to Microbiology	3.00
MICR at the 300-level and above		
PATH at the 300-level and above		
PHGY at the 300-level and above		

BIOL_Subs_B_Excluding_PSYC

Code	Title	Units
Biology Substitutions List B Excluding Psychology		
APSC 400	Technology, Engineering & Management (TEAM) [1]	7.00
CHEE 400	Technology, Engineering & Management (TEAM) [1]	7.00
CHEM at the 200-level and above		
ENSC 301	Environmental Assessment	3.00
ENSC 307	Marine Environmental Issues	3.00
ENSC 320	Wildlife Issues in a Changing World	3.00
ENSC 390	Sustainability	3.00
ENSC 425	Ecotoxicology	3.00
EPID 301	Principles of Epidemiology	3.00
GEOL 337	Paleontology	3.00
GEOL 466	Isotopes and the Environment	3.00
GPHY 304	Northern and Arctic Environments	3.00
GPHY 310	Landscape Ecology	3.00
GPHY 314	Climate Change	3.00
GPHY 318	Advanced Biogeography	3.00
HLTH 323	Epidemiology	3.00
PHAR 340	Principles of General Pharmacology I	3.00
PHAR 370	Fundamentals of Pharmacology and Therapeutics	3.00
PHIL 301	Bioethics	3.00
STAT 353	Probability II	3.00

[1] Note that the unit weighting system in Smith Engineering differs from that in the Faculty of Arts and Science. Therefore, upon acceptance of any course from Smith Engineering, the unit weighting towards Arts and Science degree requirements shall be at the discretion of the Associate Dean (Academic). Usually, a one-term course shall count as 3.00 units and a two-term course as 6.00 units.

PSYC_Labs_BIPS

Code	Title	Units
Psychology Laboratory Courses		
PSYC 315	Introduction to the Analysis of Psychological Signals	3.00
PSYC 321	Psycholinguistics	3.00
PSYC 322	Experience Sampling from Lab to Daily Life	3.00
PSYC 323	Laboratory in Attention	3.00
PSYC 327	Laboratory in Social and Strategic Decision-Making	3.00
PSYC 338	Laboratory in Clinical Psychology	3.00
PSYC 355	Comparative Cognition: Cognitive Origins Laboratory [1]	3.00
PSYC 360	The Neurobiology and Psychology of Sleep	3.00
PSYC 375	Comparative Cognition: Animal Learning Laboratory	3.00
PSYC 380	Advanced Perception	3.00
PSYC 495	Advanced Topics in Psychology	3.00
PSYC 570	Directed Special Laboratory I	3.00
PSYC 575	Directed Special Laboratory II	3.00

[1] *Winter 2017 onward.*

PSYC_Cognitive_Neuroscience

Code	Title	Units
PSYC 305	Introduction to Comparative Cognition	3.00
PSYC 315	Introduction to the Analysis of Psychological Signals	3.00
PSYC 320	Selected Topics in Cognitive Neuroscience	3.00
PSYC 321	Psycholinguistics	3.00
PSYC 322	Experience Sampling from Lab to Daily Life	3.00
PSYC 323	Laboratory in Attention	3.00
PSYC 325	Cognitive Neuroscience	3.00
PSYC 326	Principles of Memory	3.00
PSYC 327	Laboratory in Social and Strategic Decision-Making	3.00
PSYC 355	Comparative Cognition: Cognitive Origins Laboratory	3.00
PSYC 360	The Neurobiology and Psychology of Sleep	3.00
PSYC 365	Selected Topics in Behavioural Neuroscience	3.00
PSYC 366	Gender/Sex, Hormones, and Behaviour	3.00
PSYC 370	Brain and Behaviour II	3.00
PSYC 375	Comparative Cognition: Animal Learning Laboratory	3.00
PSYC 376	Functional Neuroimaging the Human Brain and Mind	3.00
PSYC 377	Decision-Making and the Brain: Principles of Neuroeconomics	3.00
PSYC 380	Advanced Perception	3.00
PSYC 420	Advanced Topics in Cognitive Psychology	3.00
PSYC 421	Memory and the Brain	3.00
PSYC 422	Advanced Topics in Attention	3.00
PSYC 423	Driving, Deepfakes, and Disinformation: Applications of Visual Cognition	3.00
PSYC 424	Research Into Spontaneous Thought	3.00
PSYC 444	Language and Reasoning	3.00
PSYC 470	Advanced Topics in Behavioural Neuroscience	3.00
PSYC 471	Behavioural Pharmacology	3.00
PSYC 473	Neurobiology of Psychiatric Disorders	3.00

PSYC_Clinical

Code	Title	Units
PSYC 330	Selected Topics in Clinical Psychology	3.00
PSYC 331	Introduction to Personality	3.00
PSYC 332	Health Psychology	3.00
PSYC 333	Human Sexuality	3.00
PSYC 334	Laboratory in Psychological Testing	3.00
PSYC 335	Positive Psychology	3.00
PSYC 336	Advanced Adult Clinical Psychology	3.00
PSYC 337	Advanced Child Clinical Psychology	3.00
PSYC 338	Laboratory in Clinical Psychology	3.00
PSYC 428	Psychotic Disorders	3.00
PSYC 429	Pain: Body and Mind	3.00
PSYC 432	Affective Psychophysiology	3.00
PSYC 433	Human Sexual Function and Dysfunction	3.00
PSYC 435	Advanced Topics in Clinical Psychology	3.00
PSYC 436	Sexuality and Gender	3.00
PSYC 437	Mood Disorders	3.00
PSYC 438	Self-Injury and Suicide	3.00
PSYC 439	Interpersonal Processes in Depression	3.00

PSYC_Developmental

Code	Title	Units
Developmental Psychology Courses		
PSYC 350	Selected Topics in Developmental Psychology	3.00
PSYC 351	Social and Emotional Development	3.00
PSYC 352	Cognitive and Language Development	3.00
PSYC 353	Atypical Development	3.00
PSYC 354	Language	3.00
PSYC 358	Developmental Social Neuroscience	3.00
PSYC 450	Advanced Topics in Developmental Psychology	3.00
PSYC 451	Brain Development	3.00
PSYC 452	Developmental Psycholinguistics	3.00
PSYC 453	Infancy	3.00
PSYC 454	Child in Society	3.00
PSYC 455	Adolescence	3.00
PSYC 456	Theory of Mind	3.00
PSYC 458	Neurobiology of Socio-Emotional Development in Adolescence	3.00
PSYC 459	Socioemotional Development in the Digital Age	3.00

PSYC_Social

Code	Title	Units
Social Psychology Courses		
PSYC 327	Laboratory in Social and Strategic Decision-Making	3.00
PSYC 340	Selected Topics in Social Psychology	3.00
PSYC 341	Laboratory in Social Psychology	3.00
PSYC 342	The Psychology of Social Influence	3.00
PSYC 343	Judgement and Decision Making	3.00
PSYC 430	The Self	3.00
PSYC 440	Advanced Topics in Social Psychology	3.00

PSYC 441	Attitudes and Persuasion	3.00
PSYC 442	Culture and Cognition	3.00
PSYC 443	Intimate Relationships	3.00
PSYC 444	Language and Reasoning	3.00

PSYC_Subs_B_Excluding_BIOL

Code	Title	Units
ANAT 312	Functional Neuroanatomy	3.00
CISC 325	Human-Computer Interaction	3.00
CISC 352	Artificial Intelligence	3.00
CISC 452	Neural and Genetic Computing	3.00
CISC 453	Topics in Artificial Intelligence	3.00
CISC 455	Evolutionary Optimization and Learning	3.00
CISC 467	Fuzzy Logic	3.00
CISC 474	Reinforcement Learning	3.00
COGS 201	Cognition and Computation	3.00
COGS 400	Neural and Genetic Cognitive Models	3.00
COMM 231	Fundamentals of Marketing	3.00
COMM 251	Organizational Behaviour	3.00
COMM 333	Marketing Strategy	3.00
COMM 351	Leadership	3.00
COMM 352	Organizational Analysis	3.00
ECON 261	Canadian Labour Relations	3.00
GPHY 336	Geography, the Environment and Human Health	3.00
INTS 306	Culture, Identity, and Self	3.00
INTS 307	Intercultural Relations	3.00
LING 310	Phonetics	3.00
NSCI 323	Foundational Neuroscience	3.00
NSCI 324	Systems Neuroscience	3.00
NSCI 325	The Science of Psychedelics	3.00
NSCI 401	Introduction to Theoretical Neuroscience	3.00
NSCI 414	Progress in Neuroanatomy and Neuropharmacology	3.00
PHIL 301	Bioethics	3.00
PHIL 311	Philosophy of Psychology	3.00
PHIL 351	Philosophy of Mind	3.00
POLS 312	Political Behaviour	3.00
POLS 313	Mass Media and Politics in Canada	3.00
SOCY 275	Theories of Deviance and Social Control	3.00
SOCY 276	Substantive Issues in Social Deviance	3.00
SOCY 387	Sociology of Crime and Delinquency	3.00
SOCY 388	Sociology of Criminal Justice	3.00
SOCY 389	Gender, Law, and Crime	3.00
STAT 463	Fundamentals of Statistical Inference	3.00
STAT 464	Discrete Time Series Analysis	3.00
STAT 471	Sampling and Experimental Design	3.00
STAT 473	Generalized Linear Models	3.00
STAT 486	Survival Analysis	3.00