University of Alaska Fairbanks

PHYS F471H Astrophysics
Fall 2014

Credits: 1.0

Lectures: REIC 207 TTh 2:00-3:30 pm
Starting on September 4, 2014 and finishing on October 7, 2014

Instructor: Dr. Roman Makarevich
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Office Hours: REIC 116 TTh 9:00-11:00 am, ELVE 708B by appointment.

Course Content: In this course we will review some of the concepts of General Relativity and apply them to selected astrophysical problems such as gravitational collapse, black holes, and quantum evaporation.

Text: There is no required text. However, there are several introductory texts that cover the material and that are highly recommended:

Hartle, J. B., Gravity: An Introduction to Einstein's general Relativity, Addison Wesley, 2003.
Berry, M. V., Principles of Cosmology and Gravitation, Cambridge University Press, (reprinted by IOP), 1993.
Hakim, R., An Introduction to Relativistic Gravitation, Cambridge University Press, 1999.
Taylor, E. F. and J. A. Wheeler, Exploring Black Holes, Addison Wesley Longman, 2000.

Lecture notes: Some of the instructor's notes will be made available on Blackboard.

Grading: The course grade will consist of the following components:

Homework 1	due September 18, 2014, 2 pm	20%
Homework 2	due September 25, 2014, 2 pm	20%
Homework 3	due October 2, 2014, 2 pm	20%
Final exam	October 7, 2014, 2:00-3:30 pm	40%

Homework: There will be 3 homework assignments. The assignment will be given out on Thursday and will be due on the following Thursday by 2:00 pm. You are allowed to work with others on the homework, but make sure the paper you turn in is not simply copied from someone else. **All homework assignments must be turned in directly to me in class**. **No electronic submissions will be accepted**. Late assignments will be marked down as follows HW1 and 2:

minus 10% points per one day late up to 7 days, minus 100% after 7 days late. HW3: minus 20% points up to 1 day late, minus 100% points after 1 day late.

Final Exam: The final exam will be at 2:00-3:30 pm, Tuesday, October 7, 2014. The final will be closed-book.

Every student will be given a raw score out of 100%. A raw score above 90% will be at least an A, above 80% will be at least a B, above 70% will be at least a C, above 60% will be at least a D. No +/- grades will be given with a possible exception of A+,A-, B+, and B-.

Special Needs: The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. We will work with the Office of Disabilities Services (Room 203 WHIT, Phone 474-7043) to provide reasonable accommodation to students with disabilities.

Plagiarism: Plagiarism and cheating are matters of serious concern for students and academic institutions. This is true in this class as well. The UAF Honor Code (or Student Code of Conduct) defines academic standards expected at the University of Alaska Fairbanks which will be followed in this class. (Taken from the UAF plagiarism web site, which has many links with good information about this topic)

Complaints and Concerns: You are always welcome to talk to me about anything, however, if you have a non-subject matter question or concern that cannot be resolved by me, contact the department chair, Dr. Szuberla, Physics Department Office, Room REIC 110.