Computer Methods in Physics

PHYS2500 401

Instructor Information

Phone: ---
Email: Use Canvas Inbox
Office Location: ---
Office Hours: By Appointment

Course Description

Computer software and methods commonly used in physics are introduced including the use of numerical, graphical, and symbolic manipulation software to solve common physics problems. Other common applications encountered by the physics professional will be explored. It is recommended students complete PHYS 2220 prior to taking this course.

Prereq: PHYS 2210.
Semester: Fall

Computer software and methods commonly used in physics are introduced, including the use of numerical, graphical, and symbolic manipulation software to solve common physics problems. Other common applications encountered by the physics professional will be explored. Students completing this class should be able to solve basic physics problems numerically or symbolically with the use of a computer using programmed code developed by the student.

Course Student Learning Outcomes

- Describe the common software applications used by the physics professional.

- Solve basic physics problems encountered in classical mechanics or electricity and magnetism using numerical or symbolic software.
- Apply basic procedural programming ideas and concepts in actual programming code.
- Translate basic algorithms into programming code.

College Wide Student Learning Outcomes

- See Canvas Syllabus

Course Prerequisites

PHYS 2210 with PHYS 2220 Recommended

Communication Plan

Example language:

- I will respond to email within [insert your timeline]. I will offer feedback on major assignments within [insert your timeline]. The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication.
- In this course I will be posting interactive announcements which will offer specific opportunities for class questions and extra credit every other week.
- Additionally, I will be participating in the discussion forums with you to share my perspective within the discipline and to offer some nuances of interpretation that may not be present in your textbook.
- Lastly, we'll be holding small group Q & A sessions, where we can learn from our peers (and faculty) on some of the more difficult units within the course.

Keys for Success (how to succeed in the course)

- Be prepared for class – read the provided materials, think about the material and prepare questions you want to ask.

- Take responsibility for your learning – form study groups, and discuss class topics, do the homework early.
- Find examples of current class topics in current events – bring them in to discuss with the class.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	Introduce Yourself	Discussion	0
8/21	Quiz: Aug 21	Assignment	5
8/26	Quiz: Aug 26	Assignment	5
8/28	Quiz: Aug 28	Assignment	5
9/1	HW 1	Assignment	20
9/4	Quiz: Sept 4	Assignment	5
9/8	HW 2	Assignment	20
9/9	Quiz: Sept 9	Assignment	5
9/11	Quiz: Sept 11	Assignment	5
9/15	HW 3	Assignment	20
9/16	Quiz: Sept 16	Assignment	5
9/18	Quiz: Sept 18	Assignment	5
9/22	HW 4	Assignment	20
9/23	Quiz: Sept 23	Assignment	5
9/25	Quiz: Sept 25	Assignment	5
9/29	Exam 1 Fall 2024	Assignment	50
9/30	Quiz: Sept 30	Assignment	5

Due Date	Assignment Name	Assignment Type	Points
9/30	Exploration 1	Quiz	5
10/2	Quiz: Oct 2	Assignment	5
10/6	HW 5	Assignment	20
10/7	Quiz: Oct 7	Assignment	5
10/9	Quiz: Oct 9	Assignment	5
10/13	HW 6	Assignment	20
10/14	Quiz: Oct 14	Assignment	5
10/16	Quiz: Oct 16	Assignment	5
10/20	Exam 2 Fall 2024	Assignment	50
10/21	Quiz: Oct 21	Assignment	5
10/23	Quiz: Oct 23	Assignment	5
10/27	HW 7	Assignment	20
10/28	Quiz: Oct 28	Assignment	5
10/30	Quiz: Oct 30	Assignment	5
10/31	Exploration 2	Quiz	5
11/4	Quiz: Nov 4	Assignment	5
11/6	Quiz: Nov 6	Assignment	5
11/11	Quiz: Nov 11	Assignment	5
11/13	Quiz: Nov 13	Assignment	5
11/18	Quiz: Nov 18	Assignment	5
11/20	Quiz: Nov 20	Assignment	5
11/25	Quiz: Nov 25	Assignment	5

Due Date	Assignment Name	Assignment Type	Points
11/30	Exploration 3	Quiz	5
12/2	Quiz: Dec 2	Assignment	5
12/4	Quiz: Dec 4	Assignment	5
12/4	Project	Assignment	50

Brief Description of Assignments/Exams

See updated scheduled in Canvas.

Grading Scale

A	> 93%
A-	90 – 92%
B+	87 – 89%
B	83 – 86%
B-	80 – 82%
C+	77 – 79%
C	73 – 76%
C-	70 – 72%
D+	67 – 69%
D	63 – 66%
D-	60 – 62 %
E	< 59%

How to Navigate to Canvas

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

You can access the document by clicking on the following link: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, please visit the Institutional Syllabus under the Tutoring and Learning Support tab: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, please visit the Institutional Syllabus under the Advising and Counseling Support Services tab: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

SLCC Student Academic Calendar