Mathematics Flexible Pre-Major

Mathematics, Statistics and Computer Science Requirements in the first two years of Mathematics Major Programs at British Columbia Post-Secondary Institutions

While the courses indicated in this document are sufficient to meet program requirements at the referenced institutions, it should be noted that, at some institutions, program flexibility permits a slight variation in the choice of courses as listed. Students are strongly advised to consult on-line calendars or to contact departmental advisors at their chosen institution to obtain further information about alternate course options or about any 'strongly recommended' courses in any particular Mathematics Major program.

TABLE 1: Mathematics Flexible Pre-Major CORE Mathematics and Computer Science Courses

	UBC	UBCO	SFU	UVIC	UNBC	TRU	TWU	UFV	KPU	VIU
Calculus I	MATH 100	MATH 100	MATH 150 or 151	MATH 100 or 109	MATH 100	MATH 1140 or 1130	MATH 123	MATH 111	MATH 1120	MATH 121
Calculus II	MATH 101	MATH 101	MATH 152	MATH 101	MATH 101	MATH 1240 or 1230	MATH 124	MATH 112	MATH 1220	MATH 122
Calculus III	MATH 200	MATH 200	MATH 251	MATH 200	MATH 200	MATH 2110 or 2650	MATH 223	MATH 211	MATH 2321	MATH 221

Linear Algebra	MATH 221	MATH 221	MATH 240	MATH 110 or 211	MATH 220	MATH 2120 or 1300	MATH 250	MATH 221	MATH 2232	MATH 241
Discrete Math I			MACM 101		CPSC 141	MATH 1700	MATH 150		MATH 2410	MATH 123
ODE's	MATH 215	MATH 225	MATH 310		MATH 230			MATH 255	MATH 3421	MATH 251
Computer Science I	CPSC 110	COSC 111,121	CMPT 120	CSC 110	CPSC 100	COMP 1130	CMPT 140	COMP 152	CPSC 1103	CSCI 160
Computer Science II	CPSC 210		CMPT 129			COMP 1230	CMPT 166		CPSC 1204	CSCI 161

Notes:

1. Students at SFU must take one of Ordinary Differential Equations (310) and Numerical Analysis (MACM 316). These are used to satisfy upper-level requirements in the degree.

2. It should be carefully checked whether Computer Science courses transfer to UBC Vancouver – transfer credit is hard to get for UBC CPSC 110 or 210 or MATH 210, which form the computing prerequisites for a B.Sc. in Mathematics at UBC.

3. UVIC Logic and Foundations is an "Introduction to proofs" class. Sometimes Discrete Mathematics I courses receive transfer credit. Additionally, UVIC MATH 204 is Calculus IV. It includes a substantial amount of Ordinary Differential Equations. Students who transfer with Ordinary Differential Equations instead should experience no difficulties.

TABLE 2: **Mathematics Flexible Pre-Major ADDITIONAL Mathematics, Statistics, and Computer Science Courses Required by Specific Institutions**

INSTITUTION	ADDITIONAL COURSES
UBC Vancouver	Mathematical Proof (MATH 220), Software Construction (CPSC 210)
UBC Okanagan	Mathematical Proof (MATH 220), Statistics I (STAT 230)
Simon Fraser University	Introduction to Analysis (MATH 242), Discrete Mathematics II (MACM 201), Statistics I (STAT 270), Computing with Linear Algebra (MACM 203),Computing with Calculus (MACM 204)
University of Victoria	Logic and Foundations (MATH 122), Abstract Algebra (MATH 212), Discrete Mathematics II (MATH 222), Introduction to Real Analysis (MATH 236), Computer Assisted Math & Physics (MATH 248), Statistics I (STAT 260)
University of Northern British Columbia	Introduction to Complex Analysis (MATH 201), Foundations of Modern Mathematics (MATH 224)
Thompson Rivers University	Statistics I (STAT 2000) or Differential Equations 1 (MATH 2240), Introduction to Analysis (MATH 2200), Discrete Mathematics II (MATH 2700)
University of the Fraser Valley	Statistics I (MATH/STAT 270), Transition to Advanced Mathematics (MATH 265)
Kwantlen Polytechnic University	Probability and Statistics (MATH 2315)
Vancouver Island University	Statistics I (MATH 254), Discrete and Combinatorial Mathematics (MATH 223)
Trinity Western University	No additional courses

The schematic below lists by course number the **Additional** Mathematics, Statistics and Computer Science courses beyond the Core courses that are required at each of the BC Receiving institutions indicated. The course numbers at respective Receiving institutions are in parentheses.

<table>
<tr><th colspan="4">Recommended CORE plus ADDITIONAL Courses at Each Receiving Institution</th></tr>
<tr><td>UFV Additional
Statistics I (270)
Transition to Advanced Math (265)</td><td>UBC(O) Additional
Mathematical Proof (220)
Statistics I (230)</td><td>TWU Additional
(no additional courses)</td><td>KPU Additional
Probability and Statistics (2315)</td></tr>
<tr><td>SFU Additional
Introduction to Analysis (242)
Discrete Mathematics II (201)
Statistics I (270)
Computing with Linear Algebra (203)
Computing with Calculus (204)</td><td colspan="2">CORE Courses
Calculus I, II, III
Linear Algebra
Discrete Mathematics I
Ordinary Differential Equations
Computer Science I, II</td><td>UVic Additional
Logic and Foundations (122)
Abstract Algebra (212)
Discrete Mathematics II (222)
Intro to Real Analysis (236)
Computer Assisted Math & Physics (248)
Statistics I (260)</td></tr>
<tr><td>TRU Additional
Introduction to Analysis (2200)
Statistics I (2000) or Differential Equations 1 (2240)
Discrete Mathematics II (2700)</td><td>UBC(V) Additional
Mathematical Proof (220)
Computer Science
[Confirm that Core CPSC courses transfer to UBC]</td><td>VIU Additional
Statistics I (254)
Discrete and Combinatorial Mathematics (223)</td><td>UNBC Additional
Intro to Complex Analysis (201)
Foundations of Modern Mathematics (224)</td></tr>
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Last Update: October 2019