



**DEGREE CHECKLIST
2024-2025**

**BACHELOR OF SCIENCE (BSc Specialized Honours) EARTH & ATMOSPHERIC SCIENCE
Space Science Stream**

NAME

STUDENT #

Students are strongly advised to refer to online Academic Calendars before enrolling into courses:
<https://calendars.students.yorku.ca/academic-calendar#/programs>

		COURSES		CREDITS EARNED	GRADE
First Year Courses					
	<input type="checkbox"/>	LE/EECS 1028 3.00 or LE/EECS 1530 3.00	Discrete Mathematics for Engineers or Computer Use: Programming		
	<input type="checkbox"/>	SC/CHEM 1000 3.00 or SC/CHEM 1001 3.00	Chemical Structure or Chemical Dynamics		
	<input type="checkbox"/>	LE/ESSE 1010 3.00	The Dynamic Earth and Space Geodesy		
	<input type="checkbox"/>	LE/ESSE 1011 3.00	Introduction to Atmospheric Science		
	<input type="checkbox"/>	SC/MATH 1013 3.00	Applied Calculus I		
Prerequisite: SC/MATH 1013 3.00	<input type="checkbox"/>	SC/MATH 1014 3.00	Applied Calculus II		
	<input type="checkbox"/>	SC/MATH 1025 3.00	Applied Linear Algebra		
	<input type="checkbox"/>	SC/PHYS 1070 3.00	Astronomy		
	<input type="checkbox"/>	SC/PHYS 1011 3.00	Physics I		
Prerequisite: SC/PHYS 1011 3.00	<input type="checkbox"/>	SC/PHYS 1012 3.00	Physics II		

For transfer credit students, the following are acceptable substitutes for the foundational science (SC/PHYS 1011 3.00 and SC/PHYS 1012 3.00) requirement:

SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00; or SC/ISCI 1310 6.00; or SC/ISCI 1301 3.00 and SC/ISCI 1302 3.00; or any of the following with a minimum grade of C in each course: SC/PHYS 1410 6.00; SC/PHYS 1420 6.00; SC/PHYS 1411 3.00 and SC/PHYS 1412 3.00; SC/PHYS 1421 3.00 and SC/PHYS 1422 3.00.

Second Year Courses					
	<input type="checkbox"/>	LE/EECS 2501 1.00	Fortran and Scientific Computing		
	<input type="checkbox"/>	LE/ESSE 2030 3.00	Planetary Geophysics		
	<input type="checkbox"/>	LE/ESSE 2470 3.00	Introduction to Continuum Mechanics		
	<input type="checkbox"/>	SC/MATH 2015 3.00	Applied Multivariate & Vector Calculus		
	<input type="checkbox"/>	SC/MATH 2271 3.00	Differential Equations for Scientists and Engineers		
	<input type="checkbox"/>	SC/PHYS 2010 3.00	Classical Mechanics		
	<input type="checkbox"/>	SC/PHYS 2020 3.00	Electricity and Magnetism		
	<input type="checkbox"/>	SC/PHYS 2030 3.00	Computational Methods for Physicists and Engineers		
	<input type="checkbox"/>	SC/PHYS 2040 3.00	Relativity and Modern Physics		
	<input type="checkbox"/>	SC/PHYS 2060 3.00	Optics and Spectra		
	<input type="checkbox"/>	SC/PHYS 2213 3.00	Experimental Physics with Data Analysis		

Students interested in space astronomy and space exploration should contact the Department of Physics and Astronomy in the Faculty of Science.

Notes

			COURSES	CREDITS EARNED	GRADE
Third Year Courses					
	<input type="checkbox"/>	LE/ESSE 3030 3.00	Atmospheric Radiation and Thermodynamics		
	<input type="checkbox"/>	LE/ESSE 3040 3.00	Atmospheric Dynamics I		
	<input type="checkbox"/>	LE/ESSE 3280 3.00	Physics of the Space Environment		
	<input type="checkbox"/>	LE/ESSE 3600 3.00	Geographical Information Systems (GIS) and Spatial Analysis		
	<input type="checkbox"/>	LE/ESSE 3610 3.00	Geodetic Concepts		
	<input type="checkbox"/>	SC/MATH 3241 3.00	Numerical Methods I		
	<input type="checkbox"/>	SC/MATH 3271 3.00	Partial Differential Equations		
Non-Science Requirement (3.00 credits)	<input type="checkbox"/>				
Non-Science Requirement (3.00 credits)	<input type="checkbox"/>				
Non-Science Requirement (3.00 credits)	<input type="checkbox"/>				
Fourth Year Courses					
	<input type="checkbox"/>	LE/ESSE 4020 3.00	Time Series and Spectral Analysis		
	<input type="checkbox"/>	LE/ESSE 4220 3.00	Remote Sensing of the Earth's Surface		
	<input type="checkbox"/>	LE/ESSE 4230 3.00	Remote Sensing of the Atmosphere		
	<input type="checkbox"/>	LE/ESSE 4361 3.00	Space Mission Design		
At least 15 credits from: LE/ESSE 3670 3.00; LE/ESSE 4000 3.00; LE/ESSE 4130 3.00; LE/ESSE 4140 3.00; LE/ESSE 4160 3.00; LE/ESSE 4630 3.00; LE/ESSE 4110 3.00; SC/PHYS 4330 3.00; LE/ESSE 4360 3.00.	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				
Non-Science Requirement (3.00 credits)	<input type="checkbox"/>				
Notes					
<p>A. General Education Requirement: non-science requirement: 12 credits from the approved list of courses and subject areas in your Academic Calendar; mathematics: SC/MATH 1013 3.00; SC/MATH 1014 3.00; computer science: LE/EECS 1541 3.00; foundational science: SC/PHYS 1010 6.00, or both of: SC/PHYS 1011 3.00 and SC/PHYS 1012 3.00.</p> <p>B. Major Requirements As specified above.</p> <p>C. Science Breadth: Satisfied by above requirements</p> <p>D. Upper Level Requirement: Satisfied by above requirements</p> <p>E. Additional elective credits, as required, for an overall total of 120 credits</p>					
TOTAL CGPA (minimum cumulative GPA of 5.00 (C+) required to graduate with an Honours degree)					
Participation in Co-op is highly recommended, but is not a degree requirement.					
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