BS in Pharmaceutical Sciences: Program Learning Outcomes

1. **Review Current Learning Outcomes**: Describe your process for reviewing the existing learning outcomes for your major and describe the results of this review. Are the learning outcomes still relevant to your curriculum? Do the learning outcomes accurately reflect what graduates in your major will be able to do by the time they graduate?

Existing learning outcomes were discussed at a faculty meeting on March 11 2020. Input was collected, and the outcomes were modified and expanded to make them more reflective of our current academic goals. These new revised outcomes were then shared with the faculty on September 8, 2020, and discussed at departmental student affairs meeting on September 10, 2020. The discussion from this last meeting was used to develop the final version of our new learning outcomes shown below. Our existing learning outcomes (old) are also shown for comparison.

Pharmaceutical Sciences Undergraduate Student Learning Outcomes (Old)

1. Demonstrate an understanding of various stages of drug development and discovery, from identifying potential molecules to clinical studies.

2. Demonstrate an understanding of key areas of research and practice in pharmaceutical sciences, such as medicinal chemistry, physical chemistry, molecular pharmacology, and pharmacotherapy.

3. Demonstrate an understanding of the fundamental principles of pharmaceutical research including design, methods, data analysis and bioethics.

4. Demonstrate written and verbal communication skills.

5. Teach students, in an active learning environment, the tools to become life-time learners.

Pharmaceutical Sciences Undergraduate Student Learning Outcomes (New)

Knowledge and understanding

1. Understand the fundamental principles of biology, chemistry, physics, and mathematics.

2. Have a broad and in-depth understanding of drug development and discovery, from identifying potential molecules to clinical studies.

3. Have a broad and in-depth understanding of key areas of research and practice in pharmaceutical sciences.

4. Have a basic understanding of the normal function of the human body.

5. Have a basic understanding of common diseases and their associated drug treatments.

Intellectual Skills

6. Be able to read, understand, and critically analyze scientific and medical literature.

7. Understand the scientific method and be able to formulate hypotheses and propose experiments to test such hypotheses.

8. When given clinical signs of disease, decide on appropriate drug treatment at a very basic level.

Professional and Practical Skills

9. Demonstrate written and verbal communication skills.

10. Be able to work collaboratively with others in a group format.

11. Be able to use standard laboratory equipment, modern instrumentation, and experimental techniques.

12. Be willing to listen to others and consider alternative points of view.

13. Be able to use modern search tools to locate and retrieve scientific and medical information.

14. Be able to successfully explore and pursue career objectives, including graduate and/or professional education.

15. Understand and be able to discuss scientific and professional ethics and the standards of ethical conduct of research and medical treatment.