

# ASTRONOMY, MSc

**Department Website:** <https://smu.ca/academics/departments/astronomy-and-physics.html>

Saint Mary's University is the major centre for astronomical and astrophysical research in Atlantic Canada. It offers degree programs leading to the M.Sc. (Astronomy) and to the Ph.D. (Astronomy).

The Master Program offers both a thesis and a no-thesis option, and is normally of two years duration.

Before starting the second year of study, a student may apply to enter the PhD in Astronomy Program. Applications will be subject to approval by the Department and the Dean of the FGSR. If approved, the student does not take the M.Sc. thesis course, and no M.Sc. degree is conferred. On the start of the second year, the student would enter the first year of the Ph.D. program.

## Admission Requirements

The M.Sc. and Ph.D. in Astronomy programs follow the general admission requirements (<https://smu-ca-public.courseleaf.com/graduate/academic-regulations/admissions/>) and procedures of the Faculty of Graduate Studies and Research as outlined in the Graduate Studies Academic Calendar with the following additional requirements and procedures.

All students entering the Astronomy graduate program require a B.Sc. or equivalent, in Astronomy, Mathematics, or Physics. Students with a B.Sc. or equivalent intending to pursue a Ph.D. enter the Astronomy graduate program at the M.Sc. level. Students with an M.Sc. may enter the Astronomy graduate program at the Ph.D. level, and may be given course transfer credits for equivalent Saint Mary's University graduate level astronomy courses taken elsewhere.

Applications to the Astronomy graduate programs can be made at any time of the year. Highest priority for fall admission will be given to applications received by February 1<sup>st</sup> of the preceding winter. Applications may be obtained at <http://www.smu.ca/academics/apply-to-grad-studies.html>. Prospective students who are in doubt about their qualifications should contact the graduate coordinator: [astrogc@ap.smu.ca](mailto:astrogc@ap.smu.ca).

Students may apply for full-time or part-time status. Under special circumstances and subject to department approval, new or existing students may enrol in the program on a part-time basis. Admission and degree requirements for part-time students are the same as for full-time students, but part-time students are not guaranteed full financial support.

In addition, a B.Sc. (HONS) or equivalent in Astronomy, Physics or a related field, with a Grade Point Average (GPA) of 3.00 (B) or higher out of 4.3 is normally required for admission into the program.

### Financial Support

Full-time students admitted to the program may be eligible for funding administered by Saint Mary's University. Funding recommendations are made by the program. All successful applicants are automatically considered for graduate funding. Students are encouraged to apply for external scholarships.

## Program Requirements

Students take thirty-six (36) credit hours, eighteen (18) credit hours per year for full-time students. For credit towards the degree, a student must attain a course grade of B- (2.67 GP) or better. A student must attain a GPA, excluding Graduate Seminar I, Research Project I and Research Project II courses, of at least 3.00 (B) in the first year of course work to continue into the second year of study. A student's GPA over all courses satisfying degree requirements must be at least 3.00 (B) to be eligible for graduation.

## Thesis Option

**Note: Students not registered in any course work but working on their thesis must register in Prog Registration/Continuation (FGSR 9000) for every semester (including summer) in which they are in their graduate program.**

Code	Title	Credit Hours
<b>Required Courses</b>		
ASTR 5900	Graduate Seminar I <sup>1</sup>	3
ASTR 6900	Graduate Seminar II <sup>2</sup>	3
ASTR 5980	Research Project I <sup>3</sup>	3
ASTR 5981	Research Project II <sup>3</sup>	3
ASTR 6990	Master of Science Thesis <sup>2</sup>	6
<b>Core Courses</b>		
Select at least four of the following Core Courses:		12
ASTR 5500	Galactic Astronomy	
ASTR 5510	Extragalactic Astronomy	
ASTR 5600	Cosmology	
ASTR 5610	High-energy Astrophysics	
ASTR 5617	Stellar Astrophysics	
ASTR 5620	Astrophysical Data Analytics	
<b>Additional Courses</b>		
Select two ASTR courses numbered 5000 or above <sup>4</sup>		6
<b>Total Credit Hours</b>		<b>36</b>

1

Taken during the first year

2

Taken during the second year

3

Normally by the end of the first year. They may be taken together in the same semester.

4

(But excluding the Research Project, Graduate Seminar and Thesis courses.) Graduate level courses in related disciplines, subject to University regulations on transfer credits for off-campus courses and approval of the graduate coordinator and the student's supervisor, may be taken in substitution for the two other courses.

The thesis is prepared under the supervision of a faculty supervisor and consists of original research performed by the student on a topic chosen and defined by the student and faculty supervisor. When complete, the student defends their thesis in front of a Thesis Defense Committee normally scheduled near the end of the second year of study. The M.Sc. defense consists of a brief presentation by the student to the academic

community followed by an in camera oral examination with the Thesis Defense Committee.