

Course Syllabus

Physics 150: From Einstein to Star Trek

Summer 2017

- Instructor:** Dr. Steven Sahyun
Office: Upham Hall 157
Phone: Ext. 5113
E-mail: sahyuns@uww.edu
WWW: <http://sahyun.net/courses/physcs150/index.htm>
Desire2Learn: The D2L site is linked from the UWW web site (www.uww.edu) choose e-learning tab and select D2L.
Class Meetings: Web-based
- Office Hours:** By appointment.
Exams and Papers: See the schedule for paper due dates.
Final: **Last day of course.**
- Required Texts:** **Relativity: The Special and General Theory by A. Einstein** (on-line)
Physics of the Future by M. Kaku (Text Rental)
The Physics of Star Trek by L. Krauss (Text Rental)
The Physics of the Impossible by M. Kaku (Text Rental)

Course Description: This introductory survey course will focus on areas of modern physics that are frequently discussed but often misunderstood. The theories of Einstein and other physicists will be used to examine science fiction devices such as time machines, warp drives, and mass transporters. Integrated throughout will be a discussion of what are science, science fiction, and pseudo-science. Not applicable toward any physics major or minor.

Required materials: paper, ruler, pencils, and a scientific calculator (or calculator app - one with trigonometric and logarithmic functions, scientific notation, etc.) Computer or other device with network access and the ability to open and access .pdf and other common document files (.docx) and on-line video files.

ATTENDANCE AND PARTICIPATION:

You are expected to participate in on-line discussions, complete and submit papers and quizzes in a timely manner. This is a fast-paced course and participation in on-line group discussions is not only important for your own learning, but for the learning of your class.

HOMEWORK:

Homework will be in the form of assigned papers. The last paper will require a submitted draft and include a recorded (audio or video) presentation of your paper's content.

Papers:

There will be 8 assigned papers. The last paper will require a submitted draft and include a class presentation of your paper's content. All papers, except for the last paper, will be 10 points of credit. If necessary, the paper dealing with calculations (Relativity Problems) may be resubmitted the next class after receiving feedback.

The Presentation will be a talk to the rest of the class that highlights the content in your Comparison paper.

The Final will be an in-class essay relating to the material covered in the books and will be equivalent to one paper.

The tentative paper topics are as follows. See the class schedule for the due dates.

Paper	Topic Title	Points	Due
Activities	Daily Reading and on-line activities (quizzes, discussion)	48	
1	Einstein's 3 Greatest Achievements	10	Class 02
2	Rewrite of Einstein Section	10	Class 04
3	Relativity Problems	12	Class 05
4	Differences between Special and General Relativity	12	Class 06
5	Kaku I	10	Class 08
6	Kaku II	10	Class 10
7	Krauss	10	Class 13
8	Comparison of Physics in S.F. Movie or T.V. show	5 (draft) 15	Class 14 (draft) Class 15 (final)
Final		10	Class 15
Total		152	

There may be opportunities for extra credit.

Papers are to be submitted on the D2L dropbox and will be checked for uniqueness using Turn-It-In. D2L will accept MS Word (.docx and .doc), Rich Text Format (.rtf), text (.txt), and PDF (.pdf) files. I can help you convert other file formats if needed. There will be a required draft and feedback on another student's draft. Unlike the final version, the draft is to be printed and submitted in-class.

As a student, you can get Microsoft Office ProPlus at no cost. See <http://www.uww.edu/icit/4u/proplus> for details. **Free alternatives to MS Office** that can open/save most Word, Excel, and PowerPoint files are OpenOffice (<http://www.openoffice.org/download/index.html>) and LibreOffice (<http://www.libreoffice.org/download>)

GRADING CRITERIA AND TENTATIVE DATES:

Course grades will be determined by the percentage of total points assigned for the course.
 93% = A, 90% = A-, 87% = B+, 83% = B, 80% = B-, 77% = C+, 73% = C, 70% = C-, 67% = D+, 63% = D, 60% = D-, < 60% = F.

I reserve the right to adjust grades slightly based on class participation. There will be a few extra credit opportunities posted on D2L and other occasional opportunities for extra credit may arise. Extra credit is limited to 10 points.

D2L Grade book: Grades (exams, papers, and the homework total) will be posted on D2L as a **courtesy** and are for your information so that you can check that all your items have been accounted for. The D2L grade book is not the definitive score as transcription errors can occur, but it should match my personal grade book. Please inform me if you notice any errors. The homework and extra-credit totals will only be occasionally updated; I will try to update the grades at other times if requested.

Please review your comments before posting. In order to encourage an environment where the free exchange of ideas is possible, you are expected to be respectful of others when posting or when commenting on posts.

The University of Wisconsin-Whitewater is dedicated to a safe, supportive and non-discriminatory learning environment. It is the responsibility of all undergraduate and graduate students to familiarize themselves with University policies regarding Special Accommodations, Misconduct, Religious Beliefs Accommodation, Discrimination and Absence for University Sponsored Events. (For details please refer to the Undergraduate and Graduate Timetables; the "Rights and Responsibilities" section of the Undergraduate Bulletin; the Academic Requirements and Policies and the Facilities and Services sections of the Graduate Bulletin; and the Student Academic Disciplinary Procedures" [UWS Chapter 14]; and the "Student Nonacademic Disciplinary Procedures " [UWS Chapter 17]).