

## Data Science (BMath) Checklist

Terms	Calendar F2025	Terms	Calendar F2022, F2023
<b>Core</b>			
FWS	MATH 135, 145	FWS	MATH 135, 145
FWS	MATH 106, 136, 146	FWS	MATH 106, 136, 146
FWS	MATH 127, 137, 147	FWS	MATH 127, 137, 147
FWS	MATH 128, 138, 148	FWS	MATH 128, 138, 148
FWS	MATH 235, 245	FWS	MATH 235, 245
FWS	MATH 237, 247 <sup>7</sup>	FWS	MATH 237, 247 <sup>7</sup>
FWS	STAT 230, 240	FWS	STAT 230, 240
FWS	STAT 231, 241	FWS	STAT 231, 241
FWS	CS 115, 135, 145	FWS	CS 115, 135, 145
FWS	CS 116, 136, 146	FWS	CS 116, 136, 146
FWS	MATH 239 <sup>7</sup> , 249 <sup>7</sup>	FWS	MATH 239 <sup>7</sup> , 249 <sup>7</sup>
FWS	Communications Course <sup>1</sup>	FWS	Communications Course <sup>1</sup>
<b>Data Science Mandatory Courses</b>			
FW	CS 136L	FW	CS 136L
FWS	CS 240	FWS	CS 240
FWS	CS 241	FWS	CS 241
FWS	CS 245	FWS	CS 245
FWS	CS 246	FWS	CS 246
FWS	CS 251	FWS	CS 251
FWS	CS 341	FWS	CS 341
FWS	CS 348	FWS	CS 348
10	CS 431		
FWS	STAT 330 <sup>9</sup>	FWS	STAT 330 <sup>9</sup>
FWS	STAT 331 <sup>2</sup>	FWS	STAT 331 <sup>2</sup>
FWS	STAT 332 <sup>3</sup>	FWS	STAT 332 <sup>3</sup>
FWS	STAT 333 <sup>9</sup>	FWS	STAT 333 <sup>9</sup>
FW	STAT 341	FW	STAT 341
FWS	ENGL 378 <sup>4</sup>	FWS	ENGL 378 <sup>4</sup>
<b>Data Science Mandatory with Options</b>			
			<b>One Of...</b>
		10	CS 431
		10	CS 451
	<b>One Of...</b>		<b>One Of...</b>
10	CS 480	10	CS 480
10	CS 484		
10	CS 485	10	CS 485
10	CS 486	10	CS 486
FW	STAT 441	FW	STAT 441
			<b>Two Of...</b>
		10	CS 480
		10	CS 485
	<b>Two Of...</b>	10	CS 486
FWS	STAT 431	FWS	STAT 431
WS	STAT 440	WS	STAT 440
FW	STAT 441	FW	STAT 441
FW	STAT 442	FW	STAT 442
FWS	STAT 443	FWS	STAT 443
WS	STAT 444	WS	STAT 444
	<b>An additional</b>		<b>An additional</b>
	Math <sup>8</sup> 3XX/4XX		4 Total Math <sup>8</sup> 3XX/4XX in addition to your STAT 3XX/4XX courses - these can include CS 431, 341 and 348 but not CS 485/486 if you are using them as a STAT 4XX.
	<b>Thus minimums of...</b>		<b>Thus minimums of...</b>
	>=10 non math		>=10 non math
	>=26 math <sup>8</sup> courses <sup>6</sup>		>= 3 STAT 4XX <sup>5,6</sup>
	>=40 courses		>=26 math <sup>8</sup> courses <sup>6</sup>
			>=40 courses

<sup>1</sup>Please see [ugradcalendar.uwaterloo.ca](https://ugradcalendar.uwaterloo.ca) for a list of courses.

<sup>2</sup>STAT 331 can be replaced by STAT 371

<sup>3</sup>STAT 332 can be replaced by STAT 372.

<sup>4</sup>MTHEL 300

<sup>5</sup>One of these can be selected from: CS 457, 486, 485

<sup>6</sup>These can come from the "Mandatory with Options" section

<sup>7</sup>For core, in most plans, you need one of MATH 237, 239. In DS you need both.

<sup>8</sup>A MATH course is any course offered in the Faculty (i.e. CS, STAT, ACTSC, ...) except COMM or MTHEL

<sup>9</sup>STAT 334 is not an acceptable course for any STAT plan. Please take STAT 330, 333.

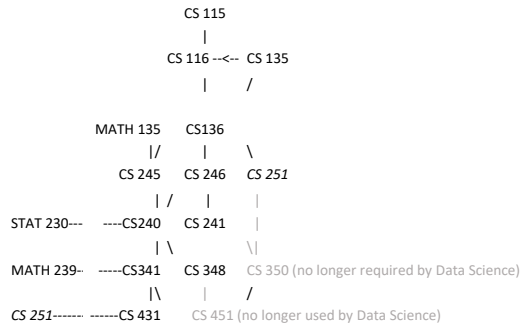
<sup>10</sup>For CS courses please see [https://cs.uwaterloo.ca/current/courses/course\\_descriptions](https://cs.uwaterloo.ca/current/courses/course_descriptions) for offerings

Please see [ugradcalendar.uwaterloo.ca](https://ugradcalendar.uwaterloo.ca) for a complete list of rules.

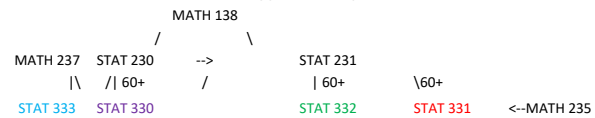
The undergraduate calendar is the official set of rules. Where this list and the undergraduate calendar deviate the undergraduate calendar takes precedence.

Some students would like a listing of all courses by term. Because each student is different, and the course order is so flexible, I have instead put diagrams up....

### Computer Science Courses



### Statistics Core 3XX Courses (typical) Requisites



### Other Statistics 3XX Courses (typical) Reqs

STAT 231	STAT 337
CS 116/36+STAT 230 (60+), STAT 231	STAT 340
MATH 237, STAT 230 (60+), STAT 231	STAT 341

### Which 4th Year Courses Should you Take?

Pre Requisites	STAT 4XX	Offered?	Sample Applications
STAT 331/71+332/72	STAT 430	FS	Everywhere
STAT 330+STAT 331/71	STAT 431	FWS	Everywhere
STAT 333	STAT 433	F	Probability
STAT 332/72	STAT 435	W	Industrial
STAT 431	STAT 436	W	Biostatistics
STAT 431	STAT 437	W	Biostatistics
STAT 431	STAT 438	W	Biostatistics
STAT 341 + STAT 330	STAT 440	WS	AI/Data Science
STAT 341 + STAT 331/71	STAT 441	FW	AI/Data Science
STAT 341 + STAT 331/71	STAT 442	FW	AI/Data Science
STAT 331/71 or SYDE334 (not STAT 321 nor STAT 373)	STAT 443	FWS	Everywhere
STAT 341 + STAT 331/71	STAT 444	WS	AI/Data Science
STAT 330	STAT 450	W	Grad School
STAT 332/72	STAT 454	W	Sampling
*	STAT 464	?	
*	STAT 466/7	?	
*	STAT 468/9	?	