

**Syllabus Introduction to Computational Physics  
PHYS F220 F01 – Spring 2016**

<b>Credits:</b>	4.0
<b>Laboratory:</b>	Noyes Lab, REI Thur 09:00 – 12:00
<b>Lecture:</b>	REIC 165 MWF 13:00 – 14:00
<b>Prerequisites:</b>	MATH F202X; PHYS F211X; PHYS F212X; PHYS F213X; or permission of instructor.
<b>Instructor:</b>	Martin Truffer
<b>Office:</b>	ELVE 401D (Geophysical Institute or GI)
<b>Office Hours:</b>	During all laboratory periods, one hour following each lecture or at the GI by appointment. My schedule at the GI is uncertain; please arrange an appointment via email or telephone prior to visiting.
<b>Contact:</b>	ELVE 401D 474-5359 (V,VM) Email <a href="mailto:martin.truffer@alaska.edu">martin.truffer@alaska.edu</a>
<b>Website:</b>	I will post all course material, syllabus, homework assignments, labs, solutions, and sample code on Google Classroom.
<b>Text:</b>	<i>Computational Physics, 2<sup>d</sup> Ed.</i> by Giordano and Nakanishi is highly recommended, <b>but not required</b> .
<b>Grading:</b>	
Mid-term Exam	20%
Final Exam	20%
Homework	15%
Project	20%
Laboratory	15%
Participation	10%
<b>Course Description:</b>	Apart from the <a href="#">UAF Catalog course description</a> , this course is intended as an introduction to the art and science of solving physics problems with a computer. The computer will be used as a tool to provide insight into physical systems and their behavior in all areas of physics. It is designed for undergraduate students who have completed their introductory coursework in physics and calculus. The course combines lectures and computer laboratory exercises. The overarching goal of this course is not teaching you physics nor computing; rather, it is to <b>teach you how to think</b> critically about using the computer as a tool for understanding the physical world.
<b>Lab Sessions:</b>	There is a weekly 3-hour lab session associated with this course. Please note that the first lab session will not take place until Thursday, 21 January 2016. Roughly each week you will have a laboratory session involving problems in computational physics. You should be able to complete the bulk of your lab work and report during the laboratory session. <b>During the lab sessions you should not expect me to provide answers to your every question, as the laboratory is a place of self- discovery.</b> This process may require outside reading/research prior to the day's lab session.

<b>Homework:</b>	Roughly each week (Wednesday) you should expect homework based on the lectures and labs. These assignments will generally be due at the beginning of Wednesday's lecture.
<b>Participation:</b>	You are expected to fully attend both the laboratory and lecture sessions. Planned absences should be discussed with me in advance. Habitual tardiness or absenteeism affects not only your own performance, but that of your classmates, too. Assessment will be based on your contributions to class discussions and laboratory investigations.
<b>Project:</b>	You will choose a computational physics problem of your own, develop and execute a solution. A written project proposal will be submitted not later than the lecture session of 7 March. You will submit a complete, written solution of the problem, to include working codes, prior to the beginning of the final scheduled lecture. You will give a 10-minute presentation of your project to the class during the final lab session on 28 April.
<b>Exams:</b>	A one-hour mid-term examination will be given in lieu of lecture on 28 March. A two-hour final examination will be given 3 May, beginning at 13:00, per the <a href="#">UAF Exam Schedule</a> . Both will be held in REIC 165.
<b>Student Code of Conduct:</b>	You are expected to submit work that is your own and properly acknowledge the work of others. You are responsible for understanding and adhering to the <a href="#">Student Code of Conduct</a> that is printed in the UAF Course Catalog. <b>Abide By It.</b> Violations of the Code will be reported to the Dean of Students.
<b>Disability Services:</b>	If applicable, it is your responsibility to arrange for these services. The UAF Center for Health and Counseling provides services for UAF students with disabilities to ensure equal access to educational opportunities. The Center's Disability Services Program ensures compliance with §504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. If you believe you are eligible for 504 and/or ADA accommodations, please contact them at 474-7043 (WHIT 203).