

# PHY-300 MECHANICS

Instructor: Paul Saulnier. You may call me Paul.

Office: OHS 208 (507) 933-6123

Office Hours: MTWRF 9:00-9:50, other times by arrangement. Just shoot me an email.

Text: *Classical Dynamics of Particles & Systems*, 5th ed. by Marion and Thornton.

Recommended Reference: *Mathematical Handbook of Formulas and Tables*, by Murray R. Spiegel, Schaum's Outline Series. You won't find a better one for  $3 \times$  the cost!

Classes: MTWRF 10:30-11:20 in OHS 220

Attendance: Regular class attendance is expected. If you miss a class for any reason you are responsible for the material covered during the class, including any assignments.

Homework: Homework will be assigned approximately every week. Late homework will be accepted at the discretion of the instructor, with loss of points. Homework should be your own work, however, some collaboration is expected.

Makeup: Missed exams may be made up at the discretion of the instructor with prior notification.

Final Exam: Tuesday, December 18th at 3:30 p.m. in OHS 220.

Coverage: We will be covering the following chapters in more or less detail.

Chapter 1 - Mathematics Review, less

Chapter 2 - Newtonian Mechanics

Chapter 3 - Oscillations, more

Chapter 4 - Nonlinear Oscillations, partly

Chapter 5 - Gravitation

Chapter 6 - Variational Calculus, less

Chapter 7 - Lagrangian and Hamiltonian Dynamics, more

Chapter 8 - Central-Force Motion

Chapter 9 - Dynamics of a System of Particles

Chapter 10 - Motion in a Noninertial Reference Frame

Chapter 11 - Dynamics of a Rigid Body, less

Chapter 12 - Coupled Oscillations and/or Chapter 14 - SR as time permits

<u>Evaluation:</u>	There will be three semester exams	$3 \times 20\%$
	One two-hour final exam	25%
	Homework	15%

Final course grades will be assigned using the following scale as a guide:

94-100	A	74-78	C+
90-94	A-	70-74	C
86-90	B+	66-70	C-
82-86	B	62-66	D+
78-82	B-	58-62	D
		0-58	F

Please note that these ranges are only guidelines. Final grades will also take into account the instructor's evaluation of the student's attendance, participation, and evidence of improvement.

Instructor's Note: My job in this class is to help you learn Classical Dynamics. I take this responsibility seriously and I would ask you to help me do my best. Specifically, I would encourage you to ask questions about the material during class and speak with me outside of class to discuss any course related concerns. Don't wait until the end of the semester to inform me of your concerns - by then it is too late. Your opinion is important to me.

## Accessibility Resources

Gustavus Adolphus College is committed to ensuring the full participation of all students in its programs. If you have a documented disability, or you think you may have a disability of any nature (e.g., mental health, attentional, learning, chronic health, sensory, or physical) and, as a result, need reasonable academic accommodation to participate in class, take tests or benefit from the College's services, then you should speak with the Accessibility Resources staff, for a confidential discussion of your needs and appropriate plans. Course requirements cannot be waived, but reasonable accommodations may be provided based on disability documentation and course outcomes. Accommodations cannot be made retroactively; therefore, to maximize your academic success at Gustavus, please contact Accessibility Resources as early as possible. Accessibility Resources (<https://gustavus.edu/care/accessibility/>) is located in the Center for Academic Resources and Enhancement. Accessibility Resources Coordinator, Kelly Karstad, ([kkarstad@gustavus.edu](mailto:kkarstad@gustavus.edu) or x7138), can provide further information.