



**DEGREE CHECKLIST
2019-2020**

**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 1012 3.00 Net-centric Introduction to Computing		
	<input type="checkbox"/> SC/CHEM 1000 3.00 or SC/CHEM 1001 3.00 Chemical Structure <i>or</i> 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		
	<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 1010 6.00 Physics		
	<input type="checkbox"/> SC/PHYS 1070 3.00 Astronomy		
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 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		
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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		
9 credits of Non-Science (or Electives)	<input type="checkbox"/>			
	<input type="checkbox"/>			
	<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"/>	SC/PHYS 4361 3.00 Space Mission Design		
At least 15 credits from: LE/ESSE 4000 3.00, LE/ESSE 4130 3.00, LE/ESSE 4140 3.00, LE/ESSE 4160 3.00, LE/ESSE 4610 3.00, LE/ESSE 4630 3.00; LE/ESSE 4110 3.00, SC/PHYS 4330 3.00, SC/PHYS 4360 3.00	<input type="checkbox"/>			
	<input type="checkbox"/>			
	<input type="checkbox"/>			
	<input type="checkbox"/>			
	<input type="checkbox"/>			
3 credits of Non-Science (or Electives)	<input type="checkbox"/>			
<p>A. General Education Requirement: <i>non-science requirement: 12 credits;</i> <i>mathematics: SC/MATH 1013 3.00; SC/MATH 1014 3.00;</i> <i>computer science: LE/EECS 1012 3.00</i> <i>foundational science: SC/PHYS 1010 6.00 ; and one of SC/CHEM 1000 3.00 OR SC/CHEM 1001 3.00.</i></p> <p>B. Major Requirements: the space science program core as specified above;</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>				
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.				
Note: alternatively the first year engineering core would be an acceptable substitute for the first year courses.				
TOTAL CREDITS & CGPA (minimum overall GPA of 5.00 required to graduate in a BSc Honours program)				
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