

Academic Program
Plan for Assessment of Student Learning Outcomes
College of Arts and Sciences
The University of New Mexico

A. College, Department and Date

1. College: *Arts & Sciences*
2. Department: *BA/MD Combined Degree Program*
3. Date: *12/21/15*

B. Academic Program of Study*

B.A. Health Medicine & Human Values (HMHV)

C. Contact Person(s) for the Assessment Plan

Greg Martin, Director, gmartin@unm.edu

D. Broad Program Goals & Measurable Student Learning Outcomes

1. Broad Program Learning Goals for this Degree/Certificate Program

- A. Students will reflect upon their learning process and experiences and identify and articulate their most effective learning strategies, as well as their strengths and weaknesses as learners.
- B. Students will develop and demonstrate competencies in the basic sciences and in mathematics and statistics that will prepare them for medical school and medical practice.
- C. Students will develop and demonstrate competencies in humanities and social science research methods and written and verbal communication—with an emphasis on understanding the social determinants of health broadly as well as in the specific context of social and cultural diversity in New Mexico—that will prepare them for medical school and for medical practice.

2. List of Student Learning Outcomes (SLOs) for this Degree/Certificate Program

- A.1. Identify and evaluate areas of achievement and development as students, writers and individuals.
- A.2 Identify and evaluate their most effective and least effective methods and strategies of learning.
- B.1. Apply basic principles from chemistry and physics to understanding living systems.
- B.2 Apply quantitative reasoning to describe or explain phenomena in the natural world.

* Academic Program of Study is defined as an approved course of study leading to a certificate or degree reflected on a UNM transcript. A graduate-level program of study typically includes a capstone experience (e.g. thesis, dissertation, professional paper or project, comprehensive exam, etc.).

- B.3. Apply the process of scientific inquiry to generate hypotheses, design experiments and evaluate data.
- C1. Analyze, interpret, and evaluate texts and experiences related to medicine and health and communicate in written and verbal form the results.
 - C2. Conduct research, interpret data related to medicine and health and communicate in written and verbal form the results.
 - C3. Analyze, interpret and evaluate texts and data related to the social determinants of health to identify the ways differences in race, gender, class, ethnicity and culture affect health and policy.

E. Assessment of Student Learning Three-Year Plan

All programs are expected to measure some outcomes and report annually and to measure all program outcomes at least once over a three-year review cycle.

1. Timeline for Assessment

In the table below, briefly describe the timeframe over which your unit will conduct the assessment of learning outcomes selected for the three-year plan. List when outcomes will be assessed and which semester/year the results will be discussed and used to improve student learning (e.g., discussed with program faculty, interdepartmental faculty, advisory boards, students, etc.)

Year/Semester	Assessment Activities
Year 1, Fall	A1 & A2 (Lassi) Freshman; C1 HMHV 201 or 401
Year 1, Spring	A1 (Lassi) Seniors
Year 2, Fall	B3 IPSA
Year 2, Spring	B1, B2 MCAT diagnostic;
Year 3, Fall	B1, B2 Biochem Final
Year 3, Spring	C2, C3 HMHV 101, 301, 310, 398

2. How will learning outcomes be assessed?

A: Direct measures:

1. SLO A1 is evaluated using the Learning and Study Strategies Inventory (LASSI). The LASSI measures 10 subscales: Anxiety, Attitude, Concentration, Information Processing, Motivation, Selecting Main Ideas, Self-Testing, Study Aids, Test Strategies, and Time Management. Each of these scales is primarily related to one of three of the components of strategic learning: skill, will and self-regulation. The LASSI is administered to entering freshmen and to seniors in their final semester. Eventually, we will have a pre- and post-measure for each student and be able to monitor their growth in these learning skills between

the start and end of the program.

2. SLO A2 is measured by reflective writing prompts administered in the first semester of Freshman year in HMHV 298

Indirect measures:

1. End-of-semester and end-of-program PEAR Reports provide qualitative data . The same reflective prompt in Direct Measure #2 above will be administered in the End-of-Program evaluation.

Assessment Procedure:

In the Spring Semester, the Assessment Subcommittee reviews the results of the data collected from direct and indirect measures in the last academic cycle and reports out to the CCSP at the annual academic update meeting.

B. Direct measures:

1. In Year 1: SLO B3 is evaluated using student responses to their final Individual Problem Solving Assessment (IPSA) administered in BIOCHEM 423.
2. In Year 2: SLOs B1 and B2 are evaluated using student answers to diagnostic MCAT questions.
3. In Year 3: SLOs B1 and B2 are evaluated using data from the final exam in BIOCHEM 423

Indirect measures:

1. PEAR end-of-semester and end-of-program student evaluations provide qualitative data.

Assessment Procedure:

In September of the fall semester, a rotating Assessment Subcommittee (with a minimum of four members) drawn from the Science & Math teaching faculty will review the direct measures applicable to the particular year in the cycle (1,2 or 3).

For each direct measure, the overall statistics will be reported (Biochemistry final exam question, IPSA and MCAT diagnostic performance) as well as a sample of student answers drawn from the top, middle and bottom groups.

The assessment subcommittee reports out to the Science & Math sub-group at their meeting in October and recommendations are made to the CCSP on how to use this data for program improvement at the annual academic update meeting in November.

Discussion of Measures & Evidence

In the first year of the cycle, SLO B3 is evaluated using student responses to their final Individual Problem Solving Assessment (IPSA) administered in BIOCHEM 423. The IPSA, a tool mirroring the process of scientific inquiry was developed at UNM to provide both opportunities for iterative practice of effective problem-solving as well as assessment (Anderson, W. L.; Sensibaugh, C. A.; Osgood, M. P.; Mitchell, S. M. 2011.). IPSAs are available to students electronically as multi-part, progressive-reveal essay exams, which are based on scientific dilemmas. Each of the five ‘domains’ of problem-solving are incorporated into the IPSA (Hypothesize, Investigate, Evaluate, Integrate, Reflect). Student achievement in each of the domains is evaluated by overall scores, and the assessment committee looks at examples from the top, middle and bottom thirds.

In the second year, SLOs B1 and B2 are evaluated using student answers to diagnostic MCAT questions. The Medical College Admission Test (MCAT) is a standardized, multiple-choice examination designed to assess problem solving, critical thinking, and knowledge of science concepts and principles prerequisite to the study of medicine. Scores are reported in Physical Sciences, Verbal Reasoning, and Biological Sciences. Students take a Kaplan course to prepare them for the MCAT, and are given a diagnostic test which covers application of content over the areas of physical and biological sciences. The assessment subgroup examines student distribution of responses to selected MCAT diagnostic questions to assess how well they are able to apply their basic science content at the end of their college level science classes.

The final year in the assessment cycle focuses on analyzing student performance on questions in the final exam in BIOCHEM 423. As the last required science class they take, and one that integrates much of their previous knowledge from biology and chemistry, this can be considered their capstone science course. Its focus on application of fundamental concepts to the natural world and non-multiple choice final exam questions make it the ideal complement to the MCAT diagnostic to enable a more detailed understanding of student thought processes.

In addition to the three year cycle of direct measures, indirect measures are obtained and discussed within the subgroup each year. PEAR end-of-semester and end-of-program student evaluations provide qualitative data on student perception of their learning in each course, both using Likert style questions and free response questions. These are discussed with individual faculty members in a meeting with the program director, Greg Martin, and the Basic Sciences sub-group chair, Sushilla Knottenbelt, in the semester following the evaluations. In addition annual MCAT scores provide an additional single data point on student achievement, important because students must score a certain minimum on this exam to proceed to medical school.

C: Direct measures:

1. In YEAR 1: SLO C1 is evaluated using a sample of six student essays drawn from an HMHV 201 or 301. These essays employ a variety of writing strategies and modes of analysis introduced in the curriculum.
2. In YEAR 3: SLO C2 & C3 are evaluated using a sample of six assignments taken from HMHV 101, 301, 310, or 398

Indirect measures:

1. PEAR end-of-semester and end-of-program student evaluations provide qualitative data.
2. MCAT scores.

Assessment Procedure:

In September of the fall semester, a rotating Assessment Subcommittee (with a minimum of four members), drawn from the core HMHV teaching faculty, assesses SLOs based on sample selections from HMHV courses. In October, this group reports out to the HMHV sub-group and recommendations are made to the CCSP on how to use this assessment for program improvement at the annual academic update meeting in November.

Discussion of Measures & Evidence

In addition to the three year cycle of direct measures, indirect measures are obtained and discussed within the subgroup each year. PEAR end-of-semester and end-of-program student evaluations provide qualitative data on student perception of their learning in each course, both using Likert style questions and free response questions. These are discussed with individual faculty members in a meeting with the program director Greg Martin in the semester following the evaluations.