



**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/>

				<b>COURSES</b>	<b>CREDITS EARNED</b>	<b>GRADE</b>
				<b>First Year Courses</b>		
	<input type="checkbox"/>	LE/EECS 1541 3.00 or LE/EECS 1011 3.00	Introduction to Computing for the Physical Sciences <i>or</i> Computational Thinking through Mechatronics			
	<input type="checkbox"/>	SC/CHEM 1000 3.00 <i>or</i> SC/CHEM 1001 3.00	Chemical Structure <i>or</i> 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			
<p><b>Note:</b> 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.</p>						
				<b>Second Year Courses</b>		
	<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 <i>or</i> LE/CIVL 2210 3.00	Introduction to Continuum Mechanics <i>or</i> 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			
<p>Students interested in space astronomy and space exploration should contact the Department of Physics and Astronomy in the Faculty of Science.</p>						

			COURSES	CREDITS EARNED	GRADE
<b>Third Year Courses</b>					
	<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		
<b>3.00 Credits - Non-Science Requirement</b>	<input type="checkbox"/>				
<b>3.00 Credits - Non-Science Requirement</b>	<input type="checkbox"/>				
<b>3.00 Credits - Non-Science Requirement</b>	<input type="checkbox"/>				
<b>Fourth Year Courses</b>					
	<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		
<b>At least 15.00 credits from:</b> 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"/>				
<b>3.00 Credits - Non-Science Requirement</b>	<input type="checkbox"/>				
<p><b>A. General Education Requirement:</b>  <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>B. Major Requirements</b> the EATS program core, as specified above (19 credits);</p> <p><b>C. Science breadth:</b>            Science breadth: satisfied by above requirements.</p> <p><b>D. Upper level requirement:</b>            A minimum of 42 credits at the 3000 level or higher.</p> <p><b>E. Additional elective credits, as required,</b> for an overall total of 120 credits.</p> <p><b>F. Standing requirements:</b> a minimum cumulative credit-weighted grade point average of 5.00 (C+) over all courses completed.</p>					
<p>All Honours BSc degree candidates are encouraged to complete a non-credit industrial internship (normally salaried). This provides experience in a four-month to 12-month placement, normally after the third year of study.</p>					
<p>Note: Alternatively the first year engineering core would be an acceptable substitute for the first year courses.</p>					
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