

COLLEGE OF PHARMACY
2016-2017 Academic Catalog



Rosalind Franklin University of Medicine and Science and the College of Pharmacy reserve the right to change, at any time and without notice, their requirements, regulations, course and program offerings, fees, charges, and other matters addressed in this catalog. Rosalind Franklin University of Medicine and Science must reserve the right to modify or terminate programs described herein. However, modification of program requirements will not adversely affect those students already enrolled in a program, nor will termination of a program affect anything other than the closure of admission thereto.

v. August 1, 2016

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ROSALIND FRANKLIN UNIVERSITY
OF MEDICINE AND SCIENCE

College of Pharmacy

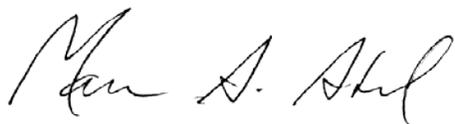
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Dear Prospective and Current Students:

Welcome to the Rosalind Franklin University of Medicine and Science College of Pharmacy! This catalog will provide guidance on the structure of our College and the course offerings available to students. Please use this catalog in conjunction with our website (www.rosalindfranklin.edu/cop) and Student Handbook to learn about our academic policies and procedures, educational philosophy, and commitment to student life.

We are proud to be a part of a university dedicated to interprofessional health care practice. This team-based approach to patient care is evidenced throughout our 4-year curriculum that interweaves the fundamentals of pharmaceutical sciences with modern-day pharmacy practice, preparing graduating pharmacists to play an integral role in not only the delivery, but also the management of patient therapies.

Sincerely,



Marc S. Abel, PhD
Dean

History

For more than 100 years, Rosalind Franklin University of Medicine and Science has been educating physicians and furthering biomedical research. Beginning in 1912, the Chicago Medical School (CMS) was created as a medical school and hospital where employed men and women could study medicine at night. Under the direction of John J. Sheinin, MD, PhD, DSc, who served as Dean and President from 1932 to 1966, CMS successfully met the challenges arising from the restructuring of American medical education.

In 1967, the University of Health Sciences was established. It was comprised of the Chicago Medical School, the School of Graduate and Postdoctoral Studies, and the School of Related Health Sciences later renamed the College of Health Professions. In 1970, baccalaureate programs were offered in Physical Therapy and Medical Technology. Since that time, the College of Health Professions has expanded to include masters- or doctoral-level programs in the following areas: Biomedical Sciences, Clinical Psychology, Health Administration, Health Professions Education, Interprofessional Healthcare Studies, Nurse Anesthesia, Nutrition, Pathologists' Assistant, Physician Assistant, and Physical Therapy.

In 1980, the University relocated to its current campus in North Chicago, Illinois adjacent to the Captain James A. Lovell Federal Health Center and Naval Station Great Lakes. That same year, the University was granted full accreditation by the North Central Association of Colleges and Schools. The University was one of the first educational institutions in the country devoted to educating men and women for a broad range of professional careers in health care and research.

In 2001, the Dr. William M. Scholl College of Podiatric Medicine, founded in 1912, became part of the University. In 2002, in order to accommodate its growth, the University opened the Health Sciences Building. This state-of-the-art, 140,000 square-foot facility houses the Feet First Museum, laboratories, auditoriums, classrooms, and departmental offices. The University became a residential campus for the first time in its history when three student housing facilities opened in 2003.

On January 27, 2004, the University publicly announced its intent to change its name to Rosalind Franklin University of Medicine and Science, in honor of Rosalind Franklin, PhD, a pioneer in the field of DNA research. The name change became legal on March 1, 2004, at which time the School of Related Health Sciences also changed its name to College of Health Professions. In addition to the name change and the announcement of several new strategic initiatives, the University has been in the midst of profound physical growth.

A University-wide interprofessional committee was established in 2004 and charged with developing the "Interprofessional Model of Care" for the University as well as model educational experiences. The concept for the Interprofessional Healthcare Experience began as an outcome of the University's strategic plan, which emphasized the importance of interprofessional

collaborations. As a requirement for graduation, Rosalind Franklin University of Medicine and Science now requires all first year clinical students to complete the Foundations for Interprofessional Practice course in order to foster interprofessional collaborations between all programs.

The University's Basic Sciences Building is a 400,000-square-foot facility that houses a 52,000-square-foot Library and The Daniel Solomon, MD, and Mary Ann Solomon Learning Resource Center as well as administrative offices, classrooms, auditoriums, basic science departments, research and teaching laboratories, and dining areas. In 2006, the University opened a two-story, \$10 million research expansion to the Basic Science Building to further its mission of scientific discovery.

In 2010, the University broke ground on the 23,000-square-foot Morningstar Interprofessional Education Center which offers additional classrooms, laboratories, clinical simulation spaces, and an amphitheater. It is the home of the College of Pharmacy, which welcomed its inaugural class in fall 2011.

In 2013, the Rothstein Warden Centennial Learning Center was completed. This 73,000-square-foot, three-level addition to the University's campus facility features state-of-the-art learning spaces that foster collaboration and enhance interaction between students and faculty. These rooms and their configurations further the University's commitment to interprofessional education.

In 2014, the DeWitt C. Baldwin Institute for Interprofessional Education was added as well as the Student Welcome Center. Aligned with the University's central Mission and Vision, the DeWitt C. Baldwin Institute for Interprofessional Education is dedicated to advancing interprofessional education and practices in medical and health professions.

Dr. Rosalind Franklin, through her pioneering work in the science of life and through her unflagging perseverance, serves as a role model for our faculty and students, and represents the future of biomedical science and integrated health care. Her history mirrors our own in many profound ways, marked by dedication to discovery even in the midst of difficult times. Upon that history, her legacy guides the future of the University itself. To learn more about Dr. Rosalind Franklin and the University's dedication to her legacy, visit www.rosalindfranklin.edu/about/dr-rosalind-franklin.

After more than 100 years of excellence in health care education, Rosalind Franklin University of Medicine and Science has only just begun to write its history. We hope you will join us in creating bold visions for an ambitious future.

Location

The College of Pharmacy is located on the third floor of the Health Science building in the Interprofessional Education Center. The building is on the campus of Rosalind Franklin University of Medicine and Science, at 3333 Green Bay Road, North Chicago, IL 60064. The University is located in the Chicago-Milwaukee corridor, with access to downtown Chicago, Milwaukee, and their surrounding suburbs by car or public transportation. University students enjoy an environment rich in cultural and leisure activities, with neighboring northern Illinois and southern Wisconsin communities that boast award-winning restaurants, museums, scenic landscapes, and more. For directions and a map, visit www.rosalindfranklin.edu.

Mission and Vision of the College of Pharmacy

Mission

To serve the nation through excellence in pharmacy education, research, and practice, with a commitment to patient-centered interprofessional care, community service, life-long learning, and an ethos of social responsibility.

Vision

To be recognized as a leader in pharmacy education who is dedicated to educating future pharmacists to serve humankind and their communities with competence, compassion, and in an ethical manner.

Core Values

Excellence, integrity, communication, interprofessionalism, scholarship, scientific curiosity, compassion, service, and diversity.

Equal Opportunity

It is the policy of RFUMS not to discriminate on the basis of race, sex, sexual orientation, color, creed, religion, national origin, disability or age in admissions or employment or in any programs or activities. It is the University's intent to comply with applicable statutes and regulations, including Title IX of the 1972 Education Amendments and Section 504 of the Rehabilitation Act of 1973. Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990 both prohibit discrimination against individuals with disabilities by mandating a provision of reasonable accommodations to make limitations to what services can be provided. It is the University's goal to assist students in developing their potential in light of what is feasible and reasonable under the law. Refer to the RFUMS Student Handbook for Educational Opportunity Policies and Procedures.

Accreditation

Rosalind Franklin University of Medicine and Science receives its degree-granting authority from the Illinois Board of Higher Education and is accredited by the Higher Learning Commission.

Higher Learning Commission
230 South LaSalle Street, Suite 7-500
Chicago, IL 60604
[800.621.7440](tel:800.621.7440)

Please visit the [university Accreditation webpage](#) to find additional accreditation information by clicking on the Higher Learning Commission Mark of Affiliation (icon).

The College of Pharmacy is accredited by the Accreditation Council for Pharmacy Education (ACPE), the sole accreditor of the Doctor of Pharmacy Program.

Accreditation Disclosure Statement

Rosalind Franklin University of Medicine and Science College of Pharmacy's Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, 135 South LaSalle Street, Suite 4100, Chicago, IL 60503, 312/664-3575; FAX 312/664-4652, web site www.acpe-accredit.org.

Student Comments to ACPE

College of Pharmacy students are encouraged to maintain an open dialogue with their professors, school administrators, and the body from which it has accreditation, the ACPE. Should a student or prospective student feel that RFUMS and the College of Pharmacy is in violation of the ACPE standards and guidelines, he/she should contact the ACPE directly:

Accreditation Council for Pharmacy Education
135 S. LaSalle Street - Suite 4100
Chicago, IL 60603-4810
Phone: [312-664-3575](tel:312-664-3575)
Fax: [312-664-4652](tel:312-664-4652)
csinfo@acpe-accredit.org

Further information about the ACPE complaint process can be found at <http://www.acpe-accredit.org/students/complaints.asp>.

Student Complaint Process

- 1) Students who think they experienced "mistreatment" should first try to resolve the issue with the institution's employee/offender.
- 2) If the student is unable to come to a resolution and wishes to file a complaint, the student should report the specific incident(s) to the offender's supervisor and to the Dean or Assistant/Associate Dean of their school or to the Executive Director of Campus Life in the Division of Student Affairs and Inclusion, Shelly Brzycki at 847-578-8355.
- 3) All incidents will be handled in an equitable manner with the guarantee of each student's rights with appropriate protection for both the complainant and accused.

- 4) Appropriate counseling can be arranged by contacting the Student Counseling Service at 847-578-8723.
- 5) In cases related to criminal activity the student should contact campus security.
- 6) If the student has exhausted all possible attempts with the institution and thinks the institution was unable to satisfactorily resolve the complaint, the student should contact the Illinois Board of Higher Education (IBHE) to:
 - a. File a written complaint through the IBHE online complaint system <http://complaints.ibhe.org/>
 - b. File a complaint using the Complaint Hotline: 217-557-7359 or,
- 7) If a complaint is not resolved at the state level, the student may contact Rosalind Franklin University's accreditation body, the Higher Learning Commission at 230 South La Salle Street, Suite 7-500, Chicago, Illinois 60604-1413, Phone: 800-621-7440, email: info@hlcommission.org

Admissions Policy

College of Pharmacy applicants will be evaluated not only for their educational potential, but also with the aim of providing a diverse educational experience for other members of the class. The diversity that is sought in the student body includes gender, geographical, racial or national origin, cultural identity, foreign language skills, life experiences, and other unique abilities and qualities. It is the goal of the College of Pharmacy admissions policy to ensure a fair selection process that results in the matriculation of students who will be dedicated to the philosophy and practice of patient-centered care. The College recognizes that a selection process that fulfills this goal must extend beyond the consideration of formal education to include the cultural diversity of the applicant pool.

Rosalind Franklin University does not and will not provide any commission, bonus, or other incentive payment based directly or indirectly on success in securing enrollment or financial aid to any persons or entities engaged in any student recruiting or admissions activities or in making decisions regarding the award of student financial assistance.

What Admissions Committees Look for in a Successful Applicant

Every successful applicant is expected to embody the following set of core attributes:

Intellectual Capacity

Evidence that the applicant can meet the scholastic requirements of the College of Pharmacy on the basis of past academic performance must be provided. This is assessed using the undergraduate grade point average the combined undergraduate science grade point average, and standardized test scores. Other factors in this category include the quality of the undergraduate institution, the difficulty of the course load, and the trend of grades. A strong aptitude for abstract thought and conceptualization is considered a positive attribute.

Dedication to Health Care, Science, and Service

Motivation to make a lifetime commitment to the practice of pharmacy can include documented interest in pharmacy, knowledge of current healthcare problems and issues, pharmacy- health care- or service-related employment, or participation in community and school service activities.

Communication Skills

Strong oral and written communication skills are essential attributes for a successful applicant. These skills are provided in the written application and the testimony of references and, in particular, as demonstrated during the interview process.

Integrity

Commitment to the highest standards of ethical and professional behavior must be demonstrated. All applicants are expected to have knowledge of basic ethical principles and to have demonstrated adherence to ethical principles in their past experiences and in the application process.

Many applicants will have past experiences, knowledge, and characteristics that can contribute to both the educational experience of their classmates and to the practice of pharmacy. The following six attributes create a diverse student population that enhances the educational experience of the class, and in turn provides for quality patient care in the future:

Geographic Diversity

An appropriate mix of students from the local area, the nation, and from other countries will be sought. The mix will include those who indicate a desire to serve in populations of the underserved, such as inner city residents, the financially disadvantaged, minority populations, or the uninsured.

Race and Ethnicity

Students from groups underrepresented in healthcare and science will provide opportunities for all students to benefit from interactions with peers with diverse experiences, personal characteristics, and backgrounds.

Life Experiences

A career in pharmacy requires interaction with a diverse population of patients and professionals. As such, we seek students with a wide variety of racial, ethnic, and cultural backgrounds. Experiences with other ethnicities and cultures are considered valuable, such as study abroad, involvement with multicultural organizations, or other unique life experiences.

Teamwork

Applicants with demonstrated ability to work well with others towards a common goal or purpose provide the potential to contribute to the educational experience of classmates and to future collaborations with other healthcare professionals and patients. Demonstration of teamwork may include participation and engagement in student organizations, service organizations, or sports teams, among others.

Educational Background

Applicants with degree majors outside of the sciences may contribute to the educational experience of the class and help future interaction with individuals of diverse backgrounds. Knowledge of a second language, particularly Spanish, is considered a valuable attribute for the future practice of pharmacy. Finally, applicants who possess graduate degrees, such as J.D., Masters in Public Health, Ph.D. etc., have additional skills and experiences that will be valuable both to classmates and to future colleagues.

Leadership

Strong leaders can contribute to their community of classmates, the University, and the surrounding area. Previous leadership experience as documented in the application and supporting documents will be considered in assessing leadership.

Research Experience

A meaningful research experience can provide an additional perspective to pharmacy practice and provide analytical tools for possible future research activities. The above is not intended to be an exhaustive list of the many attributes, factors, and conditions that are considered in the admissions process. Every applicant is evaluated individually.

Application for Admission

Application forms and materials are available online via the Pharmacy College Application Service (PharmCAS) at www.pharmcas.org. All applicants will be asked to review and electronically sign the PharmCAS Applicant's Code of Conduct prior to applying. Individuals unwilling to commit to the Applicants Code of Conduct will be unable to apply to the Rosalind Franklin University College of Pharmacy. Questions about the PharmCAS application system and code of conduct should be addressed to: PharmCAS, Phone: 617-612-2050, info@pharmcas.org.

Inquiries regarding College of Pharmacy admissions should be addressed to:

Rosalind Franklin University of Medicine and Science Office of Admissions
3333 Green Bay Road
North Chicago, IL 60064
Phone: 847-578- 3204

The following are needed to complete an application (see www.pharmcas.org for further details):

- Completed application form and official transcripts from all colleges or universities previously or currently attended. Pharmacy College Admission Test (PCAT) scores must be submitted through PharmCAS
- Two letters of recommendation from persons involved in the student's previous educational or work experience
- A personal interview
- Official transcripts of the Test of English as a Foreign Language (TOEFL) if the applicant's native language is not English and he or she has not attended an American college or university full-time or for two consecutive years

The Office of Strategic Enrollment Management reviews all applications for completeness and invites eligible candidates for interviews on a rolling basis. Individuals are notified by email through PharmCAS of all applicant decisions, from interview invitations to decisions on acceptance. If accepted, the applicant is required to return his or her letter of acceptance within 2 weeks and pay the deposit fee online via credit card payable to "Rosalind Franklin University." Deposit fees are non-refundable and applied toward the student's tuition in the first year of the program. Orientation materials are emailed to incoming students throughout the spring and

summer before matriculation. This includes relevant materials such as information and time for registration, orientation, financial aid, and housing information.

Technical Standards

The Americans with Disabilities Act

The Americans with Disabilities Act (ADA), enacted in July of 1990, protects any individual with a physical or mental impairment that substantially limits that person in some major life activity and any individual who has a history of, or is regarded as having, such an impairment. Under the ADA, as with Section 504 of the Vocational Rehabilitation Act, universities and colleges are prohibited from discriminating against an *otherwise qualified person with a disability* in all aspects of academic life. Schools must make *reasonable accommodations* for the known physical or mental disabilities of otherwise qualified individuals. The University need not make an accommodation that would cause an undue burden. The philosophical basis of the ADA, that judging persons on their abilities and achievements rather than their potential disabilities, runs parallel to the traditional philosophy of this University.

In order to define the "essential requirements" of its curriculum, the College of Pharmacy has developed a list of Technical Standards of behavior for the undifferentiated pharmacist. In decisions on admission, evaluation, promotion, and graduation of any person, and especially an applicant or student with a disability, it is the obligation of the student to meet these minimum technical standards, with or without reasonable accommodation.

For further information on these Technical Standards and the procedures for their implementation, interested persons are encouraged to contact Steve Weiland, Associate Vice President for Student Affairs at (847) 578-8349 or steven.weiland@rosalindfranklin.edu.

A candidate for the PharmD degree must possess abilities and skills which include those that are observational, communicational, motor, intellectual-conceptual (integrative and quantitative), and behavioral and social. The use of a trained intermediary is not acceptable in many clinical situations in that it implies that a candidate's judgment must be mediated by someone else's power of selection and observation.

Observation

The candidate must be able to acquire a defined level of required information as presented through demonstrations and experiences in the basic and clinical sciences, including, but not limited to, information conveyed through physiologic and pharmacological images and demonstrations. Furthermore, a candidate must be able to:

- observe a patient accurately, at a distance, and close at hand, with or without standard medical instrumentation, to acquire information from written documents, and to visualize information as presented in images from paper, films, slides or video.
- interpret graphic images, and digital or analog representations of physiologic phenomenon with or without the use of assistive devices.

Such observation and information acquisition necessitates the functional use of visual, auditory, and somatic sensation while being enhanced by the functional use of other sensory modalities. In any case where a candidate's ability to observe or acquire information through these sensory modalities is compromised, the candidate must demonstrate alternate means and/or abilities to acquire and demonstrate the essential information conveyed in this fashion. If the alternatives are acceptable, it is expected that obtaining and using such alternate means and/or abilities shall be the responsibility of the student. Costs of necessary accommodations should be reasonable and will be properly borne by the University when not the responsibility of the student or otherwise funded.

Communication

A candidate must be able to speak, to hear, and to observe patients by sight in order to elicit information, describe changes in mood, activity and posture, and perceive nonverbal communications. A candidate must be able to communicate effectively and sensitively with patients and their families. Communication includes speech and writing. The candidate must be able to communicate effectively and efficiently in oral and written form with all members of the health care team.

Motor

It is required that a candidate possess the motor skills necessary to perform basic physical assessment procedures, medication administration, medication preparation, and to utilize laboratory and diagnostic equipment. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision.

Intellectual-Conceptual (Integrative and Quantitative) Abilities

The candidate must be able to measure, calculate, reason, analyze, integrate and synthesize. In addition, the candidate must be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures. Problem solving, the critical skill demanded of pharmacists, requires all of these intellectual abilities. The candidate must be able to perform these problem-solving skills in a timely fashion.

Behavioral and Social Attributes

The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to the care of patients, and the development of mature, sensitive, and effective relationships with patients. The candidate must be able to function effectively under stress. He/she must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of patients. Compassion, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that will be assessed during the admissions and educational process.

Technical Standards can also be found online at www.rosalindfranklin.edu on the Admissions Office website.

Minimum Requirements for Admission

To be considered for admission as a student, the applicant should:

- Complete the 60-semester or 87-quarter required prerequisite credits from an accredited college or university (refer to the College of Pharmacy website for the application requirements and prerequisite coursework)
- Present PCAT scores. The oldest acceptable scores will be 3 years or less prior to the year of matriculation.
- The TOEFL and TWE are required if you are a foreign applicant who is from a country where English is not the primary language and have not attended a United States university/college for two consecutive years.

Conditional Acceptance

Acceptance may be proffered based on conditions including items such as verification of materials, successful completion of external coursework or exams, or program performance benchmarks in the program to which the person has been accepted. For example, on an individual basis, applicants with remaining prerequisite coursework may apply and their acceptance would be conditional on successful completion of that coursework. In all cases, the conditions and deadline for meeting the conditions will be clearly articulated in the acceptance letter for the program.

Non-Immigrant International Students

The College of Pharmacy is authorized under federal law to enroll non-immigrant international students. For questions regarding immigration matters, please contact the Office of Multicultural Student Services at:

Rosalind Franklin University of Medicine and Science
3333 Green Bay Road
North Chicago, IL, 60064
Phone: 847-578-8354

Background Check Policy

Acceptance to the College of Pharmacy is conditional pending results of a criminal background check. The background check facilitated through the PharmCAS system will be utilized for pharmacy applicants. In addition, enrolled students are required to complete a background check prior to the start of each professional year. The cost of the criminal background check is the responsibility of the student and is included in the student fees. Extra fees may apply to cover the costs of additional background checks that may be required by experiential education practice sites. Refer to the RFUMS Student Handbook for the University policy on background checks.

Drug Testing

The College of Pharmacy must certify that students are negative for certain drugs prior to placement at experiential education rotation practice sites. As such, students are required to

complete a drug test prior to the start of each professional year. The cost of the drug screen is the responsibility of the student. Students may be asked to share drug screen results with rotation sites upon request, and certain experiential sites may request a random drug screen during a student's rotation (see drug screening process in the COP Student Handbook or the Experiential Education Manual for additional details).

Tuition and Fees

The deposit fee to hold a place in class is applied to the first quarter tuition at registration.

Payments not received by the due date for the prospective quarter may be subject to a late fee assessment of 1.5% of the balance due.

Failure to pay tuition and fees in full by the end of the academic quarter will result in a student not being allowed to register for the subsequent quarter.

Fees vary depending on the year of the program. Tuition and fees are posted on the Student Financial Services website:

www.rosalindfranklin.edu/prospectivestudents/StudentFinancialServices/StudentBilling.aspx

Refunds

If a student withdraws from a program before the end of the first week of classes, 100% refund of tuition is made. When withdrawal is made before the end of the second week, the refund is 75%; before the end of the third week, 50%; before the end of the 4th week, 25%. After that time, no refund is granted.

Financial Aid Information

Individuals who wish to apply for financial aid should ensure that their graduate program applications are submitted well before the enrollment deadline to allow adequate time for document processing. Students must enroll in 6 hours per quarter to be eligible for financial aid. Applications for federal student aid are available online at: www.fafsa.ed.gov and are available every February for the following academic year. The code for Rosalind Franklin University of Medicine and Science is 001659.

To meet the cost of attending the College of Pharmacy, students, spouse, and/or parents are expected to provide financial support to the extent they are able. When family resources are insufficient to meet college costs, students are encouraged to seek assistance from the following currently existing programs. Financial assistance may be available in the form of student loans including but not limited to Subsidized Federal Stafford Loans, Unsubsidized Federal Stafford Loan, Federal Perkins Loan, and Veteran Education Benefits. Please contact Student Financial Services at 847-578-3217 or visit the financial aid website for further information.

Academic Standards of Performance and Their Measurement

Academic Standards

The College of Pharmacy expects students to pursue studies in a manner that will prepare them for excellence. The College may set standards for promotion. The College will notify students not meeting such standards.

Non-Academic Performance Standards

Students in the College of Pharmacy are subject to dismissal for unethical and/or unprofessional behavior in their student role. Please refer to the College of Pharmacy's Guidelines and Procedures for Student Progression, Evaluation, Assessment, and Recognition for details.

General Grading System

The University system for grading is as follows:

A	4.00	High Achievement
B	3.00	Above-Average Achievement
C	2.00	Average Achievement
F	0.00	Failure

Grades without associated grade points:

P	Pass
F	Fail

Other status notations:

H	Honors
W	Withdrawal
PP	Pass Proficiency Exam
I	Incomplete
#	Graded at Sequence End
IP	In Progress
NC	No Credit Given
AU	Audit

Definitions

Failure (F): Denotes that a student does not demonstrate competency or does not complete the course or clerkship requirements at a satisfactory level as outlined in the syllabus.

Honors (H): Denotes select Podiatry courses and Medical extramural courses in which a student has been given the distinction of honors.

Withdrawal (W): The formal termination of course registration for a quarter

Pass Proficiency Exam (PP): Denotes that student has successfully passed a proficiency exam for a specific course and is reported to the Registrar's office.

Incomplete (I): A temporary notation that a grade cannot be determined because the student has been unable to complete part of the course due to extenuating circumstances. See complete definition included in this policy.

In Progress (IP): Assigned for a course that is currently in progress.

No Credit given (NC): No credit is recorded.

Audit (AU): Enrollment for a course whereby the student does not earn academic credit. Written permission of the appropriate department chair and/or dean is required. Tuition and fees are applicable.

Grade Point Average (GPA)

Only courses graded on an A-F basis are used in calculating GPA. Courses taken as Pass/Fail, Pass by Proficiency, and Audit, are not included. The GPA calculation never includes transfer work from other colleges or universities.

To calculate GPA for one term:

1. Multiply the point value of the letter grade by the number of credit hours. The result is the grade points (quality points) earned.
2. Total the credit hours for the term.
3. Divide the total quality points by the total credit hours. The result is the GPA for the term.

To calculate cumulative GPA:

1. Multiply the point value of the letter grade by the number of credit hours. The result is the grade points (quality points) earned for all terms.
2. Total the credit hours from all terms.
3. Divide the total quality points for all terms by the total credit hours for all terms. The result is the cumulative GPA.

In the case of repeated courses, only the repeated course grade is included in the cumulative grade point average.

Units of Credit

Academic work at RFUMS is measured by units of credit. RFUMS uses the quarter system to measure the length of a term. The quarter system is generally 10-12 weeks of class including final examinations. In conjunction with the letter grade a student receives from the course instructor, units of credit give a fairly accurate evaluation of the amount of time that has been devoted to a given subject.

The number of credit hours assigned to a course is an approximation based on average student workload, entailing lecture, laboratory work and clinical/internship work. All classes offered for credit at RFUMS are equated as a standard credit hour. One credit hour is equivalent to one hour (50 minutes) of lecture per week or two hours per week for laboratory, clinical experience, or small group discussion. Courses may last for one or more quarters. Grades are reported at the end of each course.

Course Numbering System

400	Upper-level undergraduate courses
500	Graduate/Professional level courses 1 st year
600	Graduate/Professional level courses 2 nd year
700	Graduate/Professional level courses 3 rd year
800	Graduate/Professional level courses 4 th year
900	Independent Study
999	Continuous Enrollment

Submission of Grades

All final grades must be completed and submitted to the Registrar's Office using Web Advisor on or before the grading deadline. Final grades are due no later than 14 days after the end of the quarter. It is critical that this deadline is met. Late submission of grades results in restrictive

academic actions on students that can have a myriad of negative impacts (e.g., financial aid, graduation, verifications, etc). Students will have access to their grades via WebAdvisor approximately 4 days after submission.

Final grades for students who are eligible for graduation must be submitted one week prior to the date of graduation. The Registrar's Office understands the challenges sometimes associated with receiving grades within 14 days for clinical rotations. Faculty and staff should make all efforts to meet the deadline for submission of grades.

Change of Grades

A. Once grades have been submitted to the Registrar's Office, final grades may be changed for the following reasons:

- Calculating error in computing the grade
- Posting the wrong grade
- Replacing an "I" notation
- Posting a grade if no grade was submitted
- Re-evaluation of the previous grade
- Submission of a new grade after a remediation exam/project is satisfied

When corrections need to be made, an official Grade Change Memo must be sent directly to the Registrar's Office. A previous grade cannot be changed to a "W" (official withdrawal). If the student had a nonacademic emergency, he/she should file a petition for withdrawal with the Registrar's Office.

B. Changes to previously recorded grades must be submitted within one calendar year following the end of the term during which the student was registered for the course. Changes must be initiated by the instructor on a Grade Change Memo, signed by the instructor and the department chair, and then submitted to the Registrar's Office for review. A reason for the requested change must be provided before the request will be reviewed.

After one year or when the student graduates grades are considered final. Any requests for a change of grade after the one year will require documentation describing the change, and why the Grade Change Form was not filed during the appropriate period.

C. Grades will not be changed following a student's receipt of a degree or permanent departure from RFUMS.

Incomplete "I" Policy

Incomplete "I" is not a grade, but a notation that a grade cannot be determined because the student has been unable to complete part of the course due to extenuating circumstances. Extenuating circumstances must be documented and reviewed by the Course/Clerkship Director and/or the Department Chair. This notation is not to be used to denote unsatisfactory performance.

A notation of “I” will be replaced by a grade when a student has made up the missing material and/or taken necessary examination(s) as approved by the department.

Incomplete “I” may be given only in the following circumstances:

- The student's work to date is passing
- Extenuating circumstance which legitimately prevents completion of required work (appropriate documentation is required)
- Required work may reasonably be completed in an agreed-upon time frame (typically by the end of the next quarter, but not to exceed one calendar year)
- The incomplete is not given as a substitute for a failing grade
- The incomplete is not based solely on a student's failure to complete work or as a means of raising his or her grade by doing additional work after the grade report time
- The student initiates the request for an incomplete grade before the end of the academic term

The following provisions for Incomplete “I” apply:

- It is the responsibility of the Instructor to establish the terms of the Incomplete. The Registrar will follow-up on the status of Incompletes on a quarterly basis. Instructors are required to submit a memo to the Registrar detailing the terms of the Incomplete when the Incomplete is assigned
- A final grade to replace the Incomplete must be submitted within one calendar year from the date the Incomplete was recorded. The course work may be completed while the student is not enrolled
- Incomplete will appear on the transcript for one year, or until a final grade is submitted to replace it. Incomplete does not calculate into the grade point average. After one year, or at the time of graduation, an Incomplete will change to ‘F’ (The F will affect the GPA).
- An Incomplete may not be considered passing for purposes of determining academic standing, federal financial aid eligibility, or other purposes
- An Incomplete should not be assigned when it is necessary for the student to attend additional class meetings to complete the course requirements. Students who receive an incomplete in a course cannot register for a future offering of the course to remove the "I" designation.
- An Incomplete is not to be assigned when the normal practice requires extension of course requirements beyond the end of a term (i.e. thesis).

A failing grade and last date of attendance should be recorded for students who cease attending class without authorization. Students who are unable to complete a course and who do not meet these circumstances should consider withdrawing from the course.

Auditing Courses

A student may elect to audit a course upon approval of the Office of Academic Affairs. The name of an auditing student appears on the class roster. Tuition is charged for an audited course. Audited courses will appear in the student's official record. No credit will be received for the audited courses and the course cannot be used to determine enrollment status or federal financial aid eligibility.

Repeated Courses

The term “repeat” is used when a student retakes an entire course (course retake) after failing the course the first time. The second attempt will have its own entry on the transcript along with the second grade.

If a student repeats a course, the course will be counted toward the degree. The student's official transcript will record all courses attempted, including repeated courses. In the case of repeated courses, only the repeated course grade is included in the cumulative grade point average.

Proficiency Exam

Under certain prescribed conditions, *currently registered* students *in good standing* may receive course credit by taking an examination without formally enrolling in a course. Students may obtain a petition and a copy of the prescribed conditions from the Registrar's Office. The petition is subject to the approval of the school, college or department responsible.

The credit received for the examination may not duplicate any credit already earned toward the degree. Students may not use credit by examination to repeat any course taken previously, regardless of the grade received in that course. The final results will be reported to the Registrar's Office, which will assign the appropriate grade. The student's transcript will reflect “PP” Pass by Proficiency, which is not calculated in the GPA.

Concerns about Grades or Other Academic Assessments

The awarding of grades and all other academic evaluations rests entirely with the faculty. If a student has a concern relating to a particular grade or other assessment of his or her academic work, the student first should speak with the instructor of the class to understand how the grade or other evaluation was derived and to address the student's specific concern. Per the College of Pharmacy's Guidelines and Procedures for Student Progression, Evaluation, Assessment, and Recognition, appeals of course grades or evaluation reports should occur as follows:

1. A student may appeal his/her grade/evaluation report to the Course Director within 2 business days of being posted. The Course Director will have one week to review it and render a decision. If the Course Director supports the appeal and submits a new grade/report, it will replace the grade/report currently in the student's record.
2. If the Course Director rejects the appeal, the student may appeal to the Department Chairperson, who will have one week to review it and render a decision. If the Department Chairperson supports the appeal and submits a new grade/report, it will replace the grade/report currently in the student's record.
3. Continued disagreement will be referred to SPEAC via the COP Offices for Academic and/or for Student Affairs. SPEAC will review the appeal request at its next scheduled meeting. SPEAC's decision on the appeal will be final, with no further recourse for appeal.

Please consult the “Procedures for Questions and Concerns” in the College of Pharmacy Student Handbook for additional detail.

Transfer Credit

Graduate credit earned prior to admission to RFUMS may be eligible to be transferred into certain programs and applied towards degree requirements. Transfer of credit requires the approval of the program chair and dean of the college, and the Registrar’s Office by completing the Transfer Credit Request Form. They will determine whether the credit is eligible for transfer and applicable to the specific certificate or degree program. Credits accepted for transfer do not compute into any RFUMS GPA.

Credit is considered for transfer at the student’s request at the time of initial registration as a degree-seeking student. Students must submit official transcripts. Credit transfer requests from students who are admitted provisionally are not considered until they have fulfilled the conditions of their admission and have had the provisional qualifier removed from their records.

To be eligible for transfer credit, the credit must be graduate credit earned at another U.S. accredited university. The credit must have been earned within five years prior to first enrollment as an admitted student in the specific certificate or degree program, and a minimum grade of B (3.00) must have been earned. The course must be applicable toward a degree at the institution offering the course. The credits cannot have been previously applied toward a degree at another institution or RFUMS; however, up to 3 credits previously applied to a degree program at another institution may be transferred into certain programs at RFUMS.

Credit from Other Institutions

Approval must be received in writing from the department chair and the Office of Academic Affairs, and submitted to the Registrar’s Office before registering at another institution. Upon completion of the course, students must arrange for an official transcript to be submitted to RFUMS so that the credits may be transferred to their RFUMS degree program. Credits are subject to all the other conditions given above for transfer credit, including limits on numbers of credits that can be taken elsewhere. Note that credits accepted for transfer do not compute into the RFUMS GPA. Permission to take a course elsewhere does not exempt a student from satisfying RFUMS degree requirements.

Advanced Standing

Advanced standing may be granted to students who provide evidence of equivalent credit courses completed in other programs at RFUMS or at another accredited university. Advanced standing can take two forms:

Exemption: Students exempted from a course do not have to take that course. However, they must replace their course with another one in order to complete their program. The program advisor will approve course substitutions.

Credit: Students given credit for a course do not have to take nor replace that course with another one in order to complete their program

Students should request advanced standing through the Office of Admissions at the time of admission. Evaluation requests received after the time of admission will not be considered before course registration and will be delayed until the following session.

Students who have been granted exemptions and/or credits are not permitted to register for the course for which they have been granted exemption and/or credits.

Extramural Courses

Extramural courses are taken outside the University after matriculation at RFUMS, and will only be accepted for credit under one of the following circumstances:

- The extramural course is an approved elective (must complete the Request for Outside Elective form)
- The extramural course has been approved for retake of a course failure

Schedule Changes (Adding/Dropping a Course)

A schedule change is defined as adding and/or dropping courses but maintaining enrollment. Students requesting to change a course must get approval from the Office of Academic Affairs. Once a student is registered for a course, completion of the Course Change form is required to make a change.

If a student withdraws from a course during the first week of the quarter, there will be no course or grade recorded on the transcript. A student withdrawing from a course after the first week receives a “W” for the course in which the student was enrolled. A student may withdraw from a course up to the tenth week of the quarter; however, a student may not withdraw from a course during the two weeks prior to the final examination or final project. Withdrawing after the tenth week or during the two weeks prior to the final examination will receive regular grade designations as determined by the instructor(s). Under unusual circumstances, a “W” can be assigned in the aforementioned situation if approved by the instructor and the chair of the program, and with final approval of the dean of the school or college.

All students who register for a course and neither complete the course objectives nor officially withdraw according to any one of the procedures described in this document will be graded “F” in that course and must assume all financial obligations associated with the course.

Tuition and fees after dropping one or more courses vary depending on the Academic Program and/or College. Please consult with the Office of Academic Affairs regarding schedule changes and refunds.

Withdrawal

Withdrawal from RFUMS may be for personal reasons on the part of the student, academic reasons as determined by the program requirements, or by administrative decision as follows:

- Voluntary Withdrawal: To withdraw from RFUMS, the student must submit an official Withdrawal Form to the Registrar’s Office and complete an exit interview with his or her advisor.

- Academic Withdrawal: If a student has not made satisfactory academic progress toward fulfilling degree requirements, he or she may be withdrawn from RFUMS.
- Administrative Withdrawal: A student may be withdrawn from a particular program for reasons of a professional nature as determined by the program director, department chair, or dean.

International students who withdraw from RFUMS may face critical consequences regarding their visa status. To discuss the implications of noncompliance well in advance of processing a withdrawal, international students should contact the International Student Advisor.

The Schedule Change policy (see policy in this document) applies to a student who withdraws. Failure to attend classes or verbal notification to instructors does not constitute withdrawal. Students who drop out of a course without officially withdrawing as previously described will be credited with failure. A student who fails to register for courses and/or fails to respond to official communication about enrollment is grounds for Administrative Withdrawal.

The RFUMS Refund Policy applies to students who withdraw from a program. Please consult that policy for specific refund structure. Changes in tuition and fees for withdrawing from one (or more) course vary; please consult the Office of Academic Affairs for specifics.

Dismissal

Dismissal of a student from RFUMS is considered a very serious action. Dismissal of a student must follow the process defined by the College as defined in the Guidelines and Procedures for Student Progression, Evaluation, Assessment, and Recognition, available on the College of Pharmacy website. Dismissal from a program constitutes dismissal from the University.

Appeals of Withdrawal or Dismissal

All appeals of dismissal or withdrawal must follow the appeals process defined in the College of Pharmacy's Guidelines and Procedures for Student Progression, Evaluation, Assessment, and Recognition.

Statement of Policy on Professionalism and Ethics

All students at RFUMS are expected to exhibit professional, responsible, and ethical behavior. Students should display this behavior as students in the University, as health care providers in the clinical setting, and as researchers in the laboratory or clinic. All students should, therefore, possess the highest degree of personal integrity and be able to reason about ethical issues in their professional life. Students are expected to treat patients and research subjects with respect, compassion and sincerity, irrespective of race, color, creed, ethnic origin, religion, disability, gender, sexual orientation, or socioeconomic class, and to maintain strict confidentiality. Students are expected to be honest and trustworthy, to respect the property of others, and to follow the code of professional ethics appropriate to their discipline. Any departures from these standards may result in disciplinary action. See Student Conduct Policy in the RFUMS Handbook and the Standards for Professional Behavior in the College of Pharmacy's Guidelines and Procedures for Student Progression, Evaluation, Assessment, and Recognition for details.

Procedures for Consideration of Violations of Professional and Ethical Standards

A student alleged to have committed ethical or professional misconduct shall be afforded due notice and process in the investigation, deliberation, and decision about such allegations and potential penalties. See Student Conduct Policy in the RFUMS Handbook and the Standards for Professional Behavior in the College of Pharmacy's Guidelines and Procedures for Student Progression, Evaluation, Assessment, and Recognition for details.

Student Records

All documents and records pertaining to a student's admission and academic performance in the University are filed in the Office of the Registrar. Refer to the RFUMS Student Handbook or the Registrar's website for information regarding Students' Personal and Academic Information.

Leave of Absence

Students in the College of Pharmacy are expected to maintain continuity and diligence in pursuing the PharmD degree. When, for any reason, a student must be absent from academic study at the University, students shall petition the Office of Academic Affairs for a leave of absence and receive approval before leaving.

A request for leave of absence during a period of academic difficulty is authorized only after careful consideration. In general, such leave is granted only after agreement on a structured program of activities to be pursued during the leave of absence. These activities are designed to help students overcome academic difficulties; they will have to be successfully completed as a condition for re-admittance to classes.

Leaves of absence requested for reasons of health, maternity, or finances are granted as a matter of course. Upon resolution of the conditions for which leave was granted, students are readmitted to the same academic standing that existed when the leave began. Leave of Absence may also be mandated by the College pursuant to disciplinary actions as described in the Guidelines and Procedures for Student Progression, Evaluation, Assessment, and Recognition. The University's Leave of Absence Policy can be found on the Registrar's website.

Graduation Requirements

Students will be recommended for graduation by the College faculty upon successful completion of degree requirements, review of academic performance, and demonstration of professional standards.

The Combined Pharmd/Phd Degree

The combined PharmD/PhD degree program is designed for individuals who are strongly motivated to have a career in both academic pharmacy and research. These students pursue combined degrees and have been deemed by the admission committees of both the School of Graduate and Postdoctoral Studies and the College of Pharmacy to have met all admission requirements. Upon enrollment in the combined PharmD/PhD program, students are

considered to be concurrently studying in both the College of Pharmacy and SGPS through completion of both their PhD and the remaining 2 years of their pharmacy studies. After the P1 and P2 years in the PharmD program at RFUMS, PharmD/PhD students pursue their PhD through a funded program before finishing their P3 and P4 years in pharmacy. In the PhD phase of the program, students are mentored by experienced primary investigators and train in cutting-edge laboratories. The PhD phase of the program must be completed before the student may return to the PharmD curriculum to complete the P3 and P4 years.

To begin studies as a combined degree student, the applicant must be accepted into both the College of Pharmacy and the School of Graduate and Postdoctoral Studies. Application may be made to SGPS after the completion of the first year of the PharmD curriculum.

Application Requirements for PharmD/Phd Students

Current RFUMS students beginning their P2 year in the College of Pharmacy are eligible to apply for the combined degree program with what is known as a “Track II application.” These are highly motivated students who have a desire to become pharmacist scientists. These students must have maintained a 3.5 GPA while enrolled at RFUMS and have laboratory experience at RFUMS with a willing and approved research mentor in one of the six (6) basic science degree-granting departments. Track II students, if admitted, enter the graduate phase of the program after completion of their P2 year and begin working immediately with their research mentors towards their PhDs.

Due to the coursework completed by combined degree students in their P1 and P2 years, the student’s Research Committee will determine the additional course requirements for the PhD phase of the student’s training. The requirements may or may not include the required courses of the department. Nevertheless, combined degree students are required to successfully complete the following SGPS courses:

- GIGP – 507 Art of Scientific Presentation
- GIGP – 510 Computer Applications in Biomedical Sciences
- GIGP – 508 Ethics and Regulatory Issues in Biomedical Research
- GIGP – 514 Principles in Experimental Design and Biostatistics

Additional Policies and Resources

All students are required to follow the policies that supplement this Catalog which include, but are not limited to, the College of Pharmacy Student Handbook, the RFUMS Student Handbook, and the Guidelines and Procedures for Student Progression, Evaluation, Assessment, and Recognition. Please consult these documents for additional information.

Departments and Courses within the College of Pharmacy

The College of Pharmacy comprises two departments; the Department of Pharmaceutical Sciences and the Department of Pharmacy Practice. A major component of the Department of Pharmacy Practice is the Office of Experiential Education (OEE). The OEE develops, manages, and assesses hands-on pharmacy practice experiences that take place at practice sites which

are affiliated with the program. Simulation activities and service learning are included in experiential education.

The Introductory Pharmacy Practice Experiences comprise approximately 8% of the overall curriculum, and occur through the first 3 years of study. The Advanced Pharmacy Practice Experiences comprise the entire 4th year of study, which is approximately 28% of the overall curriculum. The Introductory and Advanced Pharmacy Practice Experiences afford students the opportunity to apply the skills and abilities learned in the classroom to the practice of pharmacy in a variety of settings.

Course descriptions for the 4 years of study are included below. Note that Department of Pharmaceutical Science course names begin with YPHS and Pharmacy Practice courses begin with YPHP. Elective courses offered in the College are designated either YELP (Pharmacy Practice) or YELS (Pharmaceutical Sciences). All other designations indicate courses offered outside of the College of Pharmacy through other Rosalind Franklin University colleges or programs. Please contact the Office of Academic Affairs at 847-578-8764 for more information about College course offerings.

College of Pharmacy Curriculum

Fall Quarter, Year 1

YPHP 500 – Introduction to Pharmacy Practice (1 h)

This course provides an orientation to the profession of pharmacy. The history and development along with the scope of the practice of pharmacy will be discussed. The ethical and regulatory foundation for pharmacy, contemporary issues, healthcare policy, and career opportunities (licensure requirements, residency/fellowship options, etc.) will be introduced and examined in an open forum of discussion with students and faculty.

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHS 501 – Pharmaceutics I: Introduction to Pharmaceutical Sciences (3 h)

This course deals with the science of drug delivery and the chemical and physical properties of a drug and its excipients that allow it to be a medicinal. We will discuss physical pharmacy, dosage forms that enable the drug delivery, and the principles of absorption, distribution, metabolism, and excretion (ADME) of drugs.

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHS 504A – Biochemical Principles for Pharmacy (2 h—with Winter Quarter = 4 h total)

Basic biochemistry as it relates organ systems and disease. This includes the principles of the thermodynamics, kinetics, structure, and regulation of biochemically significant molecules and their building blocks. Biochemical constructs (such as energy production, enzymes, membranes, DNA, RNA, proteins, anabolic and catabolic pathways, etc.) are discussed with respect to pharmaceutical treatment of human disease.

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHS 507A – Microbiology & Immunology (1 h—with Winter and Spring Quarters = 7 h total)

The first in a comprehensive series of lectures on fundamental microbiological and immunological principles. Chemical and physical properties of microorganisms are used to explain how microorganisms cause disease, and how the human host defenses combat disease-causing agents. Case studies are presented throughout the course. Symptoms of infectious diseases and immunologic disorders are emphasized.

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHS 510 – Fundamentals in Physiology I (4 h)

The fundamentals of human physiology relating to basic cellular function, embryology, the cardiovascular system, respiration, the endocrine system (including reproduction), the gastrointestinal system, the renal system and hematology (including the function of white blood cells) will be presented. Physiological concepts and mechanisms will be organized according to five themes: Homeostasis & Control systems, Biological Energy Use (metabolism), Structure/Function Relationships, Communication, Pathophysiology.

Prerequisites: Pre-pharmacy curriculum and admission to program.

HMTD 515A – Foundations for Interprofessional Practice (1 h—with Winter Quarter = 2 h total)

This course is an experiential learning opportunity for students to interact in interprofessional health care teams which extends through the fall and winter of the first year. This interactive

course is intended to help prepare the health care professional student to provide effective patient-centered health care through small group discussion and problem solving activities. Topics include: team interaction, leadership, communication, service learning, information literacy, team-based approaches towards patient-centered care which includes understanding the roles of health professions, patient interviewing, interprofessional care plans, health literacy the impact of culture and health beliefs and the provision of services, disparities in the healthcare delivery system, and awareness of prevention education and self-management the impact health/wellness. Interprofessional teams of students develop and participate in significant community based service learning projects or a clinical experience.

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHP 502 – Introduction to Drug Information (1h)

YPHP 502 is the first in a two course Drug Information series. It is designed as a foundational course to provide students with the knowledge of the basic principles of drug information as they pertain to resource identification, information retrieval, and appropriate referencing. In addition, career opportunities with a focus on drug information will be examined.

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHP 506 – Pharmacy Skills Laboratory I (2h)

Orientation to the practical skills utilized in community pharmacy settings. Students will engage in a hands-on approach in learning the appropriate and safe delivery of immunizations through the American Pharmacist Association's Pharmacist-Based Immunization Delivery Certificate Program. Students will also gain experience in the management of pharmacy workflow and application of selected pharmacy laws and regulations. The Top 200 drug products will be emphasized.

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHP 515A – Introductory Pharmacy Practice Experience I (1 h)

The Introductory Pharmacy Practice Experiences (IPPEs) are designed to provide the foundation for the student pharmacists in preparation for their Advanced Pharmacy Practice Experiences (APPEs). This course is a structured introduction to pharmacy practice in a community pharmacy setting. The community IPPE spans the P1 year, during which the students will engage in basic distributive and administrative processes in community pharmacies and gain initial experience interacting directly with patients, preceptors, technicians, and other health care providers and pharmacy personnel. The community pharmacy IPPE is a longitudinal rotation experience, during which the students will complete at least 100 hours in a community pharmacy. Simulation activities are also incorporated into this course.

Prerequisites: Pre-pharmacy curriculum and admission to program.

Winter Quarter, Year 1

YPHS 504B – Biochemical Principles for Pharmacy (2 h—with Fall Quarter = 4h total)

Basic biochemistry as it relates organ systems and disease. This includes the principles of the thermodynamics, kinetics, structure, and regulation of biochemically significant molecules and their building blocks. Biochemical constructs (such as energy production, enzymes, membranes, DNA, RNA, proteins, anabolic and catabolic pathways, etc.) are discussed with respect to pharmaceutical treatment of human disease.

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHS 507B – Microbiology & Immunology (5 h—with Fall and Spring Quarters = 7 h total)

The second in a comprehensive series of lectures on fundamental microbiological and immunological principles. Chemical and physical properties of microorganisms are used to explain how microorganisms cause disease, and how the human host defenses combat disease-causing agents. Case studies are presented throughout the course. Symptoms of infectious diseases and immunologic disorders are emphasized.

Prerequisites: Microbiology & Immunology A (YPHS 507A).

YPHP 504 – Health Care Systems (2 h)

This course will discuss the complexities, features, and challenges of the U.S. healthcare delivery system. Emphasis will be placed on the many roles of the pharmacist. The regulation and financing of healthcare, including methods for providing care (private vs. public plans, single payer, etc.) will be considered. The course also includes an intermediate discussion of ethics pertinent to the pharmacist's role in healthcare delivery.

Prerequisites: Introduction to Pharmacy Practice (YPHP 500).

YPHS 502 – Pharmaceutics II: Dosage Forms (2 h)

Pharmaceutics II is the second in the series of course, describing the science of drug delivery and the dosage forms that enable the drug delivery. An introduction to pharmacokinetics will be provided as it relates to drug delivery and dosage forms. In addition, the main emphasis will be on drug delivery systems for a number of routes of administration, including novel or complex systems. The drug development process will also be discussed. Clinical correlations will be provided during the course to reinforce the use of this information in pharmacy practice. Clinical correlations will be comprised of various teaching methodologies including cases, problem solving exercises, and other student-based active learning exercises.

Prerequisites: Pharmaceutics I (YPHP 501).

HMTD 515B – Foundations for Interprofessional Practice (1 h—with Fall Quarter = 2 h total)

See description for Fall course HMTD 515A – Foundations for Interprofessional Practice

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHP 507 – Pharmacy Skills Laboratory II (2 h)

Expansion of practical skills in the community pharmacy setting. Building on Pharmacy Skills Laboratory I, students will gain additional practical skills in this course including procurement of appropriate drug information resources, application of public health principles, communication with patients of varying health literacy levels, and advocacy for the safe and appropriate use of medications. Students will also become orientated to patient physical assessment through obtaining vital signs including pulse and blood pressure. Students will also learn fundamental microbiologic tests and their application to pharmacy practice. The Top 200 drug products will be emphasized.

Prerequisites: Pharmacy Skills Laboratory I (YPHP506)

YPHS 511 – Fundamentals in Physiology II (4 h)

This course is a continuation of YPHS 510 Fundamentals of Physiology I, and will focus on the fundamentals of human physiology relating to the nervous system and muscle physiology. Physiological concepts and mechanisms will be organized according to five themes: Homeostasis & Control systems, Biological Energy Use (metabolism), Structure/Function Relationships, Communication, Pathophysiology

Prerequisites: Fundamentals in Physiology I (YPHS 510).

YPHP 515B – Introductory Pharmacy Practice Experience II (2 h)

See YPHP 515A, Fall Quarter, Year 1

Prerequisites: Successful completion of YPHP 515A.

<i>Spring Quarter, Year 1</i>

YPHS 507C - Microbiology & Immunology (1 h—with Fall and Winter Quarters = 7h total)

The third in a comprehensive series of lectures on fundamental microbiological and immunological principles. Chemical and physical properties of microorganisms are used to explain how microorganisms cause disease and how the human host's defenses combat disease-causing agents. Case studies are presented throughout the course. Symptoms of infectious diseases and immunologic disorders are emphasized.

Prerequisites: Microbiology & Immunology A (YPHS 507A and B).

YPHS 503 – Pharmaceutics III: Compounding and Calculations (3 h)

Pharmaceutics III is the third in the series of course. This course develops knowledge and skills and covers all aspects of pharmaceutical calculations including fundamentals of measurement and calculation, measurement systems, dosage and concentration units, isotonic solutions, electrolyte solutions, parenteral admixtures, and calculations related to extemporaneous compounding. It also develops knowledge of sterile dosage form and delivery systems, products of biotechnology and radiopharmaceuticals. Accurate and effective pharmaceutical formulation is a key skill which must be mastered by all student pharmacists. The laboratory portion of this course will introduce students to practical aspects of extemporaneous compounding. This module teaches the basics of non-sterile compounding in the pharmacy setting. Students will be practicing exercises relating to the key dosage forms encountered during pharmacy practice.

Prerequisites: Pharmaceutics II (YPHS 502).

YPHS 506 – Medicinal Chemistry (2 h)

Selected principles of physical chemistry as related to the pharmaceutical sciences including structure-activity relationships, functional groups, drug stability & solubility, acid-base chemistry, metabolic reactions, and drug allergenicity.

Prerequisites: Biochemical Principles for Pharmacy (YPHS 504A, B), Microbiology & Immunology A (YPHS 507A).

YPHP 510 – Self-Care and Non-Prescription Medications (3 h)

The student pharmacist will learn to assist patients with the appropriate selection and use of nonprescription, as well as non-pharmacologic, treatment options for commonly encountered disease states and patient complaints. Patient assessment and education are key components to this course. Additional emphasis will be placed on patient self-monitoring, referrals, and follow-up.

Prerequisites: Successful completion of P1 Fall and Winter courses.

MMTD 510 – Introduction to Bioethics & Health Law (2 h)

This course introduces the student to the basics of ethical issues in the practice of medicine and pharmacy, as well as to recognize the controversial nature of issues such as patient's rights.

Elements of research into the foundations on which positions are taken on medical issues are stressed. Logical approaches for such positions are developed. Inquiry into the historical basis of ethical problems, appreciation for alternative positions on ethical issues, and identifying the ethical issues concomitant with the new developments in the practice of medicine and pharmacy are emphasized.

Prerequisites: Introduction to Pharmacy Practice (YPHP 500).

YPHP 505 - Research & Statistics (3 h)

The purpose of this course is to provide broad introduction to research and statistics, with the goal of promoting understanding of published research whereby students can practice evidenced-based medicine. Students will learn how to identify and design high-quality research projects, as well as how to correctly analyze the results and draw appropriate conclusions. Students will also practice reviewing and critiquing recent research articles that are relevant to their profession.

Prerequisites: Pre-pharmacy curriculum and admission to program.

YPHP 508 - Pharmacy Skills Laboratory III (1 h)

Introduction to fundamental pharmacy calculations and expansion on patient counseling and communication. Students will use various practice and simulation devices to understand and be able to communicate effectively with patients about the appropriate and safe use of medication products including inhalers, transdermal patches, otic and ophthalmic products, and self-administered subcutaneous medications. The Top 200 drug products will be emphasized.

Prerequisites: Pharmacy Skills Laboratory I, II (YPHP 506, 507).

YPHP 517 – Introductory Pharmacy Practice Experience III (3 h)

See YPHP 515A Fall Quarter, Year 1

Prerequisites: Successful completion of previous quarter.

Fall Quarter, Year 2

YPHP 620 – Pharmacotherapy I (4 h)

The clinical application of drug therapy is discussed at an advanced level using a systems-based approach. Topics presented include an overview of pertinent epidemiology, pathophysiology, diagnostics, clinical presentation, and general management of disease states. Each topic will focus on using evidence-based medicine for the appropriate selection of drug therapy and monitoring in order to optimize patient outcomes in a safe, cost-conscious manner.

Prerequisites: Fundamentals in Physiology I, II (YPHS 510, 511), Self-Care and Non-Prescription Medications (YPHP 510), Biochemical Principles for Pharmacy (YPHS 504A, B)

PBBS 601A – Pharmacology (5 h—with Winter Quarter = 9 h total)

This two quarter course (PBBS 601A and 601B) is a comprehensive presentation of medical pharmacology. The general principles of drug disposition including drug absorption, distribution, metabolism, elimination, and pharmacokinetics are covered, as well as the pharmacodynamics of major drug groups. Emphasis is on the mechanism of drug action, clinical uses, adverse effects, contraindications, and clinically important drug interactions. Dosage is not emphasized

unless specifically stated by the instructor. Drugs are presented on a systems basis, and each drug class includes practical clinical correlations.

Prerequisites: Pharmaceutics I-III (YPHS 501-503), Biochemical Principles for Pharmacy (YPHS 504A, B), and Microbiology & Immunology A and B (YPHS 507A,B).

YPHS 610A – Advanced Medicinal Chemistry (1 h—with Winter Quarter = 2 h total)

This course will run concurrently with the Pharmacology course (PBBS 601A&B) to present the underlying chemistry of the active pharmacological ingredients of medications used to treat patients.

Prerequisites: Enrollment in PBBS 601A

YPHS 620A – Life-long Learning (credit awarded in Spring)

To introduce students to the process of learning about new developments in science, medicine and pharmacy that happens outside of the classroom or their immediate practice environment.

Prerequisites: Successful completion of P1 courses

YPHP 625 – Applications of Drug Information (1 h)

The purpose of this course is to educate students how to research, collate and disseminate drug information. Appropriate search techniques, approach to scientific writing, and classifying and answering drug information questions will be addressed in this course. Additional applications of drug information, including pharmacy and therapeutics committees, quality, and adverse drug reaction reporting will also be discussed.

Prerequisites: Successful completion of YPHP 502 Introduction to Drug Information Resources

YPHP 606 – Pharmacy Skills Lab IV (2 h)

Orientation to physical assessment, clinical laboratory testing, and health-systems pharmacy. Students will learn appropriate technique in physical assessment including proper reporting of findings. Illustrative case discussions will emphasize the importance of the interpretation and application of the physical exam and chemistry tests in order to monitor and adjust medication therapy. Students will be introduced to home diagnostics and point of care testing.

Prerequisites: Pharmacy Skills Lab I, II, III (YPHP506, 507, 508).

YPHP 615A – Introductory Pharmacy Practice Experience V (2 h)

The Introductory Pharmacy Practice Experiences (IPPEs) are designed to provide the foundation for student pharmacists in preparation for their Advanced Pharmacy Practice Experiences (APPEs). This course is a structured introduction to pharmacy practice in a health-system setting. The health-system IPPE is spans the P2 year, during which the students will engage in basic distributive and administrative processes in health-system pharmacies and gain initial experience interacting directly with patients, preceptors, technicians, and other healthcare providers and pharmacy personnel. The health-system IPPE is a longitudinal rotation experience, during which the students will complete at least 104 hours in a health-system pharmacy. Simulation activities are also incorporated into this course.

Prerequisites: Successful completion of previous year.

<i>Winter Quarter, Year 2</i>

YPHP 621 – Pharmacotherapy II (4 h)

The clinical application of drug therapy is discussed at an advanced level using a systems-based approach. Topics presented include an overview of pertinent epidemiology, pathophysiology, diagnostics, clinical presentation, and general management of disease states. Each topic will focus on using evidence-based medicine for the appropriate selection of drug therapy and monitoring in order to optimize patient outcomes in a safe, cost-conscious manner.

Prerequisites: Fundamentals in Physiology I, II (YPHS 510, 511), Self-Care and Non-Prescription Medications (YPHP 510), Biochemical Principles for Pharmacy (YPHS 504A, B)

PBBS 601B – Pharmacology (4 h—with Fall Quarter = 9 h total)

See Pharmacology (PBBS 601A), Fall Quarter, Year 2

Prerequisites: Pharmacology (PBBS 601A).

YPHS 610B – Advanced Medicinal Chemistry (1 h—with Fall Quarter = 2 h total)

See Advanced Medicinal Chemistry (YPHS 610A), Fall Quarter, Year 2

Prerequisites: Enrollment in PBBS 601B

YPHS 600 – Basic Pharmacokinetics and Pharmacodynamics (3 h)

This course presents the basic fundamental principles underlying drug action in the body. Pharmacokinetics describes the relationship of drug dose and the time course of drug presence in the body, including the concepts of drug half-life, steady state concentration, absorption, distribution, metabolism and excretion. Processes that influence the pharmacokinetics of drugs, including formulation, physicochemical, physiological, pharmacological and pathological factors will be discussed. Pharmacodynamics presents the effects of drug action at the receptor site and includes the concepts of agonist, antagonist, competitive and non-competitive inhibition, and therapeutic effect. The use of mathematical equations to describe the pharmacokinetic concepts and principles of drug action are introduced and applied to dosage regimen determinations. The course teaches the fundamentals of calculations necessary to determine drug loading dose, maintenance dose, and dosing interval and prepares the student for YPHS 604 Clinical Pharmacokinetics and Pharmacodynamics.

Prerequisites: Pharmacology (PBBS 601A), Biochemical Principles for Pharmacy (YPHS 504A, B).

YPHS 620B – Life-long Learning (credit awarded in Spring)

To introduce students to the process of learning about new developments in science, medicine and pharmacy that happens outside of the classroom or their immediate practice environment.

Prerequisites: Successful completion of P1 year

YPHP 607 – Pharmacy Skills Lab V (2 h)

Continuation of practical applications in health-systems pharmacy. Sterile technique and IV compounding will be introduced. Students will also use the hands-on approach to learn about key aspects of health-systems pharmacy including distribution of drug products, formulary management, pharmacy and therapeutics committees, electronic medical records, and medication reconciliation. Laws, regulations, and accrediting agencies for health-systems will be discussed. Students will continue to learn and apply chemistry and physical exam findings in the management of drug therapies.

Prerequisites: Successful completion of Pharmacy Skills Lab I, II, III, IV (YPHP506, 507, 508, 606).

YPHP 615B – Introductory Pharmacy Practice Experience VI (2 h)

See YPHP 615A, Fall Quarter, Year 2

Prerequisites: Successful completion of previous quarter.

<i>Spring Quarter, Year 2</i>

YPHP 622 – Pharmacotherapy III (4 h)

The clinical application of drug therapy is discussed at an advanced level using a systems-based approach. Topics presented include an overview of pertinent epidemiology, pathophysiology, diagnostics, clinical presentation, and general management of disease states. Each topic will focus on using evidence-based medicine for the appropriate selection of drug therapy and monitoring in order to optimize patient outcomes in a safe, cost-conscious manner.

Prerequisites: Fundamentals in Physiology I, II (YPHS 510, 511), Self-Care and Non-Prescription Medications (YPHP 510), Biochemical Principles for Pharmacy (YPHS 504A, B)

YPHP 604 – Clinical Pharmacokinetics and Pharmacodynamics (2 h)

This course expands upon the theoretical concepts explored in YPHS 600 Basic Pharmacokinetics and Pharmacodynamics. This course will focus on common clinical pharmacokinetics/pharmacodynamic principles and their application to specific drug therapy regimen design, monitoring, and management.

Prerequisites: Basic Pharmacokinetics and Pharmacodynamics (YPHS 600).

YPHS 609 – Introduction to Pharmacogenomics and Molecular Biology (2 h)

This course will introduce students to important principles of human genetics and molecular biology that apply to contemporary and future pharmaceutical practice. Topics covered include basic concepts in human genetics and genomics, information flow in biological systems, including the structure of DNA, RNA, an overview of state-of-the-art technologies including cloning, recombinant DNA, PCR and microchips. The course will include some classical case studies as well as discussions of ethical challenges in the rapidly growing area of personalized drug therapy based on molecular genetic information.

Prerequisites: Biochemical Principles for Pharmacy (YPHS 504A and YPHS 504B).

YPHS 620C – Life-long Learning (1 h)

To introduce students to the process of learning about new developments in science, medicine and pharmacy that happens outside of the classroom or their immediate practice environment.

Prerequisites: Successful completion of P1 year

YPHP 608 – Pharmacy Skills Lab VI (2 h)

This course is designed to be a continuation of the material covered in YPHP 606 and YPHP 607. Students will continue to learn appropriate technique and application of laboratory and physical assessment findings in the management of drug therapies.

Prerequisites: Successful completion of Pharmacy Skills Lab I–V (YPHP506, 507, 508, 606, 607).

YPHP 617 – Introductory Pharmacy Practice Experience VII (2 h)

See YPHP 615A, Fall Quarter, Year 2

Prerequisites: Successful completion of previous quarter.

Summer Quarter (between P2 and P3 years)

YPHP 715A – Introductory Pharmacy Practice Experience VIII (credit given in P3 Spring)

The P3 IPPE elective will satisfy 40 hours of the 300 hours allocated to IPPEs. Elective opportunities are offered in a variety of pharmacy practice settings. Students will complete these hours over the course of one week. Students will be scheduled during one of four allocated blocks of time during the P3 year, either prior to the commencement of the P3 year or during an intersession break. Students will complete a service learning project prior to the close of the P3 year as a component of this course. Simulation activities are also included in this IPPE course. During the spring quarter (Q3) of the P3 year, students will participate in an eight-hour workshop that will serve to transition students from introductory to advanced pharmacy practice experiences.

Prerequisites: Successful completion of the P2 year.

Fall Quarter, Year 3

YPHP 710 – Pharmacotherapy IV (3 h)

The clinical application of drug therapy is discussed at an advanced level using a systems-based approach. Topics presented include an overview of pertinent epidemiology, pathophysiology, diagnostics, clinical presentation, and general management of disease states. Each topic will focus on using evidence-based medicine for the appropriate selection of drug therapy and monitoring in order to optimize patient outcomes in a safe, cost-conscious manner.

Prerequisites: Pharmacotherapy I, II, III (YPHP 620, 621, 622)

YPHP 716 – Interprofessional Case Collaborations (1 h)

The purpose of this one credit course is to prepare students to work together in collaborative interprofessional teams while understanding the concepts of pathophysiology, clinical presentation, diagnostic techniques and medical management and treatments as they apply to Physician Assistants and Pharmacists. This course is a supplemental case-based course to the General Medicine (Physician Assistant) and Pharmacotherapy (Pharmacy) courses. This course will also provide reinforcement of key concepts relevant to patient care as students work interprofessionally to solve case-based, patient-centered issues. Relevant interprofessional topics will be addressed throughout the course.

Prerequisites: Enrollment in YPHP 710

YPHP 709 – Health Care and Pharmacy Law (3 h)

This course will begin with an overview of the federal and state systems of government with an emphasis on how laws are made and executed as well as cases adjudicated within those two systems. The course will then provide a more detailed analysis of various federal and state laws that impact the practice of pharmacy in the United States along with a discussion of the public policy reasons and debates underlying those laws. The laws and practices of the states of

Illinois and Wisconsin will be used as the primary examples of the types of laws and practices that generally exist within the individual states.

Prerequisites: Health Care Systems (YPHP 504).

YPHP 714 – Pharmacoeconomics (2 h)

Factors underlying the pricing of drugs (development, testing, licensing, manufacturing, marketing, etc.), and translation to healthcare costs. The macro/micro-economics of various aspects of pharmacy practice are discussed, including the impact of such pricing on hospital, retail, and other environments. Financial aspects of pharmacy management are also presented, including personnel and insurance costs, fixed and recurring expenses, etc. Includes drug reimbursement, Medicare-Medicaid, managed care organizations (insurance, formularies, etc.), formulary management, and investments.

Prerequisites: Health Care Systems (YPHP 504) and Introduction to Pharmacy Practice (YPHP 500).

YPHS 720A – Life-long Learning (credit awarded in Spring)

To introduce students to the process of learning about new developments in science, medicine and pharmacy that happens outside of the classroom or their immediate practice environment.

Prerequisites: Successful completion of P2 year

YPHP 706 – Pharmacy Skills Lab VII (1 h)

Integration and application of skills into pharmacy practice. Students will improve their skills in writing SOAP notes, developing patient-care plans, and providing successful drug-therapy related presentations to peers. Students will begin to evaluate and apply evidence based medical literature to clinical practice.

Development of skills that will be vital for successful completion of advanced pharmacy practice experiences (APPEs) will be a focus of this course.

Prerequisites: Successful completion of Pharmacy Skills Lab I–VI (YPHP 506, 507, 508, 606, 607, 608).

YPHP 715B – Introductory Pharmacy Practice Experience IX (credit given in P3 Spring)

See YPHP 715A, Summer Quarter, Year 3

Prerequisites: Successful completion of previous quarter.

Winter Quarter, Year 3

YPHP 711 – Pharmacotherapy V (3 h)

The clinical application of drug therapy is discussed at an advanced level using a systems-based approach. Topics presented include an overview of pertinent epidemiology, pathophysiology, diagnostics, clinical presentation, and general management of disease states. Each topic will focus on using evidence-based medicine for the appropriate selection of drug therapy and monitoring in order to optimize patient outcomes in a safe, cost-conscious manner.

Prerequisites: Pharmacotherapy I, II, III (YPHP 620, 621, 622)

YPHP 717 – Interprofessional Case Collaborations (1 h)

See YPHP 716, Fall Quarter, Year 3

YPHS 704 – Pharmaceutical Biotechnology (2 h)

The use of various technologies in the development of biological therapies. The discussion includes current and future approaches, including monoclonal antibodies, novel pharmaceutical administration (e.g., stents), genetic modification, nanotechnologies, therapeutic proteins and biological response modifiers, etc.

Prerequisites: Biochemical Principles for Pharmacy (YPHS 504), Introduction to Pharmacogenomics and Molecular Biology (YPHS 609), Medicinal Chemistry (YPHS 506).

YPHP 703 – Pharmacy Management (2 h)

Presents factors and issues involved in pharmacy management. Includes pharmacy business plan (contracts, proposals), FDA regulatory requirements including drug security and records, marketing of practice and products, financial accounting, employee performance reviews, policies for promotion, drug, and inventory maintenance, and EEOC requirements. This course also focuses on the practice of pharmacy in the hospital setting. General aspects of hospital administration and policy as well as unique features of clinical rounding and formulary experiences are examined. Students will engage in discussions about the electronic medical record and other current and future technologies likely to be utilized as in-hospital pharmacists.

Prerequisites: Health Care Systems (YPHP 504) and Pharmacoeconomics (YPHP 714).

YPHP 713 – Pharmacogenomics (1h)

This course will explore the application of pharmacogenomics to the practice of pharmacy and medicine. Topics include clinical applications in key therapeutics areas with a focus on drugs with pharmacogenomics based labeling, common genetic alterations involved in drug metabolism and drug transport, ethical concepts in practice and research, and social/legal implications. This course will emphasize the importance of genetics on variability in patient response to drug therapy in the context of other relevant sources of variability.

Prerequisites: Introduction to Pharmacogenomics and Molecular Biology (YPHS 609).

YPHS 720B – Life-long Learning (credit awarded in Spring)

To introduce students to the process of learning about new developments in science, medicine and pharmacy that happens outside of the classroom or their immediate practice environment.

Prerequisites: Successful completion of P2 year

YPHP 707 – Pharmacy Skills Lab VIII (1 h)

This course will focus on continued development of skills learned in Pharmacy Skills Lab VII with a focus on advanced and complicated case studies. Students will continue to develop medical literature evaluation skills.

Prerequisites: Successful completion of Pharmacy Skills Lab I, II, III, IV, V, VI, VII (YPHP506, 507, 508, 606, 607, 608, 706).

YPHP 715C – Introductory Pharmacy Practice Experience X (credit given in P3 Spring)

See YPHP 715A, Summer Quarter, Year 3

Prerequisites: Successful completion of previous quarter.

<i>Spring Quarter, Year 3</i>

YPHP 712 – Pharmacotherapy VI (3 h)

The clinical application of drug therapy is discussed at an advanced level using a systems-based approach. Topics presented include an overview of pertinent epidemiology, pathophysiology, diagnostics, clinical presentation, and general management of disease states. Each topic will focus on using evidence-based medicine for the appropriate selection of drug therapy and monitoring in order to optimize patient outcomes in a safe, cost-conscious manner.

Prerequisites: Pharmacotherapy I, II, III (YPHP 620, 621, 622)

YPHP 718 – Interprofessional Case Collaborations (1 h)

See YPHP 716, Fall Quarter, Year 3

YPHS 709 – Epidemiology (2 h)

This course acquaints the student with the basic concepts of biostatistics and introductory Clinical Epidemiology. Elements of research design are stressed so that the student is able to critically evaluate research literature. Practice in simple statistical skills and analysis is included.

Prerequisites: Research and Statistics (YPHP 505).

HMTD 551 – Leadership in the Healthcare Environment (3 h)

This interprofessional course is designed to introduce the student to the concept of leadership within the healthcare environment. Leadership skills learned as part of previous service activities, sports, or academic study will be applied to the healthcare setting using case studies and small group discussion. The course includes an overview of leadership styles, particularly as they relate to topics such as building teams, evaluating others, managing finances, managing risk, marketing of healthcare, and healthcare policy. As an outcome of this interdisciplinary course, it is intended that students will discuss the similarities and differences of leadership within each of their professional fields, and learn that each person will have the potential to be a leader in their profession, practice, and personal relationships.

Prerequisites: Health Care Systems (YPHP 504), Pharmacoeconomics (YPHP 714)

YPHS 720C – Life-long Learning (1 h)

To introduce students to the process of learning about new developments in science, medicine and pharmacy that happens outside of the classroom or their immediate practice environment.

Prerequisites: Successful completion of P2 year

YPHP 700 – Current Topics in Pharmacy (1 h)

This seminar course consists of multiple small groups, in which each group reads and discusses a variety of topical papers relevant to the scope of pharmacy practice. Students present individually and in teams.

Prerequisites: Research and Statistics (YPHP 505), Health Care and Pharmacy Law (YPHP 709), Pharmacoeconomics (YPHP 714), Self-Care and Non-prescription Medications (YPHP 510), and Pharmacology A and B (PBBS 601A and B).

YPHP 708 – Pharmacy Skills Lab IX (1 h)

This course will continue to allow students to develop their pharmacy skills in order to prepare them for their advanced pharmacy practice experience. Students will have the opportunity to discuss ethical dilemmas commonly seen in clinical practice as well as discussing the importance of cultural competency.

Prerequisites: Successful completion of all former pharmacy skills labs.

YPHP 715D – Introductory Pharmacy Practice Experience XI (3.5 h given for IPPE VIII-XI)

See YPHP 715A, Summer Quarter, Year 3

Prerequisites: Successful completion of previous quarter.

<i>Year 4</i>

YPHP 801 – 806 - Advanced Pharmacy Practice Experience (9 h each; 54 h total)

Each student will have six 6-week experiences throughout the fourth year that satisfy 1440 hours of the experiential curriculum. Each experience is allotted nine credit hours and provides students an opportunity to apply and advance the knowledge, skills, and attitudes attained throughout their first three years of the program. These experiences include:

- Community Pharmacy
- Health-System Pharmacy
- Inpatient/Acute Care
- Ambulatory Care
- Two elective experiences

Interprofessional simulation activities are incorporated into the APPE year.

Prerequisites: Successful completion of all didactic coursework and all introductory pharmacy practice experience requirements.

P3 Elective Offerings 2016–2017

Fall Quarter				
Quarter	Elective Title & Information	Course Director(s)	Credit Hours	Description
Fall	YELP 703 Advanced Diabetes Management MAX STUDENTS: 40 Grade – A, B, C, F	Dr. Patel	1h	This elective course provides concentrated and in-depth knowledge of management of diabetes through hands-on learning in lecture and small group settings. The topics include medical nutrition, long-term complications, insulin dosing, operating insulin pumps, troubleshooting parenteral medication and glucometer devices, use of e-tools for DM management, social and behavioral issues associated with diabetes, management of gestational diabetes, management of pediatric diabetes, and complementary and alternative medicine in diabetes. Students will be required to participate in a week long experience as a diabetic patient, in which they will self-administer “insulin” injections and monitor blood glucose using a glucometer.
Fall	YELS 700 Marijuana: Pharmacology, Politics & Medical Uses Grade – A, B, C, F	Dr. Oltmans	1h	Marijuana is being approved for medical use in an increasing number of states. This course will examine the history, chemistry, pharmacology, and medical aspects of this drug, along with the politics which are an inherent part of any drug with recreational properties.
Fall	YELP 704 Mental Health Grade – A, B, C, F	Dr. Dillig Dr. Shuman	1h	This course will address advanced topics in mental health and neuropsychiatry as it relates to pharmacotherapeutic intervention. The specialized role of the pharmacist in the treatment of patients with psychiatric conditions will be discussed, including contributions to mental health advocacy. Students will gain a historical perspective on the treatment of psychiatric patients, evaluate key clinical drug trials as they relate to current treatment guidelines and advancements in psychiatric treatment, and discuss management of psychiatric conditions not covered in the pharmacotherapy series. Examples of topics discussed in this elective that are not covered in the core curriculum include mental health in the media, Post Traumatic Stress Disorder (PTSD), personality disorders, child psychiatry, geriatric psychiatry, forensic psychiatry, or others based on the interest of each class. This course will utilize a combination of lecture, small group activities, case-based learning, discussion, and student presentation.
Fall	YELP 702 Toxicology Grade – A, B, C, F	Dr. Lyden	2h	Pharmacists play an important role in the treatment of drug overdose. This course will address the provision of care in the “poisoned patient”, including clinical presentation, assessment, and treatment of common drug, chemical, and biologic agent overdoses. The format includes lectures by faculty and case discussions.

Winter Quarter				
Quarter	Elective Title & Information	Course Director(s)	Credit Hours	Description
Winter	YELP 700 Deconstructing Landmark Clinical Trials MAX STUDENTS: 25 Grade – A, B, C, F Open to P2 Students	Dr. Kane	2h	This course will introduce students to a wide variety of controversial landmark clinical trials that have significantly impacted the practice of medicine. In addition to identifying pivotal trials that have shaped treatment guidelines for a variety of diseases, students will learn to deconstruct the trial design, results, and conclusions to become appropriately skeptical, critical-thinking pharmacists. Each week, students will be required to read one or more pivotal clinical trials prior to class and be prepared for a weekly quiz over the required reading. Class time will primarily be devoted to discussion-based learning regarding the trial methodology, analysis, and impact on clinical practice.
Winter	YELP 706 Community Pharmacy Practice & Management Grade – A, B, C, F Open to P2 Students	Dr. Angelo Prof. Winnike	2h	This course is designed for student pharmacists with an interest in community pharmacy. Students will learn about the business and management aspects of community pharmacy, as well as opportunities for clinical services. Incorporating sustainable business models for the pharmacy and services offered will be a common theme. Communication skills will be emphasized throughout the course.
Winter	YELP 7xx Advanced Oncology	Dr. Hartranft	1h	This elective will cover advanced hematology and oncology topics, both disease states and supportive care issues. The course is intended to provide students with the knowledge required to provide complete care for a patient with cancer through study of various malignancies and discussion of current oncology topics. Students will also apply their learning by working in a small group to develop a treatment pathway and accompanying presentation for a common oncology disease state. Prerequisite: Successful completion of Pharmacotherapy IV is required for enrollment.
Winter	YELS 701 Structure-Activity Relationships of Drugs Grade – A, B, C, F	Dr. Harrison & Dr. Walters	1h	This course will examine how systematic alterations of chemical structure can be used to design and optimize drug molecules. Following a series of introductory lectures, students will select a class of drugs, investigate published structure-activity relationships, and give a presentation summarizing their findings.

Spring Quarter				
Quarter	Elective Title & Information	Course Director(s)	Credit Hours	Description
Spring	YELP 701 Critical Care and Medical Emergencies <i>Grade – A, B, C, F</i>	Dr. Kane	2h	This course will introduce students to a wide variety of topics related to critical care and acute medical emergencies. Topics and content will focus on drug therapy and the role of the pharmacist within an interprofessional critical care team. The course format will include didactic lectures, hands-on activities, and class-based discussions.
Spring	YELP 705 Advanced Pharmacoeconomics <i>Grade – Pass/Fail</i>	Dr. Rahman	2h	This course is designed to provide the student with the advanced concepts of economics and market forces in general. A detailed discussion on Pharmacoeconomics as it relates to patient care. Overview of economic principles, which should enhance the understanding of the theory underlying pharmacoeconomic analysis, will be integrated in this course. A special emphasis will also be placed on applying the economic evaluations and quality of life concept to improve the allocation of limited health care resources. Upon completion of the course, the student should be able to apply the basic economic and pharmacoeconomic principles to make therapeutic and resources allocation decisions.
Spring	YELS 702 Advanced Topics in Infectious Diseases and Microbiology MAX STUDENTS: 15 <i>Grade – A, B, C, F</i>	Dr. Cottreau Dr. Barr	2h	This infectious diseases course will utilize primary literature and case studies to discuss emerging antimicrobial resistance and its management. The course will also expose the students more in depth to the role of pharmacists on infectious diseases and antimicrobial stewardship teams and debate a therapeutic controversy in the area of infectious diseases therapeutics. Prerequisite: Successful completion of Pharmacotherapy V is required for enrollment.

Online Electives	Basic Medical Spanish	Dr. Harrison	1h	This is a self-paced online course available through www.canopyapps.com . The Basic Spanish component consists of the Beginner (Level 1) modules. Completion of these modules is a prerequisite for the Advanced Spanish component. The credit from Basic Spanish does not apply to the 6 required COP electives.
	<i>Grade – Pass/Fail</i>			
	Advanced Medical Spanish	Dr. Harrison	2h	This is a self-paced online course available through www.canopyapps.com . The Advanced Spanish component consists of the Intermediate (Level 2) and Advanced (Level 3) modules. Completion of the Basic (Level 1) modules is a prerequisite for the Advanced Spanish component. The credit from Advanced Spanish will count towards to the 6 required COP electives.
	<i>Grade – Pass/Fail</i>			

Interprofessional Electives
 MFPM600 Lesbian, Gay, Bisexual, Transgender, Queer and Intersex Healthcare (IP course through RFUMS) – 1 quarter hour (Winter)

Other Elective Options

- 1) YELP 900/YELS 900—Independent Teaching Elective (1 or 2 credit hours)
- 2) YELP 901/YELS 901—Independent Research Elective (1 or 2 credit hours)
- 3) PHA 6935 Veterinary Pharmacy (online course through the University of Florida—3 credit hours; 2 hours apply towards required elective credit)
<http://pharmacyelectives.pharmacy.ufl.edu/courses/pha-6935-veterinary-pharmacy/>

Prior approval is needed to take these electives. Please note that these electives may or may not count towards the 6 required COP electives. Please contact the Office of Academic Affairs for additional information.

Curriculum-at-a-Glance
(Interprofessional courses in blue)

Total Credit Hours: 194.5 % IPPEs: 8 % APPEs: 27.8

YEAR 1 54 CREDITS			YEAR 2 45 CREDITS			YEAR 3 41.5 CREDITS		
FALL 16 QUARTER HOURS			FALL 15 QUARTER HOURS			FALL 11 QUARTER HOURS + ELECTIVES		
YPHP 500	Introduction to Pharmacy Practice	1 h	YPHP 620	Pharmacotherapy I	4 h	YPHP 710	Pharmacotherapy IV	3 h
YPHS 501	Pharmaceutics I	3 h	PBBS 601A	Pharmacology	5 h	YPHP 716	Interprofessional Case Collaborations	1 h
YPHS 507A	Microbiology & Immunology	1 h	YPHS 610A	Advanced Medicinal Chemistry	1 h	YPHP 709	Health Care and Pharmacy Law	3 h
YPHS 504A	Biochemical Principles For Pharmacy	2 h	YPHS 620A	Life-Long Learning Seminar	Spring credit	YPHP 714	Pharmacoeconomics	2 h
YPHP 510	Fundamentals in Physiology I	4 h	YPHP 606	Pharmacy Skills Lab IV	2 h	YPHS 720A	Life-Long Learning Seminar	Spring credit
HMTD 515A	Foundations For Interprofessional Practice	1 h	YPHP 625	Applications of Drug Information	1 h	YPHP 706	Pharmacy Skills Lab VII	1 h
YPHP 506	Pharmacy Skills Lab I	2 h	YPHP 615A	IPPE V	2 h	YPHP 715B	IPPE IX	Spring credit 1 h
YPHP 502	Introduction to Drug Information Resources	1 h				Electives (see below)		
YPHP 515A	IPPE I	1 h						
WINTER 20 QUARTER HOURS			WINTER 17 QUARTER HOURS			WINTER 11 QUARTER HOURS + ELECTIVES		
YPHS 502	Pharmaceutics II	2 h	YPHP 621	Pharmacotherapy II	4 h	YPHP 711	Pharmacotherapy V	3 h
YPHS 507B	Microbiology & Immunology	5 h	PBBS 601B	Pharmacology	4 h	YPHP 717	Interprofessional Case Collaborations	1 h
YPHS 504B	Biochemical Principles For Pharmacy	2 h	YPHS 610B	Advanced Medicinal Chemistry	1 h	YPHP 713	Pharmacogenomics	1 h
YPHS 511	Fundamentals in Physiology II	4 h	YPHS 600	Basic Pharmacokinetics and Pharmacodynamics	3 h	YPHP 703	Pharmacy Management	2 h
YPHP 504	Health Care Systems	2 h	YPHS 620B	Life-Long Learning Seminar	Spring credit	YPHS 704	Pharmaceutical Biotechnology	2 h
HMTD 515B	Foundations For Interprofessional Practice	1 h	YPHP 607	Pharmacy Skills Lab V	2 h	YPHS 720B	Life-Long Learning Seminar	Spring credit
YPHP 507	Pharmacy Skills Lab II	2 h	YPHP 615B	IPPE VI	2 h	YPHP 707	Pharmacy Skills Lab VIII	1 h
YPHP 515B	IPPE II	2 h				YPHP 715C	IPPE X	Spring credit 1 h
						Electives (see below)		
SPRING 18 QUARTER HOURS			SPRING 13 QUARTER HOURS			SPRING 13 QUARTER HOURS + ELECTIVES		
YPHS 507C	Microbiology & Immunology	1 h	YPHP 622	Pharmacotherapy III	4 h	YPHP 712	Pharmacotherapy VI	3 h
YPHS 503	Pharmaceutics III	3 h	YPHP 604	Clinical Pharmacokinetics and Pharmacodynamics	2 h	YPHP 718	Interprofessional Case Collaborations	1 h
YPHS 506	Medicinal Chemistry	2 h	YPHS 609	Introduction to Pharmacogenomics and Molecular Biology	2 h	YPHS 709	Epidemiology	2 h
YPHP 510	Self-Care and Non-Prescription Medications	3 h	YPHS 620C	Life-Long Learning Seminar	1 h	YPHP 700	Current Topics in Pharmacy	1 h
MMTD 510	Introduction to Bioethics & Health Law	2 h	YPHP 608	Pharmacy Skills Lab VI	2 h	HMTD 551	Leadership in the Healthcare Environment	3 h
YPHP 505	Research & Statistics	3 h	YPHP 617	IPPE VII	2 h	YPHS 720C	Life-Long Learning Seminar	1 h
YPHP 508	Pharmacy Skills Lab III	1 h				YPHP 708	Pharmacy Skills Lab IX	1 h
YPHP 517	IPPE III	3 h				YPHP 715D	IPPE XI	(3.5 given for IPPE VIII – XI) 1 h
						Electives (see below)		
			SUMMER	0.5 QUARTER HOURS (given in P3 Spring)		P3 ELECTIVES		
			YPHP 715A	IPPE VIII		YELP 700-	Pharmacy Practice	6 credits total in P3
				0.5 h (given in P3 Spring)		YELS 700-	Pharmaceutical Sciences	

YEAR 4 54 QUARTER HOURS
YPHP 801–806 APPE I – VI 9 h each

Schedule Revised 08032015

