

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.

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.

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 through written lab reports	Lab Report
Use appropriate mathematical principles to analyze the laws of electricity and magnetism, and apply them to real-world examples	Examination
Use the basic laws of electromagnetism 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 Outline

PHY 154 Physics II

<u>WEEK</u>	<u>TOPICS</u>
1	Electric Force
2	Electric Field
3	Electric Potential and Capacitance
4	Electric Current, Resistance, DC Circuits
5	Magnetic Force
6	Magnetic Field
7	Magnetic Induction and Inductance
8	Electric Generators and Motors
9	Resistor, Capacitor and Inductor in AC Circuits
10	Electromagnetic Waves
11	Light Rays - reflection and refraction
12	Mirrors, Lenses and Optical Instruments
13	Light Waves
14	Light Interference and Diffraction
15	Review
16	Final Exam

Laboratory Outline

PHY 154 Physics II

<u>LAB</u>	<u>TOPICS</u>	<u>LAB #</u>
1	Equipotentials and Electric Fields	26
2	Measurement of Electrical Resistance	28
3	The Wheatstone Bridge	29
4	Potentiometer and EMF	32
5	Parallel and Series DC Circuit	Handout
6	Magnetic Field inside a Coil	35a
7	Magnetic Induction	Handout
8	Oscilloscope Measurement	38
9	Alternating Current - LR Circuit	36
10	Alternating Current - LRC Circuit	37
11	Reflection and Refraction	40
12	Focal Length of Lenses	41
13	Interference and Diffraction of light	Handout
14	Diffraction Grating	42