Astronomy 496 NPA: Nuclear and Particle Astrophysics
Spring Semester 2019

Addendum to ASTR 596 NPA Syllabus

Astronomy 496 NPA is the undergraduate version of the Nuclear and Particle Astrophysics seminar. In many respects, the courses are identical: you will attend the same lectures, and complete mostly the same assignments. Thus, in most respects, the syllabus for ASTR 596 applies for ASTR 496 as well–it is the default.

However, my expectations for senior undergraduates are different from those of beginning or advanced graduate students, and thus there are some facets of the course that will be different for ASTR 496. This *Addendum* indicates which aspects of the course will be different from what is indicated in the ASTR 596 syllabus.

Prerequisites

The course lectures presume that students have had some exposure to classical mechanics, thermodynamics and statistical mechanics, and quantum mechanics. Thus at *minimum* students should have taken PHYS 211, 212, 213, and 214 better would be to have taken upper level courses in these subjects. Note that I do *not* expect a prior background in nuclear and/or particle physics, though any background you have will serve you well.

Preflights

The preflight assignments will be the same. On every preflight, there is always a chance for you to indicate what material you find difficult or you would like to learn more about. It is particularly important that 496 students put some thought into this question; it is your chance to let me know how things are going. Of course, you are welcome to speak to me directly any time as well.

Problem Sets and Final Exam

The problem sets in this course tend not to be overwhelming mathematically, but your predecessors have reported them to sometimes be challenging conceptually. To keep the challenge manageable, you will not be required to do all of the problems that the graduate students do. Since, however, instructors are not always the best judge of what is difficult, I will let you decide: *in each problem set, you may omit* **one** *problem of your choosing.*

Your score will be computed on the basis of $N - 1$ problems, if N is the number of problems on the set. If you choose to do all of the problems, the additional problem will provide a bonus worth half of the advertised points that you earn. For purposes of this rule, a "problem" includes any subparts (a), (b), (c), etc. Each 496 students can each a choose his/her own problem to drop, there is no need for consensus.