

Biology Articulation Committee Meeting, May 9 and 10, 2023

Articulation Representatives: Erin Barley
Data prepared by E. Kirkwood

Course additions:

BISC 327 Algal Biology
BISC 328 Fungal Biology and Ecology
BISC 433 Environmental Microbiology
BISC 447/MBB 447 Stem Cells – Current Trends
MBB 110 Data Analysis for Molecular Biology and Biochemistry

Temporarily withdrawn/deleted:

BISC 326 Algae and Fungi (courses affected: CMTN BIOL 203, LANG BIOL 2440, TWU BIOL 214, UBCO BIOL 209, UBCV BIOL 209)
BISC 406 Marine Biology
BISC 434 Palaeoecology and Palynology
BISC 435 Pest Management
BISC 439 Industrial Microbiology

Program changes

- Beginning Fall 2023, we have dropped a MATH and a PHYS from our program requirements so that students only need to complete MATH 154 and PHYS 101. This will provide students with more flexibility in the lower division, and will make it possible for them to choose lower division electives or to progress more quickly to the upper division BISC courses.

<http://www.sfu.ca/biology/people/faculty.html>

Retirement: Carl Lowenberger, Jenny Cory

Hiring: Marine Toxicology

Departmental Governance:

Departmental Chair: Tony Williams

Associate Chair: Julian Christians

Departmental Undergraduate Curriculum Chair: Erin Barley

Course # (credits)	Course Name	Text	Enrolment	Hours (/week)	Pre-requisites	Notes	Course Instructor(s) (2022/2023)
BISC 100 (4)	Introduction to Biology	Simon, Dickey & Reece. Campbell Essential Biology, 7 th ed.	45	3-1-3		B-Sci Non-majors	L. Bendell
BISC 101 (4)	General Biology	No required textbook. Recommended: Freeman, Harrington & Sharp. Biological Science, 3 rd ed.	923 (Burnaby) 133 (Surrey)	3-1-2	A&P 12 with C or better, or BISC 100 with C- or better or HSCI 100 with C+ or better or BISC 113 with C+ or better, CHEM 12	B-Sci Majors	M. Barker N. Haunerland K. Lam I. Mladenovic Z. Punja T. Williams Y. Dzal E. Pokrishevsky
BISC 102 (4)	General Biology	Freeman, Harrington & Sharp. Biological Science, 3 rd ed.	700 (Burnaby) 90 (Surrey)	2-1-3	A&P 12 with C or better, or BISC 100 or HSCI 100 with C+ or better or HSCI 100 with C+ or better	B-Sci Majors	E. Barley R. Mathewes I. Mladenovic Y. Dzal E. Pokrishevsky R. Ydenberg
BISC 113 (3)	Biology in Everyday Life	1	135	Distance Education		B-Sci, Non-majors	T. McMullan
BISC 202 (3)	Genetics	Klugg et al., Concepts of Genetics, 12 th edition, Pearson.	554 (in-person) 89 (online)	3-1-0	BISC 101 and 102		K. Lam I. Mladenovic
BISC 204 (3)	Introduction to Ecology	Ricklefs, Relyea. Ecology, The Economy of Nature, 7 th ed.	194	3-1-0	BISC 101 and 102		D. Green W. Palen

BISC 205 (3)	Principles of Physiology	Freeman, Harrington & Sharp. Biological Science, 3 rd ed.	202	3-1-0	BISC 101, BISC 102, PHYS 101		J. Christians J. Mattsson G. Rintoul
BISC 212 (3)	Biological Research		Not offered	2-0-4	Any two of first-year science courses with labs		
MBB 110	Data Analysis for Molecular Biology and Biochemistry	Jones. 2013. Python for Biologists. CreateSpace Independent Publishing Platform	46 (Spring 2023)	2-0-2	Math 12		S. Sneddon N. Cheng
MBB 201 (3)	Biochemistry of the Cell	Cell and Molecular Biology: Concepts and Experiments , 9th Ed., Karp, Gerald, et al. 2019. WileyPLUS standalone (digital only).	189	3-1-0	BISC 101, CHEM 281	For KIN majors	I. Northwood F. Pio S. Vlachos
MBB 222 (3)	Molecular Biology and Biochemistry	Miesfeld, Roger L. and Megan M. McEvoy, Biochemistry, 2 nd ed., 2021. W.W. Norton & Company.	552	3-1-0	Co-requisite CHEM 281		E. Young L. Craig I. Kovalyova
MBB 231 (3)	Cell Biology and Biochemistry	Cell and Molecular Biology: Concepts and Experiments , 9th Ed., Karp, Gerald, et al. 2019. Wiley.	429	3-1-0	BISC 101, MBB 222, CHEM 281, Co-requisite: CHEM 282		I. Northwood I. Kovalyova T. Audas
BISC 300	Evolution	Zimme, Emlen. Evolution, Making Sense of Life, 3 rd ed.	233	3-1-0	BISC 202 BISC 204 (recommended)		L. M'Gonigle A. Mooers E. Pokrishevsky R. Matthews

BISC 302W (3)	Genetic Analysis		69	2-0-4	BISC 202		K. Fitzpatrick
BISC 303 (4)	Microbiology	Willey, Sherwood and Wolverton, Prescott's Microbiology, 12 th ed.	153	2-0-6	BISC 102 and MBB 231		P. Hollmann J. Fowler J. Guttman
BISC 305 (3)	Animal Physiology		66		BISC 205 and MBB 231		I. Novales Flamarique
BISC 306 (4)	Invertebrate Biology	Pechenik, Biology of the Invertebrates, 7 th edition, 2015	59	3-0-3	BISC 101, BISC 102 and BISC 204		M. Hart
BISC 308 (3)	Environmental Toxicology: Ecological Perspectives		53	3-0-1	BISC 101, BISC 102 and BISC 204		V. Marlatt
BISC 309 (3)	Conservation Biology		57		BISC 101, 102 & 204		N. Dulvy
BISC 313	Environmental Toxicology: Mechanistic		62	3-1-0	BISC 101 and one of BISC 204, GEOG 215, or MBB 231; all with a grade of C- or better		C. Kennedy

BISC 316 (4)	Vertebrate Biology	Pough, F., C.M. Janis and J. Heiser. <u>Vertebrate Life</u> . Prentice Hall, New Jersey. 9 th Ed. De Iuliis and Pulera (2019). The Dissection of Vertebrates: A Laboratory Manual (3 rd edition), Academic Press.	83	3-0-4	BISC 101 and BISC 102		E. Barley T. McMullan
BISC 317 (3)	Insect Biology	Triplehorn and Johnson. Introduction to the Study of Insects, 7 th ed.	41	2-0-4	BISC 101 and BISC 102		G. Gries
BISC 318 (3)	Parasitology	Principles of Development. Wolpert and Tickle, 5th or 6th edition, 2015 (Oxford University Press)	38	3-0-3	BISC 101, 102 and 204 or HSCI 212 BISC 300 and 306 are recommended		T. McMullan
BISC 327 (4)	Algal Biology		Starts Fall 2023	3-0-3	BISC 101 and BISC 102		S. Bisgrove M. Meents
BISC 328 (4)	Fungal Biology and Ecology		Starts Fall 2024	2-0-3	BISC 101 and BISC 102		Z. Punja M. Meents
BISC 333 (3)	Developmental Biology		126	3-0-1	BISC 202, MBB 222, MBB 231		H. Hutter S. Bisgrove K. Fitzpatrick
BISC 337 (4)	Plant Biology	A Photographic Atlas for the Botany Laboratory, 7ed, by Samuel R. Rushforth, Robert R. Robbins, John L. Crawley, Kent M. VanDeGraaff	60	3-0-4	BISC 101 and BISC 102		M. Meents

BISC 357 (4)	Genetic Engineering		90	3-0-4	BISC 202, MBB 231		J. Mattsson K. Fitzpatrick P. Hollmann
BISC 360W (3)	Techniques in Ecology and Evolution		40	2-0-4	BISC 202, BISC 204, STAT 201		W. Palen I. Côté E. Barley
BISC 366 (3)	Plant Physiology		40	3-1-0	MBB 231		M. Meents
BISC 371	Biology for non-majors		94	3-1-0			E. Palsson
BISC 373 (3)	Brewing Science		57	3-0-0	45 units		Z. Punja
BISC 403(3)	Current Topics in Cell Biology		Not offered	3-1-0	MBB 231		M. Silverman
BISC 405(3)	Neurobiology	Neuroscience, 6th Edition. Purves and Augustine.	93	3-1-0	BISC 205/BPK205 and MBB 231		G. Rintoul N. Wicks
BISC 407	Population Dynamics	Otto, SP and Day, T, 2007. A Biologist's Guide to Mathematical Modeling in Ecology and Evolution. Mathematical software.	Not offered	3-1-0	BISC 204		L. M'Gonigle
BISC 410(3)	Behavioural Ecology	Davies, Krebs & West (2012). <i>An Introduction to Behavioural Ecology</i> , 4th Edition. Wiley	103	3-1-0	BISC 204		D. Green K. Lam

BISC 412(3)	Aquatic Ecology		not offered	2-0-4	BISC 204		J. Moore
BISC 413(3)	Fisheries Ecology		Not offered	3-1-0	BISC 204		J. Reynolds
BISC 414(3)	Limnology	Custom Courseware Package. 2022. Readings in Limnology. SFU Bookstore Wetzel, R.G., G.E. Likens. 2000. Limnological Analyses, Third Edition. Springer, New York (ISBN - 0387989285). Wetzel and Likens (2000) is available as an eBook. Additional readings drawn from the research literature and "classic texts" will be assigned through the term.	36	2-0-4	BISC 204		L. Lesack
BISC 420(3)	Community Ecology	Community Ecology (2019). Gary G. Mittelbach. Sinauer Associates	Not offered	3-1-0	BISC 204		D. Green
BISC 421(3)	Math Biology		Not offered	3-1-0	MATH 155		E. Palsson
BISC 422(3)	Population Genetics		Not offered	3-1-0	BISC 204		
BISC 423(3)	Developmental Neurobiology		Not offered	3-1-0	BISC 202, MBB 231		H. Hutter
BISC 424(3)	Applied Genomics		30	3-1-0	BISC 357 or MBB 331		J. Mattsson

BISC 425(3)	Sensory Biology		26	3-0-0	BISC 205, MBB 231		I. Novales Flamarique
BISC 428 (3)	Cell Anatomy		57	3-0-0	MBB 231		J. Guttman
BISC 430(3)	Microbe Plant Interactions		Not offered	3-0-0	BISC 303 or 326		Z. Punja
BISC 440W (3)	Biodiversity		18	2-0-4	BISC 204 and STAT 201		A. Mooers
BISC 441 (3)	Evolution of Health and Disease		40	3-0-0	BISC 202		B. Crespi
BISC 445 (3)	Environmental Physiology		Not offered	3-1-0	BISC 205, MBB 231 and BISC 316		J. Christians
BISC 455 (3)	Endocrinology		26	3-1-0	BISC 205, MBB 231 and one of BISC 306, BISC 316		T. Williams
BPK 408W (3)	Cellular Physiology Lab		72	1-0-4	One of BISC 305, BISC 445, BISC 455 or BPK 305, and STAT 201	Course shared with BPK	M. Barker (BISC) A. Becalska (BISC) N. Wicks (BPK)