Goals

G 1: x

Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: Critical Thinking Skills
Students will learn: (1) critical thinking skills through use of the scientific method to recognize the differences between these approaches and other methods of inquiry regarding understanding the universe as revealed through space exploration.

Relevant Associations:
Standard Associations
New Core Component Areas
2 Life & Physical Science (L & PS)

General Education/Core Curriculum Associations
1 Critical Thinking: Students will apply critical thinking appropriately to identify, analyze and resolve complex issues.

Strategic Plan Associations
Lamar University
14.1 To offer undergraduate and selected graduate educational experiences of excellence, both curricular and co-curricular, which engage students with faculty and staff to meet their diverse needs.
(Recruitment, retention, financial support, distance education, curriculum, academic excellence, student engagement, communication, and student life)

Related Measures
M 1: Measures for O1
An objectively scored summary pop-quiz in lecture for O1 that is based on previous exam questions. Note that questions on each lecture test that pertain to the stated outcome will be used for generating the lecture pop-quiz. The percentage of students from all the sections that score correctly on each objective question used to assess a given outcome will be averaged to determine the score for that outcome. These questions will be determined near the end of the semester since they will be extracted from previous exams.
Source of Evidence: Academic direct measure of learning - other
Target:
We expect that the average of the pop quiz results to be equal to or greater than 65%.

SLO 2: Empirical and Qualitative Skills
Students will learn: (2) empirical and quantitative skills through use of known physical laws, the equations describing the laws, scientific notation and units of measurement.

Relevant Associations:
Standard Associations
New Core Component Areas
2 Life & Physical Science (L & PS)

General Education/Core Curriculum Associations
2 Quantitative Thinking: Students will demonstrate mastery of quantitative reasoning and algorithms used to address applied problems

Strategic Plan Associations
Lamar University
14.1 To offer undergraduate and selected graduate educational experiences of excellence, both curricular and co-curricular, which engage students with faculty and staff to meet their diverse needs.
(Recruitment, retention, financial support, distance education, curriculum, academic excellence, student engagement, communication, and student life)

Related Measures
M 2: Measures for O2
An objectively scored summary pop-quiz in lecture for O2 that is based on previous exam questions. Note that questions on each lecture test that pertain to the stated outcome will be used for generating the lecture pop-quiz. The percentage of students from all the sections that score correctly on each objective question used to assess a given outcome will be averaged to determine the score for that outcome. These questions will be determined near the end of the semester since they will be extracted from previous exams.
Source of Evidence: Academic direct measure of learning - other
Target:
We expect that the average of the pop quiz results to be equal to or greater than 65%.
SLO 3: Communication Skills
Students will learn: (3) written communication, through a class project that requires midterm and final written reports.

**Relevant Associations:**

**Standard Associations**

**New Core Component Areas**
2. Life & Physical Science (L & PS)

**General Education/Core Curriculum Associations**
3. Communication: Students will develop written and oral presentations that are clear, precise, organized, efficient and appropriately adapted to audience and purpose.

**Strategic Plan Associations**

Lamar University
14.1 To offer undergraduate and selected graduate educational experiences of excellence, both curricular and co-curricular, which engage students with faculty and staff to meet their diverse needs.
(Recruitment, retention, financial support, distance education, curriculum, academic excellence, student engagement, communication, and student life)

**Related Measures**

**M 3: Measures for O3**
An objectively scored performance for O3 that is based on a class project written assignments. Students enrolled in SPSC 1301 are expected to evaluate the requirements and design a space mission. Written reports include a midterm and a final report. These reports will be assessed using the attached rubric for evaluating written communication skills.

Source of Evidence: Performance (recital, exhibit, science project)

**Target:**
Using the 4 point system from the written communication assessment rubric, our target is 60% of the students do "good" or better.

SLO 4: Teamwork Skills
Students will learn: (4) teamwork through a class project that requires team formation and teamwork.

**Relevant Associations:**

**Standard Associations**

**New Core Component Areas**
2. Life & Physical Science (L & PS)

**General Education/Core Curriculum Associations**
4. Teamwork: includes the ability to collaborate effectively, consider different points of view, and work with others to support a shared purpose or goals.

**Strategic Plan Associations**

Lamar University
14.1 To offer undergraduate and selected graduate educational experiences of excellence, both curricular and co-curricular, which engage students with faculty and staff to meet their diverse needs.
(Recruitment, retention, financial support, distance education, curriculum, academic excellence, student engagement, communication, and student life)

**Related Measures**

**M 4: Measures for O4**
An objectively scored summary for O4 that is based on a class project involving teams. The class project is to design a space mission based on what is learned in class. Teams of 4-5 will form. Each team will pick a team leader. There will be a midterm and final report due from the teams. Upon receipt of the midterm and final reports, the teamwork will be evaluated by interviewing the team leader and the team as a whole using the attached rubric.

Source of Evidence: Performance (recital, exhibit, science project)

**Target:**
Using the teamwork assessment rubric 4 point system for the teamwork skills, our target is 60% of the teams will do "good" or better.