

From Symmetry to Chaos in the Universe

PHYS-1500 (Winter 2025)

Course Schedule

Week	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Topics
1		Jan. 6		Jan. 8		Jan. 10 A1→		• Introduction and motivation • Natural units, scales • Dimensional analysis I
		Jan. 13		Jan. 15		Jan. 17 ↪A1 A2→		• Dimensional analysis II • Taylor expansions I
		Jan. 20		Jan. 22		Jan. 24 ↪A2 A3→		• Taylor expansions II • Linear algebra
4		Jan. 27		Jan. 29		Jan. 31 ↪A3		• Inverse, determinants • Solving linear systems
		Feb. 3		Feb. 5 Midterm Exam 1		Feb. 7 A4→		• Probability theory
		Feb. 10		Feb. 12		Feb. 14 ↪A4 A5→		• Probability distributions • Central limit theorem • Normal distribution
Reading week		Feb. 17		Feb. 19		Feb. 21		
		Feb. 24		Feb. 26		Feb. 28 ↪A5 A6→		• Error propagation I • Error propagation II
		Mar. 3		Mar. 5		Mar. 7 ↪A6		• Least squares fitting I • Least squares fitting II
9		Mar. 10		Mar. 12 Midterm Exam 2		Mar. 14 A7→		• Complex numbers I
		Mar. 17		Mar. 19 <i>Away all week</i>		Mar. 21 ↪A7 A8→		• Complex numbers II • Complex numbers III
		Mar. 24		Mar. 26		Mar. 28 ↪A8		• Eigenvalues/vectors I • Eigenvalues/vectors II
12		Mar. 31		Apr. 2		Apr. 4 <i>Last day of class</i>		• Eigenvalues/vectors III • Eigenvalues/vectors IV • Epilogue

Legend: ↪ Hand in, → Hand out, A = Assignment; Lecture day in green, tutorial day in blue.