**The University of Maryland School of Pharmacy**

**PharmD Pharmapreneurship™ Pathway** (rev.2/2021)

Pathway Committee:

Magaly Rodriguez de Bittner, PharmD (PPS) , Pathway coordinator

Audra Stinchcomb, PhD (PSC)

Natalie D. Eddington PhD (Dean)

Peter Swaan, PhD (PSC)

Eberechukwu Onukwugha (PHSR)

Lisa Lebovitz (Dean’s office)

Shannon Tucker (Dean’s office)

**Pharmapreneurship Pathway Description:**

The University of Maryland School of Pharmacy (UMSOP) Pharmapreneurship™ Pathway is an innovation- intensive program that aims to provide pharmacy students the opportunity to expand their professional education and pharmapreneurial spirit. The program is designed to be a challenging experience for the student pharmapreneur, and where pharmapreneurism serves as a distinguishing component of the PharmD program at the University of Maryland School of Pharmacy.

Designed for a select group of qualified and motivated PharmD students, the Pharmapreneurship™ Pathway offers students the opportunity to pursue special interests in innovation, entrepreneurism and creativity with a high degree of individual attention and coaching by faculty and external advisors. A priority of the pathway is to build upon existing strengths in areas of motivation, independence, and creative problem solving to develop new research study design, drug discovery, modern analytic methods, business and innovative methods in the broad areas of basic pharmaceutical sciences, clinical/translational research, pharmaceutical health services research, outcomes research, as well as, create innovative clinical patient care programs and business solutions in health care.

Students in the Pharmapreneurship™ Pathway will conduct original projects with faculty/advisors mentors and receive individualized counseling about courses, internships and potential career options. There is an exciting opportunity to receive advice and mentorship from the members of the Board of Visitors, Center for Women in Pharmapreneurism, nationally and international group of entrepreneurs via meetings and presentations. Successful completion of the pathway will allow students seeking various career options to distinguish themselves from their peers, and to compete successfully in the pharmaceutical, pharmacy, clinical and business fields and to develop their skills to possibly start their own businesses.

Pathway Competencies

* Students will develop problem-solving and creative thinking abilities and apply them to contemporary scientific and clinical challenges
* Students will develop business, innovation, and leadership skills necessary to be Pharmapreneurs

**Admission Requirements:**

PharmD students with a GPA of at least 3.0 in their P1 year are invited to apply for admission into the Pharmapreneurship™ Pathway to begin in P2 fall semester. Students will be required to provide an essay 1) their past experiences in innovation, creative endeavors or business, 2) personal short-term goals for entering the pathway, and 3) long-term career goals. Applications will be reviewed by the Pharmapreneurship Pathway Committee. Each year, a maximum of 20-30 students will be selected for the program.

**Timeline:**

A broad solicitation of the P1and P2 class will occur annually in early fall. Application Due Date: must apply by January 16 (P1 and P2).

**Scope of Pharmapreneurship**™ **Projects:**

Pharmapreneurship ™ Pathway students may choose from a wide range of topics or focus areas to develop their Pharmapreneurship project. Project diversity is provided by participating School of Pharmacy faculty members, external advisors and experts who have vast experience in entrepreneurship and are themselves Pharmapreneurs as recognized by external entities and awards.

Specific information about the innovations being conducted by SOP faculty members Department websites:

PSC Department Faculty: <https://www.pharmacy.umaryland.edu/about/depts/psc/faculty.html>

PHSR Department Faculty: <https://www.pharmacy.umaryland.edu/about/depts/phsr/faculty/>

PPS Department Faculty: <https://www.pharmacy.umaryland.edu/about/depts/pps/faculty/>

**Pharmapreneurship/Faculty Advisors Committee:**

Students accepted into the pathway will meet with many of the advisors in the pathway and will have a designated individual advisor who will guide them in selecting a project. The student will receive one-on-one advising from their individualized advisor over the next 2-3 years. The main advisor will work with the student to identify additional members to serve on the Pharmapreneurship™ Project Committee. With the guidance of this committee, students will formulate and complete their project, culminating in a written proposal that will be presented to a group of internal and external judges using the ***“Dolphin Tank format”*** in P2 and P3 year and the “***Shark Tank format”*** intheir P3-P4 year***.*** Matriculation through the Pharmapreneurship pathway will be recognized by the presentation of a special ***Pharmapreneurship Pathway Certificate*** along with individual recognition in the graduation program and ceremony.

**Sequence of Coursework:**

The Pharmapreneurship ™ Pathway students enroll in didactic required and elective courses to gain appropriate training required to complete their Pharmapreneurship Project. The credits that may be used toward the Pathway and PharmD degree are outlined below. Only students that maintain a minimum cumulative 3.0 GPA throughout their studies will be eligible for the Pharmapreneurship ™ Pathway certificate. In addition to maintaining the GPA requirement and completing the project work, all pathway students are required to attend COVID-compliant at least 3 pharmapreneurship-based seminars per semester.

**Total requirement: 15 credits =**

|  |  |
| --- | --- |
| **1.** | **Required and elective courses (10 credits)** |
| **2.** | **APEX 424 (5 credits)** |
| **3.** | **At least one co-curricular activity** |

**P2 Year**

Required:

* Pharmapreneurship Seminar I and II (fall/spring, 1 cr. each)
* PHMY 539 Special Projects (fall/spring, 1 cr. each) Electives:
* Fall - Effective Leadership and Advocacy (2 cr.)
* P&T Elective (2 crs)
* Pharmaeconomics (3 crs)
* Applied Clinical Pharmacology Drug Development (2 Crs)
* Postgraduate Training Prep (1 cr)
* Advance Pharmacogenomics (. Cr)
* Selected Masters in Health and Social Innovation\*

Co-curricular:

* UMB President’s Student Leadership Initiative (PSLI)
* Selected MBA Courses \*
* Selected Masters in Health and Social Innovation\*
* Other relevant electives with prior approval by the Pathway Coordinator

**P3 Year** Required:

* Pharmapreneurship Seminar I and II (fall/spring, 1 cr. each)
* PHMY 539 Special Projects (fall/spring, 1 cr. each)

Electives:

* Fall - Pharmacist in Charge (2 cr.)
* Fall - Effective Leadership and Advocacy (2 cr.)
* P&T Elective (2 crs)
* Pharmacoeconomics (3 crs)
* Winter - Communication Course (2 cr.)
* Selected MBA Courses \*
* Selected Masters in Health and Social Innovation\*
* Other relevant electives with prior approval by the Pathway Coordinator

Co-curricular:

* UMB President’s Student Leadership Initiative (PSLI)
* Regulatory Science Competition

**P4 Year** Required:

Fall - Research Experience (APEX 424, 1 block, 5 credits)

Project Preparation (APPE 499 Pinnacle Project, 1 credit)

\*MBA and MS courses only with prior approval from Pathway Coordinators and program directors

A pre-requisite for PHMY 539 (P2 or P3) and APEX 424 (P4) is approval of annual progress reports submitted at the end of the P2 and P3 years (Appendix 1). The progress reports must be approved by the Pharmapreneurship™ Pathway coordinator. This ensures that adequate progress is being made and that the student is being provided sufficient direction towards completion of the project in a timely manner. The student and their project advisor will complete the PHMY 539 Special Projects form at the beginning of each required semester. The Special Projects grade will be submitted upon completion of goals/objectives.

Students involved in clinical research or other patient programs are required to complete IRB training in accordance with the UMB Human Research Protections Program ([http://www.umaryland.edu/hrp/forresearchers/required-training/).](http://www.umaryland.edu/hrp/for-researchers/required-training/)

**Project Guidelines:**

Pharmapreneurship accomplishments and educational experiences of the pathway students culminate in the preparation of a Pharmapreneurship project using the ***“Shark Tank Format”.*** Material presented in the seminar will be decided by the student and advisors and should be geared towards seeking financing for the project or the idea.

The format of the project should include the following: Title Page, Abstract, Introduction, Description of the

Problem or Challenge to be solved, Market Analysis, Innovative Proposed Solution, Financing, Discussion, References, Tables and Figures. If one or more first-authored publications results and/or patent/trademark from the student’s efforts, this/these may be presented together with the seminar presentation. *(Need to add reference to the patent/trademark rules from the University)*

**List of Appendices:**

**Appendix 1**  **Annual Project Progress Report**

**Appendix 2**  **Approval of Completed Project Proposal**

**Appendix 3**  **Project Certificate**

# Appendix 1: Annual Project Progress Report

Date: Year (circle): P2 P3

Student Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Advisor Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Description of progress during past year (1 page maximum):

Approved by:

1. Advisor ( Pharmapreneurship project)

Pharmapreneurship Pathway Coordinator

# Appendix 2: Approval of Completed Pharmapreneurship Project

Student name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of Presentation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title of Project: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Approval of Project (signatures to be entered after the presentation)

We, the Faculty, agree that the presentation and written Pharmapreneurship Project were satisfactorily completed.

Approved by:

1. Main Project Advisor

Pharmapreneurship Pathway Coordinator

# Appendix 3- Certificate

“Project Title”

By

“Student Name”

This project is submitted in partial fulfillment of the requirements for completion of the

**UNIVERSITY OF MARYLAND SCHOOL OF PHARMACY**

**PHARMD PHARMAPRENEURSHIP PATHWAY**

**May , 202\_**

APPROVED:

Faculty Advisor, “name”

**Pharmapreneurship Pathway Coordinator**

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“name”