



**DEGREE CHECKLIST
2021-2022**

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

NAME

STUDENT #

Students are strongly advised to refer to online Academic Calendars before enrolling into courses: <http://calendars.registrar.yorku.ca/>

				COURSES	CREDITS EARNED	GRADE
				First Year Courses		
	<input type="checkbox"/>	LE/EECS 1541 3.00 or LE/EECS 1011 3.00	Introduction to Computing for the Physical Sciences or Computational Thinking through Mechatronics			
	<input type="checkbox"/>	SC/CHEM 1000 3.00 or SC/CHEM 1001 3.00	Chemical Structure or Chemical Dynamics			
In lieu of LE/ESSE 1010 3.00, may complete LE/ESSE 1012 3.00 E-mail ask@lassonde.yorku.ca for enrolment permission.	<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			
	<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			
	<input type="checkbox"/>	SC/PHYS 1012 3.00	Physics II			

Note: For students transferring into the EATS program, the following are acceptable substitutes for the 6 credit foundational science (physics) 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	Geophysics and Space Science			
	<input type="checkbox"/>	LE/ESSE 2470 3.00 or LE/CIVL 2210 3.00	Introduction to Continuum Mechanics or Fluid 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.

		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		
3.00 Credits - Non-Science Requirement	<input type="checkbox"/>				
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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 15.00 credits from: LE/ESSE 3670 3.00, LE/ESSE 4000 3.00, LE/ESSE 4110 3.00, LE/ESSE 4130 3.00, LE/ESSE 4140 3.00, LE/ESSE 4160 3.00, LE/ESSE 4360 3.00, LE/ESSE 4630 3.00, SC/PHYS 4330 3.00	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				
3.00 Credits - Non-Science Requirement	<input type="checkbox"/>				
<p>A. General Education Requirement: <i>non-science requirement:</i> 12 credits from the approved list of courses and subject areas in your Academic Calendar; <i>mathematics:</i> SC/MATH 1013 3.00; SC/MATH 1014 3.00; <i>computer science:</i> LE/EECS 1011 3.00 or LE/EECS 1541 3.00; <i>foundational science:</i> SC/PHYS 1011 3.0 and SC/PHYS 1012 3.0 (see approved course substitutes for transfer students);</p> <p>B. Major Requirements the EATS program core, as specified above (19 credits);</p> <p>C. Science breadth: Science breadth: satisfied by above requirements.</p> <p>D. Upper level requirement: A minimum of 42 credits at the 3000 level or higher.</p> <p>E. Additional elective credits, as required, for an overall total of 120 credits.</p> <p>F. Standing requirements: a minimum cumulative credit-weighted grade point average of 5.00 (C+) over all courses completed.</p>					
<p>Note: Alternatively the first year engineering core would be an acceptable substitute for the first year courses.</p>					
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