

# ASTRONOMY - DOCTOR OF PHILOSOPHY

## Year A

### A Suggested Plan of Study For Students

A typical roadmap for the PhD program, including course and credit-hour minimum requirements, towards completion of the Ph.D. program are 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, ASTR 600 Pre-dissertation Research and ASTR 700 Doctoral Dissertation are offered every semester, as one-on-one research credits with an advisor

First Year		Credits
<b>Fall</b>		
ASTR 500	Seminar <sup>1</sup>	1
ASTR 503	Fundamentals of Astrophysics	3
Choose two from the following:		6
ASTR 535	Observational Techniques	
ASTR 565	Stellar Interiors	
ASTR 605	Interstellar Medium	
<b>Credits</b>		<b>10</b>
<b>Spring</b>		
ASTR 500	Seminar <sup>1</sup>	1
Choose three from the following:		9
ASTR 621	Planetary System Formation	
ASTR 630	Advanced Methods in Astrophysics	
ASTR 670	Heliophysics, Space Plasmas, and Space Weather	
<b>Credits</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
ASTR 500	Seminar <sup>1</sup>	1
Choose three of the following <sup>2</sup>		9
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>	
<b>Credits</b>		<b>10-13</b>
<b>Spring</b>		
ASTR 500	Seminar <sup>1</sup>	1
Choose three of the following: <sup>2</sup>		9
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>10-13</b>

<b>Third Year</b>		
<b>Fall</b>		
ASTR 600	Pre-dissertation Research <sup>3</sup>	6-9
ASTR 698	Special Topics. <sup>5</sup>	1
<b>Credits</b>		<b>7-10</b>
<b>Spring</b>		
ASTR 600 or ASTR 700	Pre-dissertation Research <sup>4</sup> or Doctoral Dissertation	6-9
<b>Credits</b>		<b>6-9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
ASTR 700	Doctoral Dissertation <sup>4</sup>	3-9
<b>Credits</b>		<b>3-9</b>
<b>Spring</b>		
ASTR 700	Doctoral Dissertation <sup>4</sup>	3-9
<b>Credits</b>		<b>3-9</b>
<b>Fifth Year</b>		
<b>Fall</b>		
ASTR 700 <sup>4</sup>		3-9
<b>Credits</b>		<b>3-9</b>
<b>Spring</b>		
ASTR 700 <sup>4</sup>		3-9
<b>Credits</b>		<b>3-9</b>
<b>Sixth Year</b>		
<b>Fall</b>		
ASTR 700 as required to complete the PhD <sup>6</sup>		-
<b>Credits</b>		<b>0</b>
<b>Spring</b>		
ASTR 700 as required to complete the PhD <sup>6</sup>		-
<b>Credits</b>		<b>0</b>
<b>Total Credits</b>		<b>65-101</b>

<sup>1</sup> Students **must** take ASTR 500 Seminar as 1-credit in each of their first 4 semesters, for a total of 4 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 **must** continue taking ASTR 600 Pre-dissertation Research until they have completed their Comprehensive Exam. Once a student had completed their Comprehensive Exam, they should start taking ASTR 700 Doctoral Dissertation the following semester. The **minimum total number** of ASTR 600 Pre-dissertation Research credits for Course Requirements is 6, but students must enroll in 9 credits each semester in order to remain full time and retain eligibility for an GA. Usually students will take 8 ASTR 600 Pre-dissertation Research and 1 ASTR 698 Special Topics. in Fall of Yr 3.

<sup>4</sup> Assumes a student has completed their Comprehensive Exam - see footnote 3. The minimum number of ASTR 700 Doctoral Dissertation credits for Course Requirements is 18, but students must enroll in 9 credits each semester in order to remain full time and retain eligibility for an GA.

<sup>5</sup> ASTR 698 Special Topics. in Yr 3 Fall is a 1-credit Thesis Preparation class for all students who are also taking ASTR 600 Pre-dissertation Research that semester

<sup>6</sup> For students who do not complete their PhD in 5 years, they must continue to enroll in 9 credits of ASTR 700 Doctoral Dissertation 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.

## Year B

### A Suggested Plan of Study For Students

A typical roadmap for the PhD program, including course and credit-hour minimum requirements, towards completion of the Ph.D. program are 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. ASTR503 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, 600 and 700 are offered every semester, as one-on-one research credits with an advisor

First Year		
<b>Fall</b>		
ASTR 500	Seminar <sup>1</sup>	1
ASTR 503	Fundamentals of Astrophysics	3
Choose two from the following:		6
ASTR 555	Galaxies I	
ASTR 620	Planetary Processes	
ASTR 698	Special Topics.	
<b>Credits</b>		<b>10</b>
<b>Spring</b>		
ASTR 500	Seminar <sup>1</sup>	1
Choose three from the following:		9
ASTR 506	Dynamics and Hydrodynamics	
ASTR 545	Stellar Spectroscopy	
ASTR 616	Galaxies II	
ASTR 598	Special Research Programs	
<b>Credits</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
ASTR 500	Seminar <sup>1</sup>	1
ASTR 555	Galaxies I	-
Choose three from the following:		9
ASTR 535	Observational Techniques	
ASTR 565	Stellar Interiors	
ASTR 605	Interstellar Medium	
ASTR 598	Special Research Programs <sup>1</sup>	3
<b>Credits</b>		<b>13</b>
<b>Spring</b>		
ASTR 500	Seminar <sup>1</sup>	1
Choose two from the following: <sup>2</sup>		6
ASTR 621	Planetary System Formation	
ASTR 630	Advanced Methods in Astrophysics	
ASTR 670	Heliophysics, Space Plasmas, and Space Weather	
ASTR 598	Special Research Programs	1-6
<b>Credits</b>		<b>8-13</b>
<b>Third Year</b>		
<b>Fall</b>		
ASTR 600	Pre-dissertation Research <sup>3</sup>	6-9

ASTR 698	Special Topics.	1
<b>Credits</b>		<b>7-10</b>
<b>Spring</b>		
ASTR 700 or ASTR 600	Doctoral Dissertation <sup>4</sup> or Pre-dissertation Research	6-9
<b>Credits</b>		<b>6-9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
ASTR 700	Doctoral Dissertation <sup>4</sup>	3-9
<b>Credits</b>		<b>3-9</b>
<b>Spring</b>		
ASTR 700	Doctoral Dissertation <sup>4</sup>	3-9
<b>Credits</b>		<b>3-9</b>
<b>Fifth Year</b>		
<b>Fall</b>		
ASTR 700	Doctoral Dissertation <sup>4</sup>	3-9
<b>Credits</b>		<b>3-9</b>
<b>Spring</b>		
ASTR 700	Doctoral Dissertation <sup>4</sup>	3-9
<b>Credits</b>		<b>3-9</b>
<b>Sixth Year</b>		
<b>Fall</b>		
ASTR 700 as required to complete the PhD <sup>6</sup>		-
<b>Credits</b>		<b>0</b>
<b>Spring</b>		
ASTR 700 as required to complete the PhD <sup>6</sup>		-
<b>Credits</b>		<b>0</b>
<b>Total Credits</b>		<b>66-101</b>

- <sup>1</sup> Students **must** take ASTR 500 Seminar as 1-credit in each of their first 4 semesters, for a total of 4 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 **must** continue taking ASTR 600 Pre-dissertation Research until they have completed their Comprehensive Exam. Once a student had completed their Comprehensive Exam, they should start taking ASTR 700 Doctoral Dissertation the following semester. The **minimum total number** of ASTR 600 Pre-dissertation Research credits for Course Requirements is 6, but students must enroll in 9 credits each semester in order to remain full time and retain eligibility for an GA. Usually students will take 8 ASTR 600 Pre-dissertation Research and 1 ASTR 698 Special Topics. in Fall of Yr 3.
- <sup>4</sup> Assumes a student has completed their Comprehensive Exam - see footnote 3. The minimum number of ASTR 700 Doctoral Dissertation credits for Course Requirements is 18, but students must enroll in 9 credits each semester in order to remain full time and retain eligibility for an GA.
- <sup>5</sup> ASTR 698 Special Topics. in Yr 3 Fall is a 1-credit Thesis Preparation class for all students who are also taking ASTR 600 Pre-dissertation Research that semester
- <sup>6</sup> For students who do not complete their PhD in 5 years, they must continue to enroll in 9 credits of ASTR 700 Doctoral Dissertation 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.