ASTRO 322 - The Stellar Environment, Galaxies, and Cosmology
Winter 2008

Instructor: Dmitri Pogosian

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Aim: Main subject of the course are galaxies, including our own Galaxy, the Milky Way. We shall study galactic structure, dynamics and kinematic of stars in galaxies and environment which galaxies provide for stellar formation. Observations of the large scale distribution of galaxies in space lead to cosmological questions which I will introduce you to at the end of the course.

Pre(co)requisites: MATH 115 (Elementary Calculus II), PHYS 146 (Fluids and Waves), and PHYS 208 (Quantum aspects of Modern Physics) or 271 (Introduction to Modern Physics).

Texts: L. Sparke and J. Gallagher: Galaxies in the Universe, QB 857 S63 2000 (main text)
B Carroll and D. Ostlie: An introduction to modern astrophysics, QB 461 C35 1996 prof (also useful)

Additional (advanced) texts: J. Binney and S. Tremaine: Galactic Dynamics
J. Binney and M. Merrifield: Galactic Astronomy

Marking Scheme:

Assignments:	40%	
Midterm Test:	20%	(February midterm week, exact date to be discussed)
Final Exam:	40%	(according to the calendar)

To your attention: "The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.ualberta.ca/secretariat/appeals.htm) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offense and can result in suspension or expulsion from the University." (GFC 29 SEP 2003)

Topics in the course: Sparke and Gallagher text has a quite good structure which we shall largely follow, adding details as necessary. The course will cover the following:

- Mapping the Milky Way.
- Motion of stars in galaxies.
- Spiral Galaxies, theories of spiral structure.
- Elliptical galaxies.
- The Milky Way neighbourhood.
- Active Galactic nuclei, quasars.
- Large scale distribution of Galaxies

Grading system

Descriptior	Latter Grade	Grade Point Value
Excelent	A+	4.0
	A	4.0
	A-	3.7
Good	B+	3.3
	B	3.0
	B-	2.7
Satisfactory	C+	2.3
	C	2.0
	C-	1.7
Poor	D+	1.3
Minimal Pass	D	1.0
Failure	F	0.0