Syllabus:  Galactic, Extra-Galactic Astronomy & Cosmology
AST 400B  Spring 2016

Instructor: Prof. Gurtina Besla
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Office: Steward Observatory N312
Course Website: https://lavinia.as.arizona.edu/~gbesla/ASTR_400B.html

Classes:
Tuesday & Thursday 2:00-3:15   SO 202
No class: March 31st and Spring Break week

Recommended Textbook:

Galaxies in the Universe  2nd Edition
L.S. Sparke & J.S. Gallagher, III

Overview:

This course will teach you about the structure of our Milky Way Galaxy and how it compares to the zoo of galaxies that exist in our Universe. We will furthermore discuss the very early stages of the universe, how galaxies formed and how they have and continue to evolve. This course involves a computational project, where you will analyze an aspect of a simulation of the future fate of our Local Group, wherein the Milky Way and Andromeda galaxies collide and merge.

Topics Covered:

1) The Milky Way
2) Our Local Group of Galaxies
3) Dark Matter and the Formation of Galaxies
4) Galaxy Types and Profiles
5) Active Galactic Nuclei and Supermassive Black Holes
6) What Governs Galaxy Evolution
7) Cosmology and the Early Universe
8) Testing Cosmology

Evaluation:

Computational Homework  40%  ~weekly on Thursdays
You will be required to submit your code
Project Proposal  10%  Feb 23rd 2016
Presentation  20%  March 8th and 9th 2016
Final Report  30%  May 9th 2016
Prerequisites

Students should have completed Astronomy 300A, 300B, and 400A.

Classroom Behavior

Academic Integrity: All students in this course are expected to abide by the University of Arizona’s Code of Academic Integrity  [http://dos.web.arizona.edu/uapolicies/](http://dos.web.arizona.edu/uapolicies/)

Cheating is not tolerated in any form. If a student is caught cheating on any assignment or presentation the penalty will be failure in the course. In all cases a letter will be sent to the Dean of Students describing the incident. If you are aware that someone else is cheating, it is your obligation to inform the instructor.

We allow, even encourage, collaboration on most assignments. However, **you must always write the final version of an assignment yourself**, and use your own words to describe what you have concluded. If we receive verbatim answers from more than one person we will divide the credit received among all those with identical answers.

It is fine to make use of reference books or websites. But if you do so, make sure to put and text taken verbatim in quotes, otherwise make sure to rewrite things in your own words. In all cases you must list the source of your information. **Plagiarism is strictly prohibited.** If you are uncertain as to what constitutes plagiarism see: [http://deanofstudents.arizona.edu/codeofacademicintegrity](http://deanofstudents.arizona.edu/codeofacademicintegrity)

Cell Phones: The use of cell phones is not allowed in the class

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](http://drc.arizona.edu)) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.