INSTRUCTOR: Dr. Philip B. Yasskin

OFFICE: Blocker 620 I

OFFICE HOURS: MR 2:00-3:00 in BLOC 620 I or by appointment

DEPARTMENT PHONE: 845-3261   LEAVE YOUR PHONE NUMBER!

E-MAIL: yasskin@math.tamu.edu   GIVE YOUR PHONE NUMBER!

Web Page: http://www.math.tamu.edu/~yasskin/

LECTURE: MW 4:10-5:25   BLOC 202

TEXT: *A First Course in General Relativity 2nd Ed.*   B. Schutz
ISBN-13: 978-0-521-88705-2

GRADING:	POINTS:	DATES:
MIDTERM EXAM	100	TBA
FINAL EXAM	200	Mon 12/11 3:30-5:30 BLOC 202
E&M Paper	50	
HW/Class Participation	100	
TOTAL	450	

I may *curve* any grade or the total and will then compute the course grade from the following table:

A$\geq$ 405 points   C$\geq$ 315 points

B$\geq$ 360 points   D$\geq$ 270 points

* ADDITIONAL INFORMATION: See the Math Department 460 Home Page
  http://www.math.tamu.edu/courses/math460/
* CATALOG DESCRIPTION: 460. Vectors and tensors in special relativity, curvature, manifolds, covariant differentiation, Einstein field equations, Schwarzschild geometry and black holes, cosmology, gauge field theories.
* PREREQUSITES: MATH 308; PHYS 331 or MATH 323 or MATH 311; junior or senior classification.
* LEARNING OUTCOMES: Students will learn Special and General Relativity, Tensors as Multilinear Functions, Differential Geometry including Manifolds, Tangent Spaces, Metrics, Covariant Derivatives and Curvature, Maxwell's and Einstein's Equations and solutions for Black Holes and Cosmology.

OTHER POLICIES

1. HOMEWORK will be collected in lecture. Some problems will be graded. Late homework will be accepted up to one class period late but will lose 50% credit and may not be returned in time to study for exams. The lowest one homework will be dropped. The remaining grades will be averaged and then rescaled to 100 points.

2. MAKE-UPS for MAJOR EXAMS will be given only in case of an absence authorized under University Regulations. You will need a note from your doctor or your academic dean's office. If you know in advance that you will miss an exam, please contact me so that you can take the make-up in advance. If you email me, *be sure to include your phone number*.

3. ATTENDANCE is REQUIRED. Attendance will be taken. If you sign the roll sheet, you are expected to remain in the classroom for the entire 50 minutes. More than 2 absences may have a detrimental effect on your grade especially in borderline cases.

4. You may be asked to provide SCANTRONS and/or BLUE BOOKS. You must have your ID with you at all exams. You MAY use a simple CALCULATOR during exams but NO PROGRAMMABLE, GRAPHICS or ALGEBRAIC CALCULATORS; NO PHONES or TABLETS and NO LAPTOP COMPUTERS.

5. © COPYRIGHT Philip B. Yasskin 2017. All material handed out or written on the board or spoken in class or posted on a computer is copyrighted by the instructor. This includes but is not limited to syllabi, homework, quizzes, labs, additional problem sets, class notes, in-class materials and exams. Because these are copyrighted, neither you nor anyone else has the right to copy them unless I expressly grant permission.

6. ACADEMIC INTEGRITY STATEMENT: "An Aggie does not lie, cheat, or steal or tolerate those who do." Copying work done by another, either in-class or out of class, and passing it off as one's own, even with permission of that person, is an act of scholastic dishonesty and will be prosecuted to the full extent allowed by University policy. Collaboration on assignments, either in-class or out-of-class, is forbidden unless permission to do so is granted by your instructor. Typing notes/formulas into your calculator is also considered cheating. For more information on university policies regarding scholastic dishonesty, see Honor Council Rules and Procedures at http://aggiehonor.tamu.edu/

7. ADA POLICY STATEMENT: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.

Week	Dates 2017	Schutz	Topics
1	9/4	1,2	Linear Algebra
2	9/11	1,2	Special Relativity
3	9/18	3,5	Tensors, Metric
4	9/25	3,5	Tensors, Metric
5	10/2		Maxwell's Eqs.
6	10/9	6,7	Manifolds
7	10/16	6,7	Covariant Derivative
8	10/23	6,7	Curvature
9	10/30	Review	Midterm Exam
10	11/6	8	Einstein's Equations
11	11/13		Lagrangians
12	11/20		Maxwell's Eqs.
13	11/27	10,11	Black Holes
14	12/4	12	Cosmology
15	12/11		Final Exam