PHY 624: Independent Study in General Relativity

Spring, 2018

Instructor: Rob Knop
Student: Tyler Heintz
Meetings: TT 3:30-5:00PM in Knop’s office

Course Description

The goal of this course is for the student to obtain an introductory-level understanding of General Relativity, such that he will be able to go further with graduate level GR courses than he would without a background. It builds on the Special Relativity as covered in Physics 313. By the end of the course, the student will be able to articulate a qualitative description of the core concepts of General Relativity, will be able to perform calculations in tensor calculus using index notation, and will be able to solve problems in some of the more fundamental metrics of GR, including the Schwarzschild and Freedman-Robertson-Walker metrics.

Grading

Half of the course grade will be based on effort, and half on mastery. Effort means that, in the professor’s judgment, the student put a 4-unit course’s worth of effort into the course, focusing well for an appropriate number of hours each week. Master will be based on the student’s ability to solve problems from the textbook.

Academic Integrity

The student won’t cheat; it would undermine the whole purpose of going out of his way to take an independent study in this topic. Since there are no formal exams, no resources are off-limits, and there are no other students to copy from, so it would require some serious creativity to cheat in any event.