

NOTE: Grading and assessment criteria may appropriately differ. Grades focus on what individual students have learned while assessments focus on entire cohorts of students. Each instructor will determine his/her grading criteria for the course and state on the course syllabus.

EVALUATION METHODS:

Examinations and laboratory reports are required. Additional assessment methods may include, but are not limited to, research papers, oral reports, homework and quizzes.

REQUIRED ASSESSMENT METHODS:

Assessment results from these methods will be used for course-level assessment and, where applicable, for SCCC core principles and SUNY General Education Knowledge and Skills areas. This information will be incorporated in program reviews.

Student Learning Outcome	Method(s)
Test scientific hypotheses by obtaining and analyzing experimental data using statistical and computational techniques	Lab report
Demonstrate scientific communication and analysis skills	Lab Report
Use appropriate mathematical principles to analyze the fundamental laws of motion and apply them to real-world examples	Examination
Use the basic laws of motion to think critically and qualitatively in order to describe phenomena observed in nature	Examination

NOTE: College policy requires a final exam or final week activity.

Course Content Outline

PHY 153 Physics I

<u>WEEK</u>	<u>TOPICS</u>
1	Displacement, Velocity, Acceleration
2	Linear Accelerated Motion and Projectile Motion
3	Newton's Three Laws of Motion
4	Free Body Diagrams and Frictional Force
5	Work and Energy
6	Conservation of Mechanical Energy
7	Impulse and Linear Momentum
8	Conservation of Linear Momentum and Collision
9	Rotational Motion and Centripetal Force
10	Torque and Rotational Energy
11	Conservation of Angular Momentum
12	Oscillation and Simple Harmonic Motion
13	Temperature and Heat
14	Laws of Thermodynamics and Entropy
15	Review
16	Final Exam

Laboratory Outline

PHY 153 Physics I

<u>WEEK</u>	<u>TOPICS</u>
1	Measurement of Length
2	Uniformly Accelerated Motion
3	Projectile Motion
4	Force Table and Vector Addition of Forces
5	Newton's Second Law on the Atwood Machine
6	Coefficient of Friction
7	Conservation of Spring and Gravitational Potential Energy
8	The Ballistic Pendulum
9	Conservation of Linear Momentum
10	Centripetal Acceleration
11	Moment of Inertia and Rotational Motion
12	The Pendulum
13	Specific Heat of Metal
14	Entropy