

UNM Department of Physics and Astronomy

Physics 102 and 102L Course Assessment

Physics 102 is a conceptual physics course satisfying the laboratory science requirement of the State of New Mexico and University of New Mexico Core Curriculum. The instrument used for assessing Physics 102 (both lecture and laboratory components) consists of 33 questions. The first ten comprise a general survey. Questions 1 – 7 ask students which topics they have covered. The answers to these questions may possibly help calibrate the answers to questions 8 – 10. Questions 11 – 30 cover recall of facts and concepts along with geometrical and mathematical reasoning. Questions 31-33 assess student ability to interpret features of graphs and extract or calculate numerical values.

Physics 102 Course Goals

1. Students will be exposed to a spectrum of physics topics. (HED Area III Competency 3)
2. Students will recognize basic elements of science and the scientific approach to understanding nature. (HED Area III Competency 1)
3. Students will be able to apply physical models in simple situations. (HED Area III Competency 2)
4. Students will be able to read and interpret graphical information. (HED Area III Competencies 2, 4)

Physics 102 Course Outcomes

1. Students will answer positively on at least 5 questions surveying coverage of topics.
2. Students will recognize basic elements of science and the scientific approach to understanding nature at least at the satisfactory level.
3. Students will apply physical models in simple situations at least at the satisfactory level.
4. Students will read and interpret information from graphs at least at the satisfactory level.

Physics 102 Assessment Rubric

Outcome 1 Students will answer positively on at least 5 questions surveying coverage of topics (Area III Competency 3).

Unsatisfactory	Satisfactory	Exemplary
Students answer positively on 2 or fewer of questions 1-8	Students answer positively on 3 or 4 of questions 1-8	Students answer positively on 5 or more of questions 1-8

Outcome 2 Students will recognize basic elements of science and the scientific approach to understanding nature at least at the satisfactory level. (Area III Competency 1)

Students Display Unsatisfactory Understanding	Students Display Satisfactory Understanding	Students Display Exemplary Understanding
Less than 2 of questions 9-12 answered positively or correctly	2 of questions 9-12 answered positively or correctly	3 or more of questions 9-12 answered positively or correctly

Outcome 3 Students will apply physical models in simple situations at least at the satisfactory level. (Area III Competency 2)

Students Display Unsatisfactory Ability	Students Display Satisfactory Ability	Students Display Exemplary Ability
Less than 40 % of questions 13-30 answered correctly	40 to 60 % of questions 13-30 answered correctly	More than 60 % of questions 13-30 answered correctly

Outcome 4 Students will read and interpret information from graphs at least at the satisfactory level. (Area III Competency 2, 4)

Students Display Unsatisfactory Ability	Students Display Satisfactory Ability	Students Display Exemplary Ability
Less than 2 of questions 31-33 answered correctly	2 of questions 31-33 answered correctly	3 of questions 31-33 answered correctly