ASTRONOMY 400A – Theoretical Astrophysics
Fall 2015

Class meets: T/Th 11:00-12:15
Classroom: Steward Observatory Room 204

Instructor:  Dr. Josh Eisner
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Office Hrs:  By appointment or whenever my door is open

Course Description
This course is a continuation of the ASTR300AB series. The main topic of the
course is stellar structure, a field of astronomy that brings many different branches
of physics to bear on the fundamental objects of astronomical study—stars.
Toward the end of the semester, we may discuss several other (related) topics as
well, including planet formation and hydrodynamics.

Textbook
The main textbook for the course is “An Introduction to the Theory of Stellar
Structure and Evolution” by Dina Prialnik. Presumably you have already acquired
this book, but if not, copies should be available in the campus bookstore. Several
topics covered in the course are beyond the scope of this book, and I recommend
“Accretion Processes in Star Formation” by Lee Hartmann as another reference.

Lectures
Lectures will generally follow the content of the main textbook. Time-permitting,
we will devote the last part of Tuesday’s class time to problem-solving sessions
and more free-form questions that may not be directly related to the topics covered
in lecture.

Homework and Classwork
There will be approximately six homework assignments during the semester,
which will consist of problems that should be done individually (i.e., not in
 collaboration with fellow students) and group problems where collaboration is
allowed. These assignments will be due at the beginning of class on Thursdays.
Some time during the Tuesday class periods will be devoted to problem solving,
including homework problems. For collaborative assignments, each student must
turn in his or her own copy, but should include the names of those with whom he
or she worked. Note also that some of the assignments may include
computational components. ASTR 400A is a writing emphasis course, and we
will have an additional homework devoted to a scientific writing exercise.
Exams
There will be two mid-term examinations as well as a final exam. These exams will cover material discussed in lecture as well as in the homework.

Grading
The grades for the course will be computed as follows:

- Homework: 40%
- Midterm Exams: 30% (15% each)
- Final Exam: 30%

Grades may be adjusted to reflect overall class performance.

Academic Integrity
The University of Arizona’s Code of Academic Integrity can be viewed at http://demofstudents.arizona.edu/academicintegrity/.

Consequences of academic dishonesty can range from loss of credit on an exam or assignment to expulsion from the university, depending on the severity of the offense.

Students with Disabilities
If you anticipate barriers related to the format or requirements of this course, please meet with me so that we can discuss ways to ensure your full participation in the course. If you determine that disability-related accommodations are necessary, please register with Disability Resources (621-3268; drc.arizona.edu) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

Topic Schedule and Corresponding Reading
A rough schedule of topics and readings is given on the course website. As the semester progresses, the schedule will be updated to reflect actual progress.

Course Website
http://www.u.arizona.edu/~jeisner/astr400a/