

# ASTRONOMY - MASTER OF SCIENCE

## Year A

### A Suggested Plan of Study For Students

A typical roadmap for the Masters Thesis track program, including course and credit-hour minimum requirements, is summarized in the following table. Note there is some flexibility for each of these components, so students should confirm all their selections directly with their advisor. Most regular graduate courses (501-597, 601-699) are offered on a 2 year rotation. So specific courses will depend on whether a student is on a year A or Year B cycle. ASTR 503 Fundamentals of Astrophysics is offered each fall and should be taken by all students in their first year only. Students may opt for up to 2 courses (6 credits) from outside the department (See Course Requirements). ASTR 598 Special Research Programs and ASTR 599 Master's Thesis are offered every semester, as one-on-one research credits with an advisor.

For a student on wishing to pursue a Master Coursework-only track, they may substitute the 6 credits of 599 credits for any of the regular Yr A or Yr B courses

#### First Year

Fall		Credits
ASTR 500	Seminar <sup>1</sup>	1
ASTR 503	Fundamentals of Astrophysics	3
Choose two courses from the following:		6
ASTR 535	Observational Techniques	
ASTR 565	Stellar Interiors	
ASTR 605	Interstellar Medium	
<b>Credits</b>		<b>10</b>

#### Spring

ASTR 500	Seminar <sup>1</sup>	1
Choose three courses from the following		9
ASTR 621	Planetary System Formation	
ASTR 630	Statistical and Numerical Methods in Astrophysics	
ASTR 670	Heliophysics, Space Plasmas, and Space Weather	
<b>Credits</b>		<b>10</b>

#### Second Year

Fall		Credits
ASTR 500	Seminar <sup>1</sup>	1
Choose one from the following: <sup>2</sup>		3
ASTR 555	Galaxies I	
ASTR 620	Planetary Processes	
ASTR 698	Special Topics.	
Research Programs Course <sup>2</sup>		0-3
ASTR 598	Special Research Programs <sup>2</sup>	
ASTR 599	Master's Thesis <sup>3,4</sup>	3
<b>Credits</b>		<b>7-10</b>

#### Spring

ASTR 599	Master's Thesis <sup>3,4</sup>	3-9
Choose one from the following:		3
ASTR 506	Dynamics and Hydrodynamics	
ASTR 545	Stellar Spectroscopy	

ASTR 616	Galaxies II	
Research Programs Course <sup>2</sup>		0-3
ASTR 598	Special Research Programs <sup>2</sup>	
<b>Credits</b>		<b>6-15</b>
<b>Total Credits</b>		<b>33-45</b>

- <sup>1</sup> Students must take ASTR 500 Seminar as 1-credit in each of their first 3 semesters, for a total of 3 credits over 2 years
- <sup>2</sup> Students must take ASTR 598 Special Research Programs for 3 credits during fall of Yr2 or spring of Yr2.
- <sup>3</sup> Students on a Thesis track must take 6 total credits of ASTR 599 Master's Thesis in Yr 2. Students on a coursework-only track may substitute any 6 credits of regular Yr2 course in place of 599 credits
- <sup>4</sup> Students on a Thesis track who have completed 10 credits in each of their first 3 semesters, including 3 ASTR 598 Special Research Programs and 3 ASTR 599 Master's Thesis in fall of Yr2 only require 3 credits of ASTR 599 in spring of Yr2 in order to meet minimum requirements as detailed in Course Requirements above. Students on a Coursework-only track who have completed 10 credits in each of their first 3 semester, including 3 ASTR 598, only require 3 more regular course credits in spring of Yr2. However graduate students must enroll in 9 credits each semester in order to remain full time and retain eligibility for an GA. For students in their final semester of dissertation writing, it is possible to petition the Graduate School for permission to enroll in fewer credits, for that one semester only, to reduce tuition expenses. For students who do not complete their Masters in 2 years, they should continue to enroll in ASTR 599 in future semesters.

## Year B

### A Suggested Plan of Study For Students

A typical roadmap for the Masters Thesis track program, including course and credit-hour minimum requirements, is summarized in the following table. Note there is some flexibility for each of these components, so students should confirm all their selections directly with their advisor. Most regular graduate courses (501-597, 601-699) are offered on a 2 year rotation. So specific courses will depend on whether a student is on a year A or Year B cycle. ASTR 503 Fundamentals of Astrophysics is offered each fall and should be taken by all students in their first year only. Students may opt for up to 2 courses (6 credits) from outside the department (See Course Requirements). ASTR 598 Special Research Programs and ASTR 599 Master's Thesis are offered every semester, as one-on-one research credits with an advisor.

For a student on wishing to pursue a Master Coursework-only track, they may substitute the 6 credits of 599 credits for any of the regular Yr A or Yr B courses

#### First Year

Fall		Credits
ASTR 500	Seminar <sup>1</sup>	1
ASTR 503	Fundamentals of Astrophysics	3
Choose two courses from the following:		6
ASTR 555	Galaxies I	
ASTR 620	Planetary Processes	
ASTR 698	Special Topics.	
<b>Credits</b>		<b>10</b>

#### Spring

ASTR 500	Seminar <sup>1</sup>	1
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Choose three from the following:	9
ASTR 506      Dynamics and Hydrodynamics	
ASTR 545      Stellar Spectroscopy	
ASTR 616      Galaxies II	
<b>Credits</b>	<b>10</b>

**Second Year**

**Fall**

ASTR 500      Seminar <sup>1</sup>	1
Choose one from the following: <sup>2</sup>	3
ASTR 535      Observational Techniques	
ASTR 565      Stellar Interiors	
ASTR 605      Interstellar Medium	
Research Programs Course <sup>2</sup>	0-3
ASTR 598      Special Research Programs	
ASTR 599      Master's Thesis <sup>3,4</sup>	3
<b>Credits</b>	<b>7-10</b>

**Spring**

ASTR 599      Master's Thesis <sup>3,4</sup>	3
Choose one from the following:	3
ASTR 621      Planetary System Formation	
ASTR 630      Statistical and Numerical Methods in Astrophysics	
Research Programs Course <sup>2</sup>	0-3
ASTR 598      Special Research Programs	
<b>Credits</b>	<b>6-9</b>
<b>Total Credits</b>	<b>33-39</b>

<sup>1</sup> Students must take ASTR 500 Seminar as 1-credit in each of their first 3 semesters, for a total of 3 credits over 2 years

<sup>2</sup> Students must take ASTR 598 Special Research Programs for 3 credits during fall of Yr2 or spring of Yr2.

<sup>3</sup> Students on a Thesis track must take 6 total credits of ASTR 599 Master's Thesis in Yr 2. Students on a coursework-only track may substitute any 6 credits of regular Yr2 course in place of 599 credits

<sup>4</sup> Students on a Thesis track who have completed 10 credits in each of their first 3 semesters, including 3 ASTR 598 Special Research Programs and 3 ASTR 599 Master's Thesis in fall of Yr2 only require 3 credits of ASTR 599 in spring of Yr2 in order to meet minimum requirements as detailed in Course Requirements above. Students on a Coursework-only track who have completed 10 credits in each of their first 3 semester, including 3 ASTR 598, only require 3 more regular course credits in spring of Yr2. However graduate students must enroll in 9 credits each semester in order to remain full time and retain eligibility for an GA. For students in their final semester of dissertation writing, it is possible to petition the Graduate School for permission to enroll in fewer credits, for that one semester only, to reduce tuition expenses. For students who do not complete their Masters in 2 years, they should continue to enroll in ASTR 599 in future semesters.