Actuarial Science - Predictive Analytics Specialization

2023-2024 calendar

These sheets were created to help you plan your courses, not to provide an official list of your graduation requirements. It is ultimately your responsibility to ensure you meet your graduation requirements which are officially listed in the undergraduate calendar. For example, a mistake on this sheet cannot be used as a reason to araduate without meeting official requirements. See: https://ugradcalendar.uwaterloo.ca/page/MATH-AS-Predictive-Analytics-Specialization

grad	duate without meeting o		quirements. See: https://uqradcalendar.uwaterloo.ca	/page/MATH-AS-Predictive-Analy	tics-Specia	lization
	Course	Year/ Term	Торіс	Pre-reqs	Offering	Comments
1	CS 115/135/136	1A	CS Core I		FWS	
2	MATH 135/145	1A	Algebra		FWS	
3	MATH 137/147	1A	Calculus I		FWS	
4	Math English course	1A	Course from English Language Competency requirements list		FWS	
-	MTUEL 121	1	Tatus to Astronial Duration		514/0	≥60% Requried for admission to ACTSC
5	MTHEL 131 CS 116/136/146	1B	Intro to Actuarial Practice CS Core II	00.0	FWS FWS	
7				CS Core I		
	MATH 136/146	1B	Linear Algebra 1	≥60% in M135	FWS	* a few other options - see first year
8	MATH 138/148	1B	Calculus II	≥60% in M137	FWS	advisor if you have issues
9	ECON 101	1	Intro Microeconomics		FWS	
10	ECON 102	1/2	Intro Macroeconomics		FWS	
11	AFM 101	1	Introduction to Financial Accounting		FWS	
12	MATH 235/245	2A	Linear Algebra 2	≥60% in M136, Coreq M138	FWS	
13	MATH 237/247	2A	Calculus 3	M136, ≥ 60% M138	FWS	
14	STAT 230/240	2A	Probability	M137 >80% or M138	FWS	
15	ACTSC 231	2A	Introductory Financial Mathematics	M137, level 2A, Coreq S230	FWS	
16	AMATH 250/251/350	2	Intro to Diff Equations	M136, M138	FWS	
17	STAT 231/241	2B	Statistics	M138,S230	FWS	
10	ACTCC 222	20	Life Contingencies 1	≥60% in A231, >60% in MTHEL 131,	E 14/2	
18 19	ACTSC 232 ACTSC 372	2B 2/3	Life Contingencies 1 Investment Science and Corporate Finance	S.230 A231, M235, M237	FWS FWS	
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20	ACTSC 363	3A	Casualty and Health Insurance Mathematics 1	Coreq S330	FW	
21	ACTSC 331	3A	Life Contingencies 2	≥60% in A232	FWS	
22	STAT 330	3	Mathematical Statistics	M237, ≥60% in S230,S231	FWS	
23	STAT 331	3	Applied Linear Models	M235, ≥60% in S231	FWS	
24	STAT 333	3	Stochastic Processes 1	≥60% in S230/240, M237/247	FWS	
25	ENGL 378/MTHEL 300	3B/4	Professional Communications in Statistics and Actuarial Science	(A331 or S331),≥70% in EMLS 101R, 102R, EMLS/ENGL 129R, ENGL 109, SPCOM 100, 223	FWS	
26	CS 330	3/4	Management Information Systems	CS Core II, level 2B	FW	
27	STAT 341	3/4	Computational Statistics and Data Analysis	≥60% in S230,M237, S231	FW	STAT 340 is NOT accepted
28	ACTSC 431	4	Casualty and Health Insurance Mathematics 2	≥60% in A363, S330, S331/371	FS	*also likely offered in W terms
				A372, (S333 or 334)		
29	ACTSC 446	4	Mathematics of Financial Markets	A372, (3333 01 334)	FW	
30	STAT 431	4	Generalized Linear Models	\$330,(\$331 or \$371)	FWS	
31	STAT 441	4	Statistical Learning - Classificaiton	S341; S331	FW	
32	STAT 443	3/4	Forecasting	S331	FWS	
33	One of					
55	ACTSC 454	4	Longevity and Mortality using Predictive Analytics	A331,S330	W	Formerly ACTSC 433
	STAT 437	4	Statistical Methods for Life History Analysis	\$431	w	
		-		0401		
34	One of					
Ш	STAT 440	4	Computational Inference	\$330, \$341	WS	
Ш	STAT 442	4	Date Visualization	S341	FW	
Ш						
+	2 Additional 400 level A	ACTSC co	ourses If ACTSC 454 is used above as #33, then or	ly 1 Additional:		
Щ	ACTSC 423/AFM 423	4	Topics in Financial Econometrics	S331/371		
	ACTSC 432	4	Credibility and Risk Theory	A363, S330, S333	FS	
	ACTSC 445	4	Quantitative Enterprise Risk Management	A372, (S330 and 333 or 334)	FS	
	ACTSC 453	4	Basic Pensions Mathematics	A331	W (odd years)	
	ACTSC 455	4	Life Contingencies 3	≥60% in A331, co-req A446	w	
	ACTSC 489	4	Advanced Topics in Actuarial Science	varies	W (not certain)	
+	4 Additional non-math	courses				
+	If ACTSC 454 is used a	s course	#33, then 5th additional course is required to meet t	he 40 courses.		
\square	Students who want a	a double	major with Statistics must have STAT 332 and	a total of 3 STAT 4XX courses		
H	Total 40 course	es				
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For CIA Accreditation information: https://uwaterloo.ca/statistics-and-actuarial-science/current-undergraduate-students/canadian-institute-actuaries-cia-accreditation-society

Students wishing to be eligible for the ACIA Capstone Exam at the end of their degree must complete an ACTSC major, and also ensure they take STAT 341 and at least two of: STAT 431, 441, or 443.

Updated on: