

Astronomy 106: The Cosmic Origins of Life

Summer 2011

Instructor: Laura Arnold, Bausch and Lomb 477, laa@pas.rochester.edu

Web Site: <http://www.pas.rochester.edu/~laa/ast106/>

The web site is the main reference for this course; here you will find the lecture notes, the WebWork based homework and exams, as well as other useful resources.

Lectures: Monday through Thursday 9:00 - 11:15am, in Bausch and Lomb 109. Lectures will be available on the course web site a few days before the lecture is actually delivered. About three-quarters of the material covered in lecture is covered in the text. Depending on course enrollment, we will use the Interwrite **Personal Response System** (PRS) to provide real-time student feedback and encourage participation.

Cell phone use is not tolerated in class. Around the middle of each class there will be a ~10 minute break; this is the time to use your cell phone and renew your energy for the rest of lecture in whatever way you like.

Required Text: Neal Evans, *Extraterrestrial Life*, 5th edition (Pearson, 2003). This text covers about three-quarters of the material in this course, and covers it very well.

Recommended text: Mike Seeds and Dana Blackman, *Foundations of Astronomy*, 11th edition (Brooks/Cole 2011). You *do not need to buy this text* and it is on reserve in the Physics, Optics and Astronomy library (Bausch and Lomb 374) if you would like to access it. This book is used in three classes which belong to the same clusters as AST 106, namely AST 102, 104 and 105.

The cost of course materials: We have tried to hold costs down. The textbook (\$70.05 new, \$52.55 used) is better, and better suited to our needs, than anything in its price range, and costs far less than most of its competitors. (The recommended, supplementary textbook, for example, costs \$191! This is one reason why you should not feel compelled to buy it.) New PRS transmitters cost \$53.40 (\$40 used). So your total costs for AST 106 course materials will lie in the range of \$100-133, including sales tax, which is only 2.3-3.0% of the full price for a four-credit course at the U of R.

Recitations: Tuesdays 12:30-2pm, in Bausch and Lomb 315. They will begin **the second week** of class. These sessions are opportunities for homework help and

Class Participation: All members of the class are expected to attend all of the lectures and are encouraged to attend the recitation. As this is a relatively small class, your questions and participation are very important and encouraged. To emphasize this importance, class participation will comprise 8% of your grade. Your class-participation

score will be based upon attendance in class and recitation as well as response to in-class questions.

Homework assignments: Five problem sets, to be assigned each week starting the second week of class. Each problem set will be **available each Wednesday** on the WebWork system, a computer program that enables students to answer homework questions interactively with immediate feedback and automatic grading. Your problems sets will in general be different from those of your classmates. They will be **due the following Wednesday by midnight**. Your percentage score on each problem set will count as 4% of your grade in the course – that is, all five comprise 20% of your final grade.

Students are *strongly* encouraged to discuss the homework problems, and work together toward the solution. Only the solutions you submit must be the result of your own thought and expressed in your own words.

Examinations: Three tests, given online with WebWork during the hours of 10 am – 6pm on 27 May, 10 June and 23 June. You are allowed one hour and fifteen minutes to complete the exam once you begin, though you can begin at anytime within the 8 hour window. Each exam will emphasize the material not covered on a previous exam and there is no *comprehensive* final exam. You must take all tests in order to pass the course. If you miss an exam due to illness or emergency, a makeup exam may be scheduled by appointment. *All makeups will be oral examinations*, an hour and fifteen minutes in length, administered and graded by the instructor. Your percentage score on each exam will count as 24% of your grade in the course – that is the three exams together comprise 72% for your final grade.

The best way to study for the examination is to do the homework and work out the sample exams that will appear on WebWork about a week before each exam.

Academic Honesty: In this class, *cheating* is defined as submission of homework or exam solutions that are not your own work, or submission of solutions under someone else's name. According to University rules, any detected act of cheating that is not the result of a simple misunderstanding must be handed over to the Board on Academic Honesty for investigation.

Grades: As discussed above, grades are based 8% on class participation, 20% on the five homework assignments, and 72% on the three examinations. Final grades will be set by percentage score on an absolute scale, as follows:

Percentage Score	≥ 90	≥ 85	≥ 80	≥ 75	≥ 70	≥ 65	≥ 60	≥ 55	≥ 45	< 45
Final Grade	A	A-	B+	B	B-	C+	C	C-	D	E

This is the second time this course was taught. The last time it was taught by Dan Watson in Spring 2010 the median grade was a B+.

May 2011

Mon	Tue	Wed	Thu	Fri
2	3	4	5	6
9	10	11	12	13
16 Lecture 1 9-11:15	17 Lecture 2 9-11:15 Recitation 12:30-2	18 Lecture 3 9-11:15	19 Lecture 4 9-11:15	20
23 Lecture 5 9-11:15	24 Lecture 6 9-11:15 Recitation 12:30-2	25 Lecture 7 9-11:15 Problem Set 1 Due On WebWork by Midnight	26 Lecture 8 9-11:15	27 EXAM 1 On WebWork 10am-6pm
30 No Class – Memorial Day	31 Lecture 9 9-11:15 Recitation 12:30-2			

June 2011

Mon	Tue	Wed	Thu	Fri
		1 Lecture 10 9-11:15 Problem Set 2 Due On WebWork by Midnight	2 Lecture 11 9-11:15	3
6 Lecture 12 9-11:15	7 Lecture 13 9-11:15 Recitation 12:30-2	8 Lecture 14 9-11:15 Problem Set 3 Due On WebWork by Midnight	9 Lecture 15 9-11:15	10 EXAM 2 On WebWork 10am-6pm
13 Lecture 16 9-11:15	14 Lecture 17 9-11:15 Recitation 12:30-2	15 Lecture 18 9-11:15 Problem Set 4 Due On WebWork by Midnight	16 Lecture 19 9-11:15	17
20 Lecture 20 9-11:15	21 Lecture 21 9-11:15 Recitation 12:30-2	22 Lecture 22 9-11:15 Problem Set 5 Due On WebWork by Midnight	23 EXAM 3 On WebWork 10am-6pm	24 Have a great summer!
27	28	29	30	