

COLLEGE OF PHARMACY AND PHARMACEUTICAL SCIENCES

2016-2017 UNDERGRADUATE CATALOG

Administration

Johnnie L. Early II, Dean

Frederic and Mary Wolfe Center, Health Education Building 145.....Phone: 419.383.1997

Marcia F. McInerney

Executive Administrative Dean and Associate Dean for Research and Graduate Programs

Frederic and Mary Wolfe Center, Health Education Building 145F.....Phone: 419.383.1905

Monica G. Holiday-Goodman, Associate Dean for Health Science Campus Student Affairs and Diversity

Frederic and Mary Wolfe Center, Health Education Building 155E..... Phone: 419.383.1904

Mary F. Powers, Associate Dean for Main Campus Student Affairs and Enrollment Management

Wolfe Hall 1227..... Phone: 419.530.2010

Laurie S. Mauro, Assistant Dean for Academic Affairs

Frederic and Mary Wolfe Center, Health Education Building 135D.....Phone: 419.383.1953

Robert J. Schlembach, Historian and Interim Director, Pharmacy Alumni Affairs

Wolfe Center, Health Education Building 153 Phone: 419.383.1997

Academic Departments

Department of Medicinal and Biological Chemistry

Katherine A. Wall, Chair

Frederic and Mary Wolfe Center, Health Education Building 284A
Phone: 419.383.1943

Department of Pharmacology

Ezdihar Hassoun, Chair

Frederic and Mary Wolfe Center, Health Education Building 274C
Phone: 419.383.1917

Department of Pharmacy Practice

Diane M. Cappelletty, Chair

Frederic and Mary Wolfe Center, Health Education Building 135F
Phone: 419.383.1957

Student Affairs

Amal Abdullah, Coordinator of Internal Admissions

Frederic and Mary Wolfe Center, Health Education Building 155C
Phone: 419.383.1904

Julie Croy, Academic Adviser

Wolfe Hall 1227
Phone: 419.530.2010

Jing Deng-Meyer, Director of Student Services for the Professional Division

Frederic and Mary Wolfe Center, Health Education Building 155F
Phone: 419.383.1904

Daniel Fackelman, Enrollment Management Specialist (BSPS)

Wolfe Hall 1227
Phone 419.530.2010

Angela Lopez, Enrollment Management Specialist

Frederic and Mary Wolfe Center, Health Education Building 155
Phone 419.383.1578

Deborah J. Sobczak, Director of Student Services for the Pre-Professional Division

Wolfe Hall 1227
Phone: 419.530.2010

José Treviño, Director of Transfer Services and Recruitment and Pharmacy Camp Director

Frederic and Mary Wolfe Center, Health Education Building 155D
Phone: 419.383.1904

Mission Statement

The mission of the College of Pharmacy and Pharmaceutical Sciences (CPPS) is to educate students to become pharmacists and pharmaceutical scientists, while advancing pharmaceutical knowledge. Guiding principles are personal integrity, respect for humanity and human diversity, and professionalism.

Accreditation

The CPPS holds membership in the American Association of Colleges of Pharmacy, is recognized as an institution in good standing by the Ohio State Board of Pharmacy, and is accredited by the Accreditation Council for Pharmacy Education (ACPE).

Programs in Pharmacy and the Pharmaceutical Sciences

The CPPS prepares students for careers in the pharmaceutical sciences and the profession of pharmacy. Those who do not seek professional licensure may work in the medical, legal and biomedical professions. Those who enter the profession of pharmacy provide direct patient care services.

Professional division curricular requirements for the degree programs will be those listed in the catalog for the year in which the student enters the professional division.

Doctor of Pharmacy – Pharmacy Licensure Program

The program of study leading to pharmacy licensure for entering freshmen is the entry-level doctor of pharmacy (Pharm.D.). Students seeking a degree that will lead to pharmacy licensure will need to complete two years of course work in the pre-professional division of the CPPS. Following the completion of a core set of required courses, students will apply to the professional division during their second year. Admission to the professional division of the college (third year or P1 year) is competitive.

Pharmaceutical Sciences

The CPPS offers a four-year bachelor of science in pharmaceutical sciences (B.S.P.S.) degree to prepare students for a variety of careers in the pharmaceutical and biotechnological industries. Students seeking the degree will need to complete two years of course work in the pre-professional division of the CPPS. Following the completion of a core set of required courses, students will apply to the professional division during their second year.

Pharmacy Graduate Degree Programs

The CPPS offers several graduate degrees in the pharmaceutical sciences – the Master of Science in Pharmaceutical Sciences degree with program options in pharmacology/toxicology, industrial pharmacy and health outcomes and socioeconomic sciences; the Master of Science in Medicinal Chemistry degree; the doctor of philosophy in experimental therapeutics, and the doctor of philosophy in medicinal chemistry degree. Students should contact the CPPS for admission and curricular requirements.

Admission to the College

Non-Discrimination Policy

The University of Toledo is committed to a policy of equal opportunity in education, employment, membership and contracts, and no differentiation will be made based on race, color, religion, sex, age, national origin, sexual orientation, veteran status or the presence of a disability. The University will take affirmative action as required by federal or state law.

Beginning in Fall 2016, several changes in admission policy and procedure become effective. Specific admission criteria and requirements are listed below for the various categories of applicants.

Direct-from-High School Students

The minimum criteria for Direct-from-High School students are a high school grade point average (GPA) of 2.50 –OR- a composite ACT of 20 -OR- SAT 950 - (combined reading & math; test dates prior to March 2016) *or* 1030 new SAT (test dates March 2016 and later). All undergraduate students in the CPPS will be considered pre-professional division students until admitted to the professional divisions of the Pharm.D. or B.S.P.S. programs. For the entry-level Pharm.D. and the four-year B.S.P.S. programs, the CPPS limits student enrollment into the professional division (third year or P1 year) in accordance with its facilities.

Contingent Admission

Academically exceptional high school graduates may be offered contingent admission to the professional division of the Pharm.D. or the B.S.P.S. programs. Automatic admission to the P1 year of the curriculum will be contingent on successful completion of the pre-professional curriculum, while meeting specific standards.

Early Admission

Academically exceptional first year students who are enrolled at UT may be offered early admission to the professional division of the Pharm.D. program. Automatic admission to the P1 year will be contingent on successful completion of the pre-professional curriculum while meeting specific standards.

Change-of-College Students

In order for a student to change from another college within The University of Toledo to the CPPS, the student must have a UT cumulative grade point average (GPA) of at least 2.7 and be in good standing at the University.

Transfer Students

In order for a student to transfer from other Ohio universities into the pre-professional division of any of the baccalaureate programs of the CPPS, the student must have a higher education cumulative grade point average (GPA) of at least 2.7 (this is based on all letter grades attained at all institutions of higher learning and uses the point average scale of A equaling 4 points), be in good standing at the university, and be eligible to return. The student may be required to take placement tests in chemistry and/or math. Students with course work from non-Ohio institutions will be evaluated on an individual basis. The student may be asked to supply course descriptions and syllabi so that course equivalencies can be determined.

Pharm.D.

Currently, transfer students wishing to enroll in the Pharm.D. program are only admitted to the pre-professional division. Transfer students who wish to apply to the professional division of the Pharm.D. program must have been enrolled in The University of Toledo CPPS and registered for 16 GPA semester hours (a letter grade must be received in each course) prior to application to the professional division.

BSPS

Transfer students wishing to enroll in the BSPS program may be eligible to apply for direct admission to the professional division. Contact an academic advisor for more information.

Undergraduates with Degree (UWD) Direct Admission

Highly qualified students who will have earned bachelor degrees and will have met all prerequisites may be reviewed for admission directly to the professional division of the Pharm.D. program. A select and highly qualified group of **up to five** Undergraduates With Degree (UWDs) can be admitted directly into the professional division of the Pharm.D. program. Additional admission may be granted only on a space-available basis after all qualified internal candidates have been admitted. UWDs are defined as students who have obtained a United States baccalaureate degree before admission to the Pharm.D. program at The University of Toledo. Eligible applicants must have a minimum of a 3.5 GPA to apply. Contact an academic advisor for more information.

GED

Applicants with GED scores equal to or greater than 170 for each of the four (4) subject scores will be eligible for admission into the CPPS.

TOEFL Requirements

Beginning with the **Fall 2016 catalog year**, all international students, regardless of graduating from a U.S. high school, and students who are U.S. citizens or permanent residents and did not graduate from a U.S. high school are required to submit an internet-based TOEFL with the following minimum criteria prior to admission into the CPPS:

- 1) A minimum total score of 80 iBT, **and**
- 2) A minimum score of 18 in each of the four sub-categories of the iBT (reading, listening, speaking, and writing)

Entrance into the Professional Division Programs

There are many avenues to enter the Professional Division programs. Please be sure to follow the specific instructions for the program and year in which you will enter the professional division. Contact a pre-professional division advisor for guidance as needed. The only pharmacy courses a pre-professional student is permitted to take through the CPPS are PHPR 1000 and 2040; and PHCL 2220, 2600, 2610, 2620; and 2900 and MBC 2960, until final admission to the professional divisions is achieved.

General Criteria for Admission/Progression to the Professional Division of the BSPS

Program

Beginning with Fall 2016 admission, eligible students may apply directly to the professional division of the BSPS program. Current CPPS pre-professional students wishing to matriculate to the professional division of the BSPS program will undergo a progression review. All persons wishing to enter the professional division of the BSPS program must meet the following criteria.

Eligibility for Application/Progression Review

To be eligible to apply for admission or for progression review into the BSPS professional division, the following (or their equivalents) must be completed:

- BIOL 2170 and 2180
- CHEM 1230, 1240, 1280, 1290, 2410 and 2460
- MATH 1850
- PHYS 1750 or 2070
- A minimum 2.7 cumulative and science GPA

Application/Progression Review

Applicants to the B.S.P.S. programs will submit application materials through the Internal Admissions website by the deadline published on this site. Students requesting a progression review must notify the Coordinator of Internal Admissions in accordance with the instructions provided on this site.

Final Admission/Progression

For final admission/progression into the professional division, the following (or their equivalents) must be completed:

- BIOL 2170 and 2180
- CHEM 1230, 1240, 1280, 1290, 2410, 2420, 2460 and 2470
- MATH 1850
- PHCL 2600/2620 or 2610
- PHYS 1750 or 2070/2080
- ENGL 1110 and ENGL 1130
- Minimum 2.0 GPA (cumulative and semester) for the spring and, if applicable, summer semesters

Minimum grades of C or better in the following (or their equivalents):

- CHEM 1280, 1290, 2460, 2420, 2470
- BIOL 2180
- PHYS 2080 (if 2070 was taken)
- PHCL 2610
- ENGL 1110, 1130 or 2950



Evaluation

Each application will be evaluated on the basis of the applicant's:

Cumulative GPA

Science GPA in the following courses:

- BIOL 2170
- CHEM 1230, 1240, 2410
- MATH 1850
- PHCL 2600
- PHYS 1750 or 2070

The admissions committee will use the better grade of the first two of all attempts for any science course used in the calculation of the science GPA.

General Criteria for Admission to the Professional Division of the Doctor of Pharmacy

Program

Success as a pharmacist requires excellence in academic performance in addition to well-developed verbal and written communication skills. Therefore, the College uses several measures to evaluate these attributes in applicants. The admissions process is based on a holistic review that is in alignment with the College mission.

The Pharmacy College Aptitude Test (PCAT) provides a standardized method of assessing the applicant's skills needed for success in a pharmacy program. Academic achievement as assessed by cumulative GPA and science GPA, as defined in the College Catalog, and communication skills, as measured by the essay and interview, are other key components evaluated in the application review process. Although each component serves a unique purpose, none of these is a sole determinant of admission and the predictive value of all components is continually evaluated.

The PCAT is required for admission to the Pharm.D. professional division, with the exception of those contingent admit students and early admission students who have met the specified requirements to the professional division

Students are admitted to the professional divisions for the fall semester only. The number of students who receive final acceptance into the professional divisions will be limited to the space available. Because the number of applicants usually exceeds the number of spaces available, students are admitted on the basis of the following general criteria.

Fall 2017 Pharm.D. Program Admission

Continuing CPPS, Transfer or Change of College students entering the second pre-professional year may apply for Fall 2017 admission to the Pharm.D. program. Students planning to enter the professional division of the Pharm.D. program in Fall 2017 must meet the following eligibility criteria.

Eligibility for Application

To be eligible to apply for admission into the Pharm.D. program, all applicants must complete the following or their equivalents:

BIOL 2150, 2160, 2170 and 2180

CHEM 1230, 1240, 1280, 1290, 2410 and 2460

MATH 1750

PHCL 2600

PHYS 1750 or 2070

A minimum of 44 earned semester hours

A minimum 2.7 cumulative and science GPA

Matriculated in The University of Toledo CPPS and enrolled in any University of Toledo course(s) during either the fall or spring semester of the academic year in which they apply.

Pharmacy College Aptitude Test (PCAT)

Application

Applicants to the Pharm.D. program will provide the Admissions Committee with a personal essay to be written at a designated time, date and location as indicated on the Internal Admissions website. In addition, an application, including two recommendations, must be submitted through the Internal Admissions website. The recommendations may be from professors, employers, clergy, close family friends and health professionals (pharmacist, dentist, and physician), or others. Recommendations from relatives or University of Toledo CPPS faculty or staff are not acceptable. There are no exceptions to the deadlines.

Final Admission

In order to be finally admitted into the professional division, an applicant must have completed the following or their equivalents:

BIOL 2150, 2160, 2170 and 2180

CHEM 1230, 1240, 1280, 1290, 2410, 2420, 2460 and 2470

MATH 1750 and 1760

PHCL 2600 and 2620

PHYS 1750 or 2070/2080

English Writing/Composition I and II (ENGL 1110 and ENGL 1130 OR 2950)

ECON 1200

A minimum of 63 earned semester hours

Maintain a minimum 2.0 GPA (cumulative and semester) for the spring and, if applicable, summer semesters

Must have a valid Social Security number (for the Pharm.D. only)

Must complete the health requirements as defined by The University of Toledo CPPS (for the Pharm.D. only)

If an applicant is accepted into the professional division, the acceptance will be provisional, pending the completion of the above requirements. All course prerequisites for the professional divisions must be completed two weeks before the first day of professional division classes in the fall semester for which the application is made. If the applicant fails to meet the deadline for the completion of prerequisite courses, he/she will lose provisional admission status and must apply again for admission to the professional divisions in a subsequent year. It is the student's responsibility to contact the coordinator of internal admissions in the Office of Student Affairs if he/she plans to complete requirements over the summer prior to the start of the P1 year.

Evaluation

Each application will be evaluated on the basis of the applicant's:

Cumulative GPA

Science GPA in the following specified courses:

CHEM 1230, 1240 and 2410

BIOL 2150 and 2170

MATH 1750

PHYS 1750 or 2070

PHCL 2600

PCAT Score(s)

Personal essay

Personal interview at the discretion of the committee

The admissions committee will use the better grade of the first two of all attempts for any science course used in the calculation of the science GPA. This rule applies to all applicants, including transfer students. All transfer or quarter courses equivalent to these specified courses will be evaluated for their respective equivalent semester hours. All applicants must have a cumulative GPA based on a minimum of 16 GPA semester hours at The University of Toledo (a letter grade must be received in each course). If a student has taken fewer than 30 quality hours at The University of Toledo, the higher education GPA will be used in the evaluation in place of the UT cumulative GPA, if the higher education GPA value is less than the UT cumulative GPA. If the higher education GPA is greater than the UT cumulative GPA, the latter will be used. For Fall 2017 admission, transfer students are not allowed to apply directly into the Pharm.D. program.

Fall 2018 Pharm.D. Program Admission

Beginning with Fall 2018 admission to the professional division of the Pharm.D. program, The University of Toledo will utilize The Pharmacy College Application Service (PharmCAS), a centralized application system. In addition to the PharmCAS application, applicants must also submit a supplemental application directly to The University of Toledo CPPS through the Professional Division Admissions website.

As a component of the supplemental application, applicants to the Pharm.D. program will provide the Admissions Committee with a personal essay to be written at a designated time, date and location as indicated on the Internal Admissions website. In addition two recommendations must be submitted through the Internal Admissions website. The recommendations may be from professors, employers, clergy, close family friends and health professionals (pharmacist, dentist, and physician), or others. Recommendations from relatives or University of Toledo CPPS faculty or staff are not acceptable. There are several pathways for application to the Pharm.D. program. They are described as follows.

Early Admission (1+5)

This pathway is designed for highly qualified first-year UT students who did not receive Contingent Admission (did not apply or not awarded).

Eligibility for Application

To be eligible to apply through the "Early Admission" pathway, the following (or their equivalents) must be completed:

Science AND cumulative GPAs of 3.75 or higher at the end of the first year at UT

Applicant must be a full-time student each academic semester.

The following required science-GPA courses and corresponding labs MUST have been taken at UT during the first year as a UT student or credit earned in high school:

MATH 1850
BIOL 2170 and 2180
CHEM 1230, 1280, 1240, and 1290
PHCL 2610

The PCAT is NOT required to apply through the Early Admission pathway.

Final Admission

For final admission into the professional division, the following (or their equivalents) must be completed:

BIOL 2170 and 2180
CHEM 1230, 1240, 1280, 1290, 2410, 2420, 2460 and 2470
MATH 1850 (or 1750/1760)
MATH 2640 (or 2600)
PHCL 2610
PHYS 1750 or 2070/2080
ENGL 1110 (or HON 1010)
ENGL 1130 (or HON 1020 OR ENGL 2950)

A minimum of 60 earned semester hours

Science AND cumulative GPAs of 3.5 or higher in sophomore fall courses

Science AND cumulative GPAs of 3.0 or higher in sophomore spring and summer courses

Must have a valid Social Security number

Must complete the health requirements as defined by The University of Toledo CPPS

Earn C or higher in the following courses which must be taken at UT or credit earned in high school:

CHEM 1280, 1290, 2410, 2420, 2460 and 2470
BIOL 2180
PHYS 1750 or 2070/2080
MATH 2640 (or 2600)
PHCL 2610

Evaluation

Each application will be evaluated on the basis of the applicant's:

- Cumulative GPA
- Science GPA using the following courses (only first attempt included):
 - MATH 1850
 - BIOL 2170
 - CHEM 1230 and 1240
 - PHCL 2610
- Comprehensive communication review

Traditional Admission with Guaranteed Interview (2 + 4)

This pathway is designed for any college student who meets the following admission requirements.

Eligibility for Application

To be eligible to apply through the "Traditional Admission with Guaranteed Interview" pathway, the following (or their equivalents) must be completed:

Science AND cumulative GPAs of 3.50 or higher

The following required science courses MUST have been completed:

- MATH 1850
- BIOL 2170 and 2180
- CHEM 1230, 1280, 1240, 1290, 2410, and 2460
- PHCL 2610
- PHYS 1750 or 2070

PCAT score \geq 60th percentile AND writing score of 3 or higher

Completed PharmCAS application

A minimum of 44 earned semester hours

Final Admission

For final admission into the professional division, the following (or their equivalents) must be completed:

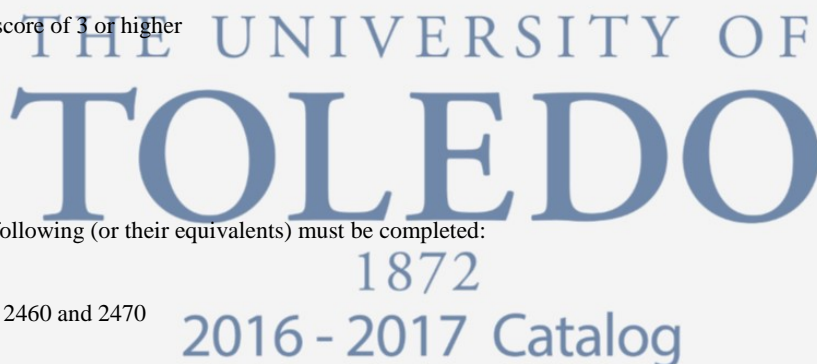
- BIOL 2170 and 2180
- CHEM 1230, 1240, 1280, 1290, 2410, 2420, 2460 and 2470
- MATH 1850 (or 1750/1760)
- MATH 2640 (or 2600)
- PHCL 2610
- PHYS 1750 or 2070/2080
- ENGL 1110 (or HON 1010)
- ENGL 1130 (or HON 1020 OR ENGL 2950)

A minimum of 60 earned semester hours

Minimum 2.0 GPA (cumulative and semester) for the spring and, if applicable, summer semesters

Must have a valid Social Security number

Must complete the health requirements as defined by The University of Toledo CPPS



Evaluation

Each application will be evaluated on the basis of the applicant's:

Cumulative GPA

Science GPA in the following specified courses:

BIOL 2170

CHEM 1230, 1240 and 2410

MATH 1850 or 1750

PHYS 1750 or 2070

PHCL 2610

PCAT Score(s)

Personal essay

Personal interview

Traditional Admission (2+4)

This pathway is designed for any college student who meets the following admission requirements.

Eligibility for Application

To be eligible to apply through the "Traditional Admission" pathway, the following (or their equivalents) must be completed:

Science AND cumulative GPAs of 3.00 or higher

The following required science courses MUST have been completed:

MATH 1850

BIOL 2170 and 2180

CHEM 1230, 1280, 1240, 1290, 2410, and 2460

PHCL 2610

PHYS 1750 or 2070

PCAT score \geq 30th percentile AND writing score of 2 or higher

Completed PharmCAS application

A minimum of 44 earned semester hours

Final Admission

For final admission into the professional division, the following (or their equivalents) must be completed:

BIOL 2170 and 2180

CHEM 1230, 1240, 1280, 1290, 2410, 2420, 2460 and 2470

MATH 1850 (or 1750/1760)

MATH 2640 (or 2600)

PHCL 2610

PHYS 1750 or 2070/2080

ENGL 1110 (or HON 1010)

ENGL 1130 (or HON 1020 OR ENGL 2950)

A minimum of 60 earned semester hours

Minimum 2.0 GPA (cumulative and semester) for the spring and, if applicable, summer semesters

Must have a valid Social Security number

Must complete the health requirements as defined by The University of Toledo CPPS

Evaluation

Each application will be evaluated on the basis of the applicant's:

Cumulative GPA

Science GPA in the following specified courses:

CHEM 1230, 1240 and 2410

BIOL 2170

MATH 1850 or 1750

PHYS 1750 or 2070

PHCL 2610

PCAT Score(s)

Personal essay

Personal interview at the discretion of the committee

CPPS Honors Program

The CPPS offers an Honors Program for eligible students in all of its undergraduate programs as part of the Jesup Scott Honors College. Highly qualified students entering the University in the CPPS will be considered for entry into honors courses and honors sections of major courses offered in the first two years. Decisions regarding entry of students into the Honors College will be made after evaluation of the honors application by the Honors College. Normally, entering students with an ACT composite score of 25 and above (or SAT equivalent), coupled with a 3.50/4.00 high school GPA, will be considered for entry into honors courses. During the first two years of study, the CPPS offers courses that orient the student toward the profession of pharmacy and the pharmaceutical sciences. Many honors students take much of their honors course work (required and elective courses) during the first two years of the curriculum.

A variety of required and elective courses also are offered with honors sections in the professional divisions. A specific honors seminar course and an honors thesis option are offered to fulfill the requirements for graduation with the Honors College medallion. These courses also can fulfill requirements for major electives.

The Bachelor of Science in Pharmaceutical Sciences with the Honors College medallion is attainable by all students who complete at least 33 semester hours of honors course work with a grade of B or better and who have a minimum cumulative GPA of 3.3. In addition, at least five hours of the 33 must be taken within the honors thesis project and honors seminar. These courses are to be taken within the departments of medicinal and biological chemistry, pharmacology and experimental therapeutics, or pharmacy practice. Graduation with departmental honors is also available to students who are not members of the Honors College, but who meet departmental honors requirements. These departmental honors requirements are a GPA of 3.2 or higher and completion of eight hours of honors course work in one department, including the honors thesis and seminar.

Academic and Conduct Policies

The CPPS adheres to all of The University of Toledo policies and procedures. Please refer to the UT Policy web site for additional information on academic and conduct policies governing all students enrolled at the University. In any case in which University, college and/or departmental policies conflict, the most stringent policy applies, unless waived by the college. Students should consult with the college for a complete listing of all policies and procedures specifically related to the CPPS.

Attendance Requirements

Students in a professional school, as responsible individuals, are expected to attend all class meetings. The maximum number of permissible absences in a course is at the discretion of the individual faculty member. The penalty for excessive absences will be determined by the faculty member in accordance with the University's Missed Class Policy.

Withdrawal, GPA Recalculation and Audit Policies

Refer to the University General Academic Policies for Withdrawal, GPA Recalculation and Audit policies that apply to all students. Withdrawal from an experiential course for which a final grade has already been determined will not be permitted.

Pass/No Credit (P/NC) Grade Option

Refer to the University General Academic Policies for General Academic Policies that apply to all students. P/NC grading is not available for courses taught in the CPPS. In addition to courses for which P/NC grading is used exclusively, a student may elect P/NC grading for an additional seven credit hours, excluding course work in the natural sciences (biology, chemistry, physics and mathematics with the exception of developmental math). These seven P/NC hours are applicable only to courses in English composition, humanities/fine arts, diversity studies and social sciences. Once the petition is filed, the request is irrevocable.

Technology Requirements

Specific computer hardware/mobile devices and software are required of CPPS students and are described in the Student Handbook.

Personal Fitness

The emotional and psychological stability of those practicing or preparing to practice in pharmacy or the pharmaceutical sciences is considered to be very important for the proper performance of professional responsibility. The faculty of the CPPS recognizes that, if a student exhibits behavior suggesting an emotional or psychological abnormality bearing a reasonable relation to that student's ability to function competently in health-care delivery systems, experiential education, and professional employment, such behavior may present a hazard not only to the student, but also to patients, coworkers and clients. If any behavior pattern provides reason to believe that a student's psychological or emotional state may have rendered that student incompetent or unsafe, the dean of the college shall meet with that student and attempt to resolve the situation by referral to the University Health Service, University Counseling Center and/or withdrawal from the pharmacy program.

Ethical Responsibility

The most serious offense with which pharmacy students may become involved is the misuse of and/or dependence upon dangerous drugs. The CPPS views the admitted or proven personal abuse of such drugs, their transmittal or sale to other individuals, or the use of drug documents to illegally obtain controlled or legend drugs as unprofessional conduct, which may result in dismissal from the CPPS. In addition, boards of pharmacy may revoke the internship license and/or deny licensure for various drug offenses. Drug abuse in any form and/or misuse of drug documents must be avoided.

Student Code of Professional Conduct

PURPOSE

The Student Code of Professional Conduct gives general notice of prohibited conduct and of the sanctions to be imposed if such conduct occurs. The Student Code of Professional Conduct should be read broadly, and is not designed to define misconduct in exhaustive terms. The Student Code of Professional Conduct specifies the rights and responsibilities of the students, student organizations, the college, and the rights of other parties to the procedure.

Students and student organizations are required to engage in responsible social and professional conduct that reflects credit upon the CPPS community and to model good citizenship in any community. Actions by students or student organizations, which interfere with the orderly functions of the college, or actions, which endanger the health or safety of members of the college community, will not be tolerated.

Delegation of Authority. The dean of the CPPS or designee shall administer and implement this policy, including the promulgation of the standards of conduct, to be published and distributed as "The Student Code of Professional Conduct," with procedures and standards governing student conduct at UTCPPS. The Professional Conduct Committee is authorized to hear each matter and provide a final decision as to whether the code has been violated and a sanction if warranted. The dean of the College will assure that the sanction is implemented.

Application. This policy, along with the University of Toledo "The Student Code of Conduct" (see http://www.utoledo.edu/policies/main_campus/student_life/pdfs/3364_30_04_Student_code_of_conduct.pdf), applies to all students and student organizations of the CPPS. In areas of overlap, this policy supersedes the University of Toledo "The Student Code of Conduct".

Licensure Requirement

A valid Ohio Intern license is required of all students entering the professional division of the Pharm.D. program. Any P1 student who does not obtain a valid Ohio intern license by December 31st of the P1 year will be withdrawn from all spring semester courses and will not be allowed to register for or take classes until a valid Ohio intern license is obtained. Depending upon the circumstances and length of time needed to resolve the issue, failure to obtain a valid Ohio intern license may result in forfeiture of the student's seat in the P1 class, necessitating reapplication to the professional division.

In addition any student in the professional division of the Pharm.D. program who does not annually renew his/her license before September 15th will be withdrawn from all courses effective immediately. Depending upon the circumstances and length of time needed to resolve the issue, failure to renew an Ohio intern license may result in forfeiture of the student's seat in the Pharm.D. class, necessitating reapplication to the professional division.

Academic Performance Standards

Please refer to the [UT Policy web site](#) for additional information on academic policies.

The [Academic Performance Standards](#) as outlined in the current catalog are subject to modifications with immediate implementation to keep pace with changing trends in pharmaceutical education and in accordance with accreditation standards.

For all undergraduate students in the pre-professional division and in the professional division of the Bachelor of Science in Pharmaceutical Sciences, pharmacology/toxicology, medicinal and biological chemistry, pharmaceuticals, cosmetic science and pharmacy administration majors in the CPPS:

- a) Any student who fails to achieve a semester or cumulative GPA of 2.0 or greater at the end of any semester will automatically be placed on probation.
- b) Any student who fails to achieve a semester or cumulative GPA of 1.0 or greater at the end of any semester will automatically be placed on probation, will undergo a record review by the CPPS Academic Performance Committee, and may be suspended (see section on suspension below) from the University without a preliminary probationary semester.
- c) Any student who fails to achieve a semester or cumulative GPA of 2.0 or greater for any two of three consecutive semesters in attendance will undergo a record review by the CPPS Academic Performance Committee, and may be suspended (see section on suspension below) from the University.
- d) GPA recalculation for undergraduate courses will be allowed, in accordance with the policies of The University of Toledo.

For students entering into the professional division (P1-P2) of the B.S.P.S. Pharm.D. major program:

- a) Students must maintain a cumulative pharmacy core-curriculum GPA of 3.0. Beginning in the first year of the professional division, students whose semester or cumulative pharmacy core-curriculum (see below) GPA falls below 3.0 will be given an academic warning. A student with two of three consecutive semesters with a semester or cumulative pharmacy core-curriculum GPA of less than 3.0 will be placed on probation and undergo a record review by the CPPS Academic Performance Committee that may result in dismissal from the Pharm.D. program.
- b) A grade below a C (2.0) in any pharmacy core-curriculum course is unsatisfactory and will not be considered a passing grade for the course in the Pharm.D. curriculum (i.e., courses for which grades of less than a C are earned must be repeated). Earning a grade below a C in two or more pharmacy core-curriculum courses during a single semester or total for a professional year (eg., P1, P2) will lead to academic probation and a delay in progression to the subsequent professional semester. If delay in progression is mandated, a grade of C or better must be earned in all pharmacy core curriculum coursework in which a grade of less than a C was previously earned before moving on to subsequent pharmacy core curriculum coursework.
- c) GPA recalculation for undergraduate courses will be allowed, in accordance with the policies of The University of Toledo.
- d) To assure matriculation into the post B.S.P.S. portion (P3-P4) of the Pharm.D. curriculum, students must have an undergraduate cumulative pharmacy core-curriculum GPA of 3.0 or better and earned a C or better in all pharmacy core-curriculum courses. Students failing to achieve these two requirements will undergo a record review by the CPPS Academic Performance Committee that, if it does not result in the student's dismissal from the Pharm.D. program, will most likely result in the student needing to enhance his/her undergraduate academic performance prior to being matriculated into the post B.S.P.S. portion (P3-P4) of the Pharm.D. curriculum.

For students entering the post B.S.P.S. portion (P3-P4) of the Pharm.D. curriculum:

- a) Students must maintain a pharmacy core-curriculum cumulative GPA of 3.0. Beginning in the Fall semester of the P3 year, students whose semester pharmacy core-curriculum GPA falls below 3.0, but who maintain a cumulative pharmacy core-curriculum GPA of 3.0 or higher will be given an academic warning. Students whose pharmacy core-curriculum cumulative GPA falls below 3.0 will be placed on probation and allowed one semester to restore their cumulative pharmacy core-curriculum GPA to a level of 3.0 or better. A student with two or more consecutive semesters of either a pharmacy core-curriculum semester GPA (this may include P2 Spring semester, but will not include the P3 Summer Semester) or cumulative pharmacy core-curriculum GPA of less than 3.0 will undergo a record review by the CPPS Academic Performance Committee that may result in dismissal from the Pharm.D. program. *The pharmacy core-curriculum cumulative GPA for the P3-P4 years will be computed beginning from the first semester of the post-bachelor of science in pharmaceutical sciences course work and will include all post-B.S.P.S.-level pharmacy courses and pharmacy approved electives (those listed below or those preapproved by CPPS Curriculum Committee).*
- b) A grade below a C (2.0) in any pharmacy core-curriculum course is unsatisfactory and will not be considered a passing grade for the course in the Pharm.D. curriculum (i.e., courses for which grades of less than a C are earned must be repeated). Earning a grade below a C in two or more pharmacy core-curriculum courses during a single semester in the P3 year (excluding summer) will lead to academic probation and a delay in the progression to the subsequent professional semester. If delay in progression is mandated, a grade of C or better must be earned in all pharmacy core curriculum coursework in which a grade of less than a C was previously earned before moving on to subsequent pharmacy core curriculum coursework or Advanced Pharmacy Practice Experiences (APPE).
- c) Refer to "Experiential Performance Standards" for policies concerning students who fail to pass an Advanced Pharmacy Practice Experience (APPE). A grade of "Unsatisfactory" in any APPE will not have a negative impact on a student's post baccalaureate GPA, however.

d) **GPA RECALCULATION POLICY FOR REPEATED COURSES IN THE POST-BACCALAUREATE COMPONENT (P3-P4) OF THE PHARM.D. PROGRAM:**

Students within the P3-P4 years of the Pharm.D. program who have retaken a course and earned a higher grade may petition to have the first grade excluded from grade point average computation. **However, no grade is removed or erased from a transcript by retaking a course and having the GPA recalculated.**

Credit will only be awarded once for repeated courses. All course grades for all attempts will appear on the student's official transcript regardless of whether the grade has been deleted. **If a grade has been deleted, that grade will not be used in determining the UT grade point average.** However, all grades, including those for repeated courses, will be included in the determination of eligibility for graduation honors, fellowships, or other distinctions awarded on the basis of GPA. A copy of the approved petition will become part of the student's permanent record file.

A student may petition to have a grade of less than B (<3.00) for required P3-P4 level non-Advanced Pharmacy Practice Experience (APPE) courses* excluded from UT GPA computation under the following conditions:

1. Before petitioning, a student must have retaken the **same course** (or the renumbered substitute for that course) in the same department at The University of Toledo and earned a grade of B (3.00) or higher in the course retaken. If a grade of B (3.00) or higher is not earned when the course is retaken, grades from both attempts will be included in the GPA calculation.
2. No more than two courses, regardless of credit hours, may be deleted from the student's transcript.
3. This policy applies only to the first recorded grade in a course that a student has repeated.
4. If a student retakes three or more courses, he/she may elect which courses to petition for GPA recalculation. Once the petition is approved, the choice of courses is final and may not be changed.
5. A course may only be petitioned once for GPA recalculation.
6. The GPA recalculation allowances provided by this policy are in addition to any GPA recalculation allowances that students may have used during the baccalaureate portion of their Pharm.D. program.

***Required P3-P4 Level Non-APPE Courses**

MBC 5300	PHPR 5300	PHPR 6120	PHPR 6160	PHPR 6280	PHPR 6610
MBC 6320	PHPR 6070	PHPR 6130	PHPR 6250	PHPR 6310	PHPR 6920
PHCL 6320	PHPR 6080	PHPR 6140	PHPR 6260	PHPR 6340	

- e) Graduation requirements for Doctor of Pharmacy: Must have a cumulative post-baccalaureate GPA of 3.0 or better and earned a "C" or better in all post-baccalaureate pharmacy core-curriculum courses.

Suspension

Suspension from the CPPS may occur after review of academic performance by the Academic Performance Committee. Suspension is from the University. The period of suspension is at least one semester, exclusive of the summer terms. A student who is suspended may appeal the Academic Performance Committee decision to the dean. A student who serves the suspension must petition for readmission, in writing, at least five weeks prior to the beginning of the semester to which the petition is directed. If the petition is accepted, the college will determine the conditions under which the student will be permitted to re-enroll. If a student is readmitted and does not perform satisfactorily, permanent dismissal from the CPPS may result. A student who is on academic or disciplinary probation or suspension will be required to relinquish the duties of any office in the CPPS organizations until the student is in "good academic standing," as defined below.

If a student is suspended, and therefore is ineligible to attend classes in a subsequent semester, that student must drop all of the courses for that semester.

Dismissal

Dismissal from the CPPS may occur after review of academic performance by the Academic Performance Committee. Dismissal is from the CPPS and, depending on the circumstances, not necessarily from the University. A student who is dismissed may petition the dean for readmission. If the petition is accepted, the college will determine the conditions under which the student will be permitted to re-enroll. If a student is readmitted and does not perform satisfactorily, permanent dismissal from the CPPS may result.

Appeal Procedure for Individual Final Course Grades

All pre-professional division students in the college will follow the current UT undergraduate academic grievance policy. All M.S. and Ph.D. students in the college will follow the graduate student academic grievance policy.

Professional division (P1-P4) of CPPS appeals process for final course grades

To initiate resolution of final course grade grievances, the student shall formally dispute the grade in writing to the faculty member responsible for assigning the grade. The written dispute should include the student's name and Rocket number, date, course number and section, semester, the specific issue in dispute, and the student's request for resolution. The written request should be delivered (email or hard copy) within 7 days of the grade posting. The faculty member then has 7 days in which to respond in writing (email or hard copy) back to the student.

If resolution is not achieved, the student may forward the written dispute (as described above and with the response of the faculty member) to the chair of the faculty member's department. The student has 7 days in which to appeal to the department chairperson following the receipt of the faculty member response. The department chairperson then has 7 days in which to respond in writing (email or hard copy) back to the student.

If resolution is still not achieved, the student may submit the same written dispute (as outlined above and with the response of the department chairperson) to the CPPS dean. The student has 7 days in which to appeal to the dean following the receipt of the department chairperson's response. The dean then has 7 days in which to respond in writing (email or hard copy) back to the student. The decision of the dean is final and without appeal.

Appeal Procedure for Academic Performance and Degree Progression for the Professional Division of the CPPS

[Appeal Procedure for Academic Performance and Degree Progression \(Policy 3364-83-05\)](#)

(A) Appeal Procedure for Academic Performance and Degree Progression:

The Academic Performance Committee (APC) reviews and administers CPPS Academic Performance Standards, as outlined in the College's Catalog. In the case of all action taken by the APC, including probation, suspension, dismissal, and progression decisions, appeal is available to the student.

Appeal is limited to academic issues based on the following:

- A claim that the Academic Performance review and ruling process was not conducted as required by the Academic Performance policy.
- A claim that the sanction imposed is excessive for the academic performance issue.
- New information has become available that was not available at the time of the original decision.

The impact of commuting or excessive work hours will not be considered as a basis for appeal.

(1) Appeal Process

- To appeal APC decisions, the student shall formally dispute the decision in writing to the Dean of the CPPS. The letter of petition must be written in adherence to the business letter format and must include the student's name and Rocket number, phone number, current mailing address, date, semester, decision(s) in dispute, the specific issue regarding the decision(s) in dispute, and the student's statement of appeal that specifically identifies which of the three bases for appeal are being raised. A hard copy and email copy of the written request must be received by the Office of the Dean **by 5pm of the fifth business day** following email notification of the APC decision, or any further right to appeal is waived. Email subject line must read: "Appeal: [student name]"
- The Pharmacy Academic Progression Appeals Committee (PAPAC) will be convened to review the matter and advise on the dispute. The PAPAC's recommendations to the Dean are advisory. The committee will consist of the following members:
 - Associate Dean for Main Campus Student Affairs and Enrollment Management
 - Associate Dean for Health Science Campus Student Affairs and Diversity
 - Associate Dean of Graduate and Research Studies
 - At least one full-time faculty member who has been directly involved in the instruction of the student, but who was not involved in the disputed APC decision.
- The appeal review may include a hearing with the student. The student is permitted to have a faculty or staff member or a fellow CPPS student attend the hearing as his/her advisor, however these individuals may not participate in the proceedings. Legal counsel will not be permitted. Both the student and the APC will be permitted to make a statement and present any information pertinent to the matter before the Dean and/or PAPAC.
- The Dean will review all applicable evidence presented by the PAPAC, the student, and the APC and any other requested information.
- After completing such review, the Dean may ask for a meeting with the student
- The Dean will provide to the student a written notification of the decision on the appeal within ten business days of the receipt of the appeal petition from the student, unless circumstances warrant additional time for review, with sufficient notice provided to the student.
- The decision of the Dean is final and without appeal.

(B) Pendency of Action

Generally, implementation of an academic dismissal of a student from the Doctor of Pharmacy program and/or the CPPS will be deferred until all the due process hearings and time for appeals made by the student have been exhausted. Students will be allowed to continue in CPPS didactic coursework pending the ruling on appeal(s). Students will **not** be permitted to continue in experiential education on site experiences during the appeal process. Assignments/Exams may be completed but will not be scored unless the appeal is accepted. If the appeal is denied, the student will be immediately administratively removed from registered coursework. Please note, the Dean of the CPPS or the Assistant/Associate Dean for Academic Affairs of the CPPS may impose immediate removal or restrictions on the student if the alleged academic conduct in any way concerns patient or public safety (including faculty, staff and other students).

Good Standing

The CPPS defines “good academic standing” in the following manner:

- a) For all pre-professional students, and professional division students in the Bachelor of Science in Pharmaceutical Sciences program (pharmacology/toxicology, medicinal and biological chemistry, pharmaceuticals, cosmetic science and formulation design, and pharmacy administration majors): a minimum cumulative GPA of 2.0 and a minimum GPA of 2.0 for the semester.
- b) For all P1 and P2 professional division students in the Pharm.D. program: a minimum cumulative pharmacy core-curriculum GPA of 3.0 and a minimum GPA of 3.0 for the semester.
- c) For students in the post-baccalaureate portion of the Pharm.D. program: a minimum pharmacy core-curriculum semester and cumulative GPA of 3.0.

Pharmacy Core-Curriculum

Undergraduate core-curriculum courses taught in the CPPS beginning in the P1 year of the Pharm.D. professional division:

MBC 3310, 3320, 3550, 3560, 3800, 3850 and 4300

PHCL 3700, 3720, 4700 and 4720

PHPR 3070, 3080, 3130, 3140, 3260, 3920, 3930, 4070, 4080, 4130, 4140, 4160, 4330, 4520, 4920 and 4930

Post-B.S.P.S. core-curriculum courses taught in the CPPS beginning in the P3 year of the Pharm.D. professional division:

MBC 5300 and 6320

PHCL 6320

PHPR 5300, 6070, 6080, 6120, 6130, 6140, 6160, 6250, 6260, 6280, 6310, 6340, 6610 and 6920

Any approved Pharm.D. electives. Additional graduate level electives may be considered but must be preapproved by the CPPS Curriculum committee.

Experiential Performance Standards

The experiential series allows students to gain an appreciation of the role of the pharmacist through visiting actual pharmacy practice sites and participating in direct patient care activities. Throughout the course of the experiential series each student will be required to complete a number of health and regulatory requirements. These regulatory requirements must be originally completed and kept up to date at all times in order to remain in the experiential program. These requirements may include immunizations and other certain health documentation as well as licensures, certifications and background checks.

Specific details regarding the above requirements will be provided to all students upon admission into the Pharm.D. program and throughout the experiential series. Additional requirements and expectations will be included in the experiential manual. The experiential manual will be made available to all students on an annual basis. Students are responsible for reading, understanding and adhering to **all** policies and procedures outlined therein. All students in the professional division of the Pharm.D. program will be required to successfully complete the IPPE series and have a Pharmacy Core Curriculum GPA at or above 3.0 prior to beginning APPEs.

TIME IN PROGRAM POLICY

To ensure provision of the most up-to-date and relevant pharmacy and pharmaceutical sciences education, all Doctor of Pharmacy degree requirements must be completed within six (6) years from the time the student first enrolls in the professional division (P1) of the Doctor of Pharmacy program. An approved leave of absence will justify an extension.

The Time to Doctor of Pharmacy Program Completion Policy is to be instituted with the incoming 2016 P1 class. The policy can be found by clicking here http://www.utoledo.edu/policies/academic/college_of_pharmacy/pdfs/3364-83-04.pdf.

Student Grievances

Student complaints specifically related to Accreditation Council for Pharmacy Education (ACPE) standards should be submitted on the appropriate form to the CPPS Office of Student Affairs (Wolfe Hall Room 1227 or Wolfe Center, Health Education Building 155) in care of the associate dean for student affairs. Forms and a copy of the ACPE standards are available in the Office of Student Affairs and on the college website. Students can also find the ACPE standards at the ACPE web site. The associate dean will meet with the dean of the College to review the complaint and consult with the student complainant and individuals involved. A formal response will be issued by the dean. If the issue is not resolved at the College level, the student complainant can submit the complaint directly to ACPE. In addition, a student may submit a complaint directly to ACPE without submission to the College. See <https://www.acpe-accredit.org/complaints/default.asp> for more information.

Student issues or complaints regarding specific courses should follow these steps when pursuing an academic grievance:

STEP 1: The student discusses the problem with the faculty member whom the student believes has taken improper action.

STEP 2: If resolution is not achieved, the student discusses the problem with the chair of the faculty member's department.

STEP 3 (optional): If the student wishes, the student may seek informal counsel from the president of student government.

STEP 4: If resolution is still not achieved, the student discusses the problem with the dean of the college or the college representative responsible for dealing with student academic grievances.

STEP 5: If resolution is not achieved at the college level, the student needs to file a petition for academic grievance with the chair of the Student Grievance Council.

See <http://www.utoledo.edu/offices/provost/academicgrievance/undergraduate.html> for UT academic grievance timeframe and the written petition guidelines.

Please refer to the UT Policy web site for additional information on academic policies: <http://www.utoledo.edu/policies/>

LEAVE OF ABSENCE POLICY

A student enrolled in the Doctor of Pharmacy program who is in good academic standing or on academic probation (excluding those students eligible for suspension or dismissal from the CPPS) may request a leave of absence (LOA) for up to 12 months. All students approved for a LOA, regardless of the type of LOA, must also request and be approved if they wish to return from the LOA.

Please go [here](#) for more information on the policy. To apply for a Leave of Absence (LOA), please go [here](#) to complete the application.

College Level Examination Program Credit (CLEP)

The CPPS grants up to a maximum of 30 semester CLEP credits. Credits earned in the natural sciences and mathematics section of the CLEP examination will count toward the degree as free electives, but do not replace the requirement for any specific course in biology, chemistry, physics or mathematics. Credits earned with other sections of the CLEP examination will count only toward meeting other general education requirements.

Credit by Exam

Refer to the University General Academic Policies for Credit by Exam policies that apply to all students.

Undergraduate and Professional Programs of Study

The student is responsible for the correct selection of the program of study each semester and for the fulfillment of the requirements given here. Although advisers will assist wherever possible, the final responsibility rests with the student. The CPPS reserves the right to change its policies and procedures at any time. These changes will be binding on the date they are approved by faculty action. Courses taken at other colleges of pharmacy will not substitute for required professional division courses. The only pharmacy courses a pre-professional student is permitted to take through the CPPS are PHPR 1000 and 2040 and PHCL 2220, 2600, 2620, 2610, and 2900, and MBC 2960. Only students admitted to the professional division will be allowed to take 3000- or 4000-level courses in the college.

Degree Requirements

The curriculum as outlined in the current catalog is subject to modifications with immediate implementation to keep pace with changing trends in pharmaceutical education and in accordance with accreditation standards.

Bachelor of Science in Pharmaceutical Sciences Degree Requirements

In response to the increasing demand for scientists, researchers, administrators, and professional sales representatives in the pharmaceutical fields, The University of Toledo CPPS offers the Bachelor of Science in Pharmaceutical Sciences degree program as one of the first in Ohio. The Bachelor of Science in Pharmaceutical Sciences degree is a four-year baccalaureate program. Pharmaceutical sciences represent the collective basic sciences that underlie pharmacy. There are five majors under this degree program – medicinal and biological chemistry, pharmacology/toxicology, pharmaceutics, cosmetic science and formulation design, and pharmacy administration.

This degree program is designed for students who wish to pursue careers related to the pharmaceutical industry, pharmaceutical science and research, pharmacy administration and sales, the biomedical industry, the personal products industry, forensic science, as well as health-care administration. It also prepares students to pursue graduate studies or enter professional schools including medicine, dentistry, law and physician assistant programs.

General Program Requirements

The University of Toledo requires a minimum of 120 semester hours for graduation with a bachelor of science degree. Credit hour requirements in the College of Pharmacy and Pharmaceutical Sciences vary by major.

Double Major within the B.S.P.S. Program Requirements

- All program requirements for both majors have to be successfully fulfilled.
- Internship for both majors should be taken at different semesters and student will pay a total of 6 terms of practicum fees.
- A minimum of 150 semester hours for any dual majors is required. For MBC and PTOX dual majors, a minimum of 38 major elective hours is required.

Pre-professional Division Requirements

In the pre-professional division, the first two years of the Bachelor of Science in Pharmaceutical Sciences program, students will be broadly trained in the arts, humanities and social sciences – although the natural sciences will receive emphasis. The curriculum of the pre-professional division of the CPPS is similar for the Pharm.D. and the B.S.P.S. degrees.

College of Pharmacy & Pharmaceutical Sciences (CPPS)				
Pre-professional (PREP) Curriculum				
Applying to Professional Division (P1) for Fall 2018 or after				
Fall 1st year				
	PHPR	1000	Orientation ¹	1
	MATH	1850	Calculus I (or equivalent)*	4
	CHEM	1230	General Chemistry I	4
	CHEM	1280	General Chemistry Lab I	1
	BIOL	2170	Biomolecules, Cells, & Inheritance	4
	BIOL	2180	Biomolecules, Cells, & Inheritance lab	1
				15
Spring 1st year				
	PHCL	2610	Intro to Physiology	3
	MATH	2640	Statistics for Applied Science (or	3
	CHEM	1240	General Chemistry II	4
	CHEM	1290	General Chemistry Lab II	1
	UT Core Requirement (ENGL 1110 or equivalent)*			3
	UT Core Requirement (US Diversity) ³			3
				17
Fall 2nd year				
	CHEM	2410	Organic Chemistry I	3
	CHEM	2460	Organic Chemistry Lab I	1
	PHYS	1750	Introduction to Physics (or equivalent)* ¹	4
	UT Core Requirement (ENGL 1130 or equivalent)*			3
	UT Core Requirement (Social Science) ³			3
				14
Traditional Application to Professional Division (P1)				
Traditional Application to Professional Division (P1)				
Spring 2nd year				
	CHEM	2420	Organic Chemistry II	3
	CHEM	2470	Organic Chemistry Lab II	1
	UT Core Requirement (Social Science) ³			3
	UT Core Requirement (Humanities/Fine Arts) ³			3
	UT Core Requirement (Humanities/Fine Arts) ³			3
	UT Core Requirement (Non-US Culture) ³			3
				16
			Total Credits	62
¹ Only offered during fall semesters				
² Not required prior to P1 for BSPS-only applicants				
³ If double-dip, PREP course load reduced by 3 hours				
*Equivalent courses:				
	ENGL1110 = HON1010			
	ENGL1130 = HON1020 or ENGL2950			
	MATH1850 = MATH1750+1760			
	MATH2640 = MATH2600			
	PHYS1750 = PHYS2070+2080			
				8/12/16 djs

Bachelor of Science in Pharmaceutical Sciences Professional Division Requirements

In the professional division of the Bachelor of Science in Pharmaceutical Sciences degree program, the last two years of the program, advanced courses of study and internship in each major lead to a unique concentration in the pharmaceutical fields. Admission requirements are listed under General Criteria for Admission to the professional divisions.

Cosmetic Science and Formulation Design (PCOS) Major

This major is organized around the theme of cosmetic and personal care product formulation design, broadly defined to include the theory, formulation, manufacture and stability of therapeutic ingredient incorporation into a patient acceptable product dosage form which is palatable, eye appealing, stable and therapeutically effective.

Cosmetic Science and Formulation Design Professional Division Curriculum

P1 Year

Fall Semester

PHPR	3010	Pharmaceutical Calculations.....	2
PHPR	3020	Pharmaceutical Technology I	4
PHCL	3700	Pharmacology I.....	3
MBC	3550	Physiological Chemistry I.....	3
MBC	3330	Techniques in Pharmaceutical and Medicinal Chemistry	2
MBC	3340	Techniques in Pharmaceutical and Medicinal Chemistry Laboratory.....	1
PHPR	2040	Intro to Cosmetic Sciences*	1

Spring Semester

PHPR	3030	Pharmaceutical Technology II.....	4
PHPR	3040	Cosmetic Raw Materials.....	2
MBC	3560	Physiological Chemistry II.....	3
MBC	3800	Microbiology & Immunology.....	3
MBC	3850	Micro. & Immuno. Lab.....	1

Summer Semester

PHPR	4890	Cosmetic Science and Formulation Design Internship.....	6
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P2 Year

Fall Semester

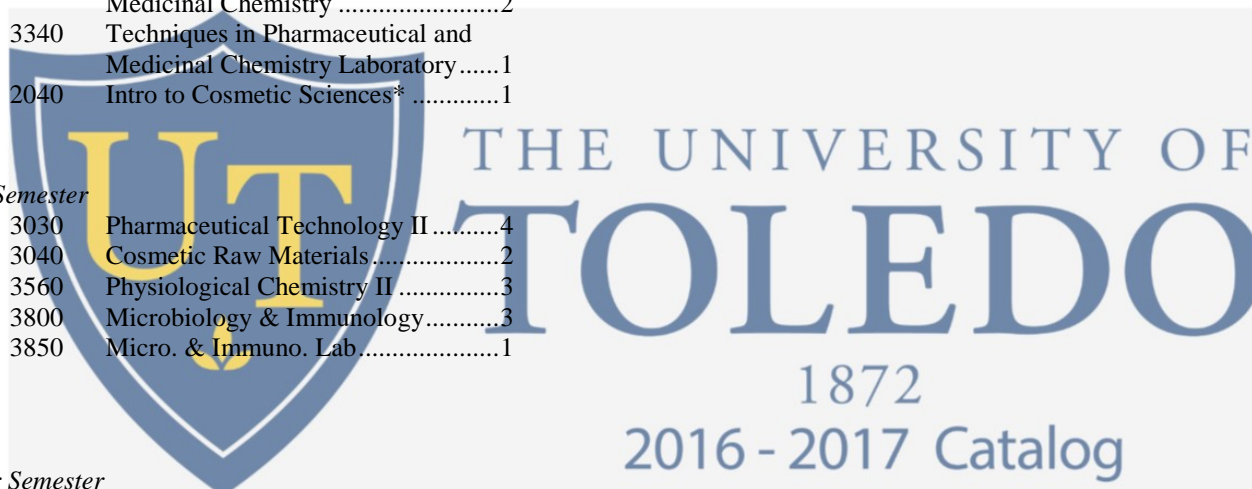
PHCL	4760	Toxicokinetics.....	3
PHPR	4730	Cosmetic Science I	2
PHPR	4740	Cosmetic Science Laboratory I.....	1
ECON	1200	Microeconomics	3
BUAD	1010	Introduction to Business*	3

Spring Semester

PHPR	4750	Cosmetic Science II.....	2
PHPR	4760	Cosmetic Science Laboratory II	1
BUAD	3010	Principles of Marketing	3
ECON	1150	Macroeconomics.....	3
		Cosmetic Science Electives ¹	5

*If not taken during pre-professional division

¹ Choose from Cosmetic Science and Formulation Design Elective list



Cosmetic Science and Formulation Design Electives

A total of 5 hours of course work must be selected from the list of elective courses below. Other electives require approval of the Cosmetic Science and Formulation Design adviser.

PHPR	4900	Honors Seminar Pharmacy Practice	1-3
PHPR	4910	Pharmacy Practice Problems	1-5
PHPR	4960	Honors Thesis in Pharmacy Practice	2-5
CHEM	3730	Physical Chemistry I.....	3
CHEM	3740	Physical Chemistry II	3
ECON	4750	Health Economics	3
MBC	4380	Medicinal Plants	3
*MATH	2600 or 2640	Statistics	3
HEAL	2800	Principles of Nutrition	3
BIOL	3030	Cell Biology.....	3
BIOL	3040	Cell Biology Lab.....	2

*If required in your curriculum, it cannot be counted as an elective.

Medicinal and Biological Chemistry (MBC) Major

Medicinal and biological chemistry is an interdisciplinary science. This major focuses on synthetic organic chemistry, biochemistry, molecular biology, biotechnology, pharmacology and pharmaceutical chemistry underlying the design, synthesis and development of drugs.

Medicinal and Biological Chemistry Professional Division Curriculum

P1 Year

First Semester

MBC	3310	Medicinal Chemistry I.....	2
MBC	3330	Techniques in Pharmaceutical and Medicinal Chemistry	2
MBC	3340	Techniques in Pharmaceutical and Medicinal Chemistry Laboratory.....	1
PHCL	3700	Pharmacology I.....	3
MBC	3550	Physiological Chemistry I.....	3
MBC Laboratory	(Recommend MBC 3880) ¹		3
Major Elective ²	.....		2

Second Semester

MBC	3100	Practices in Pharmaceutical Research.....	1
MBC	3320	Medicinal Chemistry II.....	2
MBC	3560	Physiological Chemistry II	3
PHCL	3730	BSPS Pharmacology II	3
MBC Laboratory	(Recommend MBC 3880) ¹		3
Major Elective (Recommend MBC 4870) ²			1-5

P2 Year

First Semester

MBC	4710	Targeted Drug Design ³	3
Major Elective (Recommend MBC 4850) ²			1-10
MBC Laboratory (Recommend MBC 4880) ¹ or Major Elective			3

Second Semester

MBC	4780	Internship in Medicinal and Biol. Chem ⁴	6-12
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¹The MBC major requires that 3 semester hours of laboratory instruction be taken at the 3000 level or higher in a course taught by the MBC Department. Completion of 3 semester hours of any of the following courses will satisfy this requirement: MBC 3880, MBC 4850, MBC 4870, MBC 4880, MBC 4900, MBC 4950, or MBC 4960. MBC 3850 Microbiology & Immunology Lab, 1 semester hour credit does not satisfy this requirement *unless* it is taken with an additional 2 credit hours of any of the other approved laboratories listed above.

²To be chosen from the MBC electives list.

³MBC 4720, Advances in Drug Design, when offered, will also fulfill the requirement.

⁴Internship can be taken in the summer before the P2 year. The internship sites require an average 3.0 GPA in all chemistry related courses (MBC 3310, MBC 3320, MBC 3550 and MBC 3560).

MBC Electives

A total of 20 hours of course work must be selected from the list of elective courses below. Other electives require approval of the MBC adviser.

BIOL	3010	Molecular Genetics.....	3
BIOL	3020	Molecular Genetics - Lab	2
BIOL	3030	Cell Biology.....	3
BIOL	3040	Cell Biology Lab.....	2
BIOL	4010	Molecular Biology	3
BIOL	4030	Microbiology	3
BIOL	4050	Immunology.....	3
BIOL	4110	Human Genetics.....	3
BIOL	4330	Parasitology	3
CHEM	3310	Analytical Chemistry	2
CHEM	3360	Analytical Chemistry Lab.....	2
CHEM	3560	Biochemistry Lab.....	1
CHEM	3610	Inorganic Chemistry	3
CHEM	3710	Physical Chemistry for the Biosciences I.....	3
CHEM	3720	Physical Chemistry for the Biosciences II.....	3
CHEM	3730	Physical Chemistry I.....	3
CHEM	3740	Physical Chemistry II	3
CHEM	3860	Advanced Laboratory I	3
CHEM	3870	Advanced Laboratory II.....	3
CHEM	4300	Instrumental Analysis	2
CHEM	4620	Inorganic Chemistry II.....	3
CHEM	4880	Advanced Laboratory III	2
CHEM	4980	Advanced Organic Chemistry.....	2
EEES	4150	Evolution	3
EEES	4300	Field Botany	3
EEES	4450	Hazardous Waste Management.....	3
EEES	4510	Environmental Microbiology.....	3
EEES	4800	Plant Physiological Ecology	4
*MATH	2600 or 2640	Statistics	3
MBC	3800	Microbiology & Immunology.....	3
MBC	3850	Microbiology & Immunology Lab....	1
MBC	3880	Synthetic Medicinal Chemistry Lab. .	3
MBC	4300	Chemotherapy and Immunotherapy...	2
MBC	4470	Advanced Immunotherapeutics	2
MBC	4720	Advances in Drug Design	3
MBC	4850	Adv Immunology and Tissue Culture Lab.....	1-10
MBC	4870	Biomedical Chem Lab	1-10
MBC	4880	Medicinal Biotech Lab.....	1-10
MBC	4900	Hnrs Seminar in Medic/Bio Chem..	1-3
MBC	4910	Problems in Bio-medicinal Chem...	1-3
MBC	4950	Research in Medicinal Chemistry...	3-8
MBC	4950	Research in Medicinal Chemistry –Honors	3-8
MBC	4960	Hnrs Thesis in Medicinal Chem	2-5
MBC	4980	Special Topics in Drug Design	1-4
PHCL	4140	Interpretation of Pharmaceutical Data	3



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PHCL	4810	BSPS Pharmacology III.....	3
PHCL	4820	BSPS Pharmacology IV.....	3
PHCL	4730	Toxicology I	3

*If required in your curriculum, it cannot be counted as an elective.

PHCL	4750	Toxicology II.....	3
PHCL	4760	Toxicokinetics.....	3

Medicinal and Biological Chemistry (MBC) Major & Master of Science (M.S.) in Medicinal Chemistry (MC) Option

Medicinal and Biological Chemistry Professional Division Curriculum

P1 Year

First Semester

MBC	3310	Medicinal Chemistry I.....	2
MBC	3330	Techniques in Pharmaceutical and Medicinal Chemistry	2
MBC	3340	Techniques in Pharmaceutical and Medicinal Chemistry Laboratory.....	1
PHCL	3700	Pharmacology I.....	3
MBC	3550	Physiological Chemistry I.....	3
MBC Laboratory		(Recommend MBC 3880) ¹	3
Major Elective	²	.....	2

*Second Semester**

MBC	3100	Practices in Pharmaceutical Research.....	1
MBC	3320	Medicinal Chemistry II.....	2
MBC	3560	Physiological Chemistry II.....	3
PHCL	3730	BSPS Pharmacology II	3
MBC Laboratory		(Recommend MBC 3880) ¹	3
Major Elective	(Recommend MBC 3100) ²	.....	1
Major Elective	(Recommend MBC 4870) ²	1-4

Third semester (Summer)

MBC	4780	Internship in Med. and Biol. Chem ⁴	6-12
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P2 Year

First Semester

MBC	4710	Targeted Drug Design ³	3
Major Elective	(Recommend MBC 4850) ²	1-10
MBC Laboratory	(Recommend MBC 4880) ¹	.....	3
or Major Elective.....			3

Graduation December giving 3.5 years for the B.S.P.S. MBC degree completion +

¹The MBC major requires that 3 semester hours of laboratory instruction be taken at the 3000 level or higher in a course taught by the MBC Department. Completion of 3 semester hours of any of the following courses will satisfy this requirement: MBC 3880, MBC 4850, MBC 4870, MBC 4880, MBC 4900, MBC 4950, or MBC 4960. MBC 3850 Microbiology & Immunology Lab, 1 semester hour credit does not satisfy this requirement **unless** it is taken with an additional 2 credit hours of any of the other approved laboratories listed above.

²To be chosen from the MBC electives list. (These are the same as listed above)

³MBC 4720, Advances in Drug Design, when offered, will also fulfill the requirement.

* In the beginning of the second semester the student identifies a MBC faculty mentor for an in house internship and applies for provisional acceptance to the graduate school

⁴Internship must be taken in the summer before the P2 year with an in house MBC faculty mentor who will then be the mentor for the M.S. degree.

+ Once the B.S.P.S. degree is awarded the student can move from provisional to accepted in the graduate program.

Information on and requirements for the M.S. portion of the B.S.P.S. MBC Major & M.S. MC option is in the CPPS Graduate Catalogue in the section entitled: Master of Science in Medicinal Chemistry

The student would begin the Master's portion in the spring semester following the B.S.P.S. MBC graduation at the end of the Fall term, and could complete the M.S. degree by the end of the spring semester of the following year. Therefore the two degrees, B.S.P.S. MBC and M.S. MC, could be accomplished in 5 calendar years.

Pharmaceutics (PHAR) Major

Pharmaceutics is a multidisciplinary applied science that studies the physical and chemical attributes of drugs. It places a strong emphasis on the design and evaluation of drug delivery systems and dosage forms and also on the understanding and control of the factors influencing clinical response to drug therapy.

Pharmaceutics Professional Division Curriculum

P1 Year

First Semester

MBC	3310	Medicinal Chemistry I.....	2
MBC	3550	Physiological Chemistry I.....	3
PHCL	3700	Pharmacology I.....	3
PHPR	3010	Pharmaceutical Calculations.....	2
PHPR	3020	Pharmaceutical Technology I.....	4
Major Electives ¹		.....	2

Second Semester

MBC	3320	Medicinal Chemistry II.....	2
MBC	3560	Physiological Chemistry II.....	3
MBC	3800	Microbiology & Immunology.....	3
PHCL	3730	BSPS Pharmacology II.....	3
PHPR	3030	Pharmaceutical Technology II.....	4
Major Electives ¹ (Recommended MBC 3100)		.....	1

P2 Year

First Semester

MBC	3330	Techniques in Pharmaceutical and Medicinal Chemistry.....	2
MBC	3340	Techniques in Pharmaceutical and Medicinal Chemistry Laboratory.....	1
PHPR	4160	Pharmacokinetics.....	3
PHCL	4810	BSPS Pharmacology III.....	3
BIOL	3030	Cell Biology.....	3
BIOL	3040	Cell Biol. Lab.....	2
Major Electives ¹		1

Second Semester

PHPR	4880	Internship in Pharmaceutics ²	6-12
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¹To be chosen from the pharmaceutics major electives list below. Need a minimum of 4 credit hours major electives.

²Internship can be taken in the summer before P2 year

PHAR Electives

Other electives require approval of the PHAR major adviser.

PHPR	4680	Parenteral Manufacturing*.....	2
PHPR	4690	Dosage Form Design*.....	3
PHPR	4710	Selected Topics in Pharm. Tech.*.....	3
PHPR	4720	Pharmaceutical Rate Process*.....	3
PHPR	4900	Honors Seminar Pharmaceutics....	1-3
PHPR	4910	Pharmacy Practice Problems.....	1-5
PHPR	4960	Honors Thesis Pharmacy Practice	2-5
PHCL	4820	Pharmacology IV.....	3
BIOL	3010	Molecular Genetics.....	3
BIOL	3020	Molecular Genetics Lab.....	2
BIOL	4110	Human Genetics.....	3
BIOL	4330	Parasitology.....	3

CHEM	3730	Physical Chemistry I.....	3
CHEM	3740	Physical Chemistry II	3
ECON	4750	Health Economics	3
MBC	4380	Medicinal Plants	3
MBC	3850	Microbiology/Immunology Lab	1
**MATH	2600 or 2640	Statistics.....	3
HEAL	2800	Principles of Nutrition	3

*Taught every other year for those undergraduates not planning to apply to UT's industrial pharmacy graduate program.

**If required in your curriculum, it cannot be counted as an elective.

Pharmacology/Toxicology (PTOX) Major

Pharmacology and toxicology are biomedical sciences that study how to develop safe, effective drugs and prevent the harmful effects of chemicals. Pharmacology focuses on the way drugs interact with various living systems, including the properties, effects and mechanisms of drug action. Toxicology focuses on the interaction of toxic compounds in the body, including exposure assessment, dose response assessment and hazard identification.

Pharmacology/Toxicology Professional Division Curriculum

P1 Year

First Semester

MBC	3310	Medicinal Chemistry I	2
MBC	3550	Physiological Chemistry I.....	3
PHCL	3700	Pharmacology I.....	3
PHCL	4730	Toxicology I	3
Major Electives (Recommend BIOL 3010 & 3020 MBC 3330) ¹			5-6

Second Semester

MBC	3320	Medicinal Chemistry II.....	2
MBC	3560	Physiological Chemistry II	3
PHCL	3730	BSPS Pharmacology II	3
PHCL	3810	Pharmacology & Toxicology Lab ² ...	1
PHCL	4750	Toxicology II	3
Major Elective (Recommended MBC 3100) ¹			1
Major Elective			3

P2 Year

First Semester

MBC	4710	Targeted Drug Design.....	3
PHCL	4810	BSPS Pharmacology III.....	3
Major Elective ¹			9

Second Semester

PHCL	4780	Internship in Pharmacology/ Toxicology ³	6-12
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¹To be chosen from the PTOX electives list.

²Required for internship and only offered in spring.

³Internship can be taken in the summer before the P2 year.

PTOX Electives

A total of 18 hours of course work must be selected from the list of elective courses below. Other electives require approval of the PTOX adviser.

BIOL	3010	Molecular Genetics	3
BIOL	3020	Molecular Genetics - Lab	2
BIOL	3030	Cell Biology.....	3

BIOL	3040	Cell Biology Lab.....	2
BIOL	4010	Molecular Biology	3
BIOL	4030	Microbiology	3
BIOL	4050	Immunology.....	3
BIOL	4110	Human Genetics.....	3
BIOL	4330	Parasitology	3
CHEM	3310	Analytical Chemistry	2
CHEM	3360	Analytical Chemistry Lab.....	2
CHEM	3710	Physical Chemistry for the Biosciences I	3
CHEM	3720	Physical Chemistry for the Biosciences II.....	3
CHEM	3730	Physical Chemistry I.....	3
CHEM	3740	Physical Chemistry II	3
CHEM	4300	Instrumental Analysis	2
CHEM	4880	Advanced Laboratory III	2
MATH	2600 or 2640	Statistics	3
MBC	3800	Microbiology & Immunology.....	3
MBC	3100	Practices in Pharmaceutical Research.....	1
MBC	3330	Techniques in Pharmaceutical and Medicinal Chemistry	2
MBC	3340	Techniques in Pharmaceutical and Medicinal Chemistry Lab	1
MBC	3850	Microbiology & Immunology Laboratory.....	1
MBC	4300	Medicinal Chemistry III.....	2
MBC	4470	Advanced Immunotherapeutics	2
MBC	4880	Medicinal Biotech Lab.....	1-10
MBC	4980	Special Topics in Drug Design	1-4
PHCL	4140	Interpretation of Pharmaceutical Data	3
PHCL	4820	Pharmacology IV.....	3
PHCL	4760	Toxicokinetics.....	3
PHCL	4900	Hrs Seminar Pharmacology/Toxicology.....	1-3
PHCL	4910	Problems in Pharmacology/Toxicology.....	1-3
PHCL	4960	Honors Thesis Pharmacology/Toxicology.....	2-5



Pharmacy Administration (PHAM) Major

Pharmacy administration focuses on the corporate and managerial aspects of the pharmacy profession. Students may earn a minor in business administration, international business, or professional sales, in addition to the Bachelor of Science in Pharmaceutical Sciences degree. See below for options. With one year of additional graduate study, students in the M.B.A. track options can receive a master of business administration degree.

Pharmacy Administration Major Professional Division Curriculum:

The core curriculum is shown below. For each minor in business administration, international business, or professional sales and the courses that apply to the MBA curriculum, please refer to the College of Business and Innovation catalog for a complete listing of courses toward each of the minors and the MBA program.

P1 Year

First Semester

MBC	3310	Medicinal Chemistry I	2
MBC	3550	Physiological Chemistry I.....	3
PHCL	3700	Pharmacology I.....	3
ECON	1150	Principles of Macroeconomics.....	3
PHPR	3260	Pharmacy Healthcare Administration I.....	2

BUAD 2060 Data Analysis for
Business or
MATH 2630 or 2600 or equiv 3

Second Semester

MBC 3320 Medicinal Chemistry II.....2
MBC 3560 Physiological Chemistry II3
PHCL 3730 BSPS Pharmacology II3
PHPR 4550 Analysis of Pharm. Environment.....3
ACTG 1040 Principles of Financial Accounting. or
BUAD 2040 Financial Accounting Information....3
Major Elective¹ 2-3

P2 Year

First Semester

PHCL 4810 BSPS Pharmacology III.....3
PHPR 4600 Seminar in Pharmacy
Administration 1
BUAD 3010 Principles of Marketing3
BUAD 3030 Manage. & Behave.
Process in Orgs.3
BUAD 3040 Prin. of Financial Management.....3
ACTG 1050 Principles of Management
Accounting..... or
BUAD 2050 Accounting for Business
Decision-Making3
Major Elective¹ 2-3

Second Semester

PHPR 4780 Internship in Pharmacy Adm²..... 6-12

¹ Major Electives : (a minimum of 5 hours of electives is required)

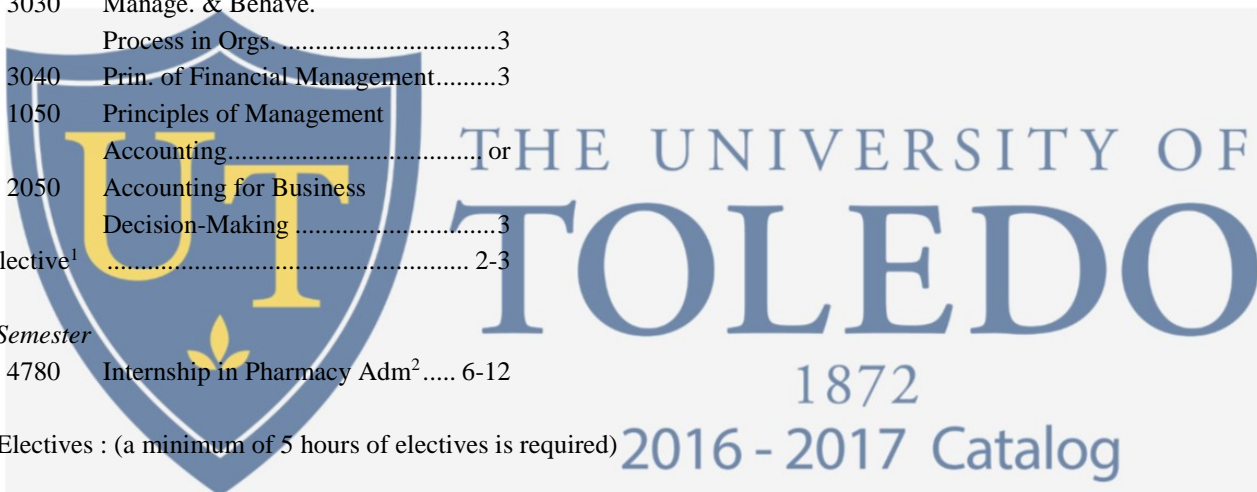
PHPR 4590 Readings in Access &
Cultural Competence2
PHPR 4610 Pharmacoeconomics
and Outcomes I.....2
PHPR 4630 Research Methods Pharmacy
Administration3

Any course used to complete a minor degree in the
College of Business and Innovation

² Internship can be taken in summer before the P2 year.

B.S.P.S. Internship Description

All five majors in the Bachelor of Science in Pharmaceutical Sciences degree program require a real-life workplace internship available in a variety of appropriate settings at local, regional, national and international sites. Most students schedule their internships in the summer after their P1 year. Students are generally assigned to ongoing projects at the site and are evaluated on their performance by the site supervisor. A written internship paper or a technical report and/or a presentation, along with the supervisor's evaluation are submitted to the internship course instructor following completion of the experience.



Doctor of Pharmacy Degree Requirements

Following admission to the professional division, the entry-level Pharm.D. program students will complete a bachelor of science in pharmaceutical sciences degree prior to more focused course work in pharmacotherapy and pharmaceutical care. Students in the entry-level Pharm.D. track who have completed the Bachelor of Science in Pharmaceutical Sciences degree at The University of Toledo are eligible to continue in the Pharm.D. program.

In order to graduate with a Pharm.D. degree, students must meet the current academic performance standards. Only students who successfully complete the Pharm.D. degree will qualify for licensure in the practice of pharmacy. A total of 136 semester hours is required for graduation with the Bachelor of Science in Pharmaceutical Sciences-Pharm.D. track degree. A total of 75 graduate semester hours is required for graduation with the Pharm.D. degree. The curriculum is outlined below.

Professional Division Requirements

PPT: Pathophysiology and Pharmacotherapy
 PPD: Professional Practice Development
 PHCAD: Pharmacy Health Care Administration
 IPPE: Introductory Pharmacy Practice Experience
 APPE: Advanced Pharmacy Practice Experience

P1 Year

Fall Semester

MBC	3310	Medicinal Chemistry I	2
MBC	3550	Physiological Chemistry I.....	3
PHCL	3700	Pharmacology I.....	3
PHPR	3130	PPT-1	2
PHPR	3070	PPD-1.....	4
PHPR	3260	PHCAD-1	2
PHPR	3920	IPPE-1.....	1

Spring Semester

MBC	3320	Medicinal Chemistry II	2
MBC	3560	Physiological Chemistry II	3
MBC	3800	Microbiology & Immunology.....	3
MBC	3850	Microbiology & Immunology Lab....	1
PHCL	3720	Pharmacology II.....	2
PHPR	3140	PPT-2.....	2
PHPR	3080	PPD-2.....	4
PHPR	3930	IPPE-2.....	1

P2 Year

Fall Semester

PHPR	4160	Pharmacokinetics	3
PHCL	4700	Pharmacology III	2
PHPR	4070	PPD-3.....	3
PHPR	4130	PPT-3	4
PHPR	4920	IPPE-3.....	1
Undergraduate Professional Electives*			3

Spring Semester

MBC	4300	Medicinal Chemistry III.....	2
PHCL	4720	Pharmacology IV	2
PHPR	4330	Research Design & Drug Literature Eval I.....	2
PHPR	4080	PPD-4.....	3
PHPR	4140	PPT-4	4
PHPR	4520	PHCAD-2	2
PHPR	4930	IPPE-4.....	1

* A total of 3 credit hours of Undergraduate Professional Electives is required

Note: At the end of the P2 year, students are candidates for a B.S. degree in pharmaceutical sciences leading toward a Pharm.D. degree.

P3 Year*Summer Semester Immediately Following P2 Year*

PHPR	6120	PPT-5.....	3
Graduate Professional Electives*			2, 3 or 5

Fall Semester

MBC	5300	Molecular Basis of Cancer Chemotherapy.....	1
PHPR	5300	Design & Applications of Cancer Chemo.	1
PHPR	6070	PPD-5.....	3
PHPR	6130	PPT-6.....	4
PHPR	6160	Advanced Applied Pharmacokinetics.....	3
PHPR	6260	PHCAD-3	1
PHPR	6610	Seminar I.....	1
PHPR	6340	Research Design & Drug Literature Eval 2	2
PHPR	6920	IPPE-5.....	1
Graduate Professional Electives*			2-3

Spring Semester

MBC	6320	Neurological & Psychiatric Drugs	1
PHCL	6320	Neurological & Psychiatric Pharmacology.....	1
PHPR	6080	PPD-6.....	3
PHPR	6140	PPT-7	4
PHPR	6250	Self-care.....	4
PHPR	6280	PHCAD-4	2
PHPR	6310	Jurisprudence & Ethics	1
Graduate Professional Electives*			2-3

* A total of 5 credit hours of Graduate Professional Electives is required

P4 Year*Fall Semester:*

PHPR	8630	Longitudinal Drug Information (Fall or Spring)	2
PHPR	8940:001	Advanced Pharmacy Practice Experience I	4
PHPR	8940:002	Advanced Pharmacy Practice Experience II.....	4
PHPR	8940:003	Advanced Pharmacy Practice Experience III	4
PHPR	8940:004	Advanced Pharmacy Practice Experience IV	4

Option of graduate elective (if not completed in P3)

By DL if not in PHPR 8620 Seminar II

Spring Semester

PHPR	8630	Longitudinal Drug Information (Fall or Spring).....	2
PHPR	8940:005	Advanced Pharmacy Practice Experience V	4
PHPR	8940:006	Advanced Pharmacy Practice Experience VI	4
PHPR	8940:007	Advanced Pharmacy Practice Experience VII.....	4
PHPR	8940:008	Advanced Pharmacy Practice Experience VIII.....	4

Option of graduate elective (if not completed in P3)

By DL if not in PHPR 8620 Seminar II

Note: At the end of the P4 year, students are candidates for a Pharm.D. degree.

Pharm.D. Undergraduate Professional Electives

The following is a list of recommended undergraduate professional electives. A total of 3 credit hours of undergraduate professional electives is required. Other electives may be chosen with the written approval of the CPPS Curriculum Committee. To count towards professional elective requirements, a grade of C or better must be earned in a course. Credit for courses taken outside The University of Toledo can be counted towards professional elective credit requirements if a grade of C or better is earned, but grades will not be factored into CPPS or University of Toledo GPA calculations.

CPPS:

Research with individual faculty (must be arranged before registering)

MBC 4710 Targeted Drug Design..... 3

MBC 4710 is only for students seeking double B.S.P.S. major.

MBC 4900 Honors Seminar Med &
Biol Chem,..... 1-3

MBC 4910Problems in Biomedical
Chemistry 1-3

MBC 4960 Honors Thesis Med &
Biol Chem. 2-5

PHCL 4730 Toxicology I 3

PHCL 4750 Toxicology II 3

PHCL 4900 Honors Seminar in
Pharmacology 1-3

PHCL 4910 Problems in Pharmacology 1-3

PHCL 4960 Honors Thesis in
Pharmacology 2-5

PHPR 3670 Chemical Dependency &
The Pharmacist 3

PHPR 4590 Readings Access &
Cultural Competence 2

PHPR 4640 Cosmetic Science Essentials 3

PHPR 4900 Honors Seminar in
Pharmacy Practice 1-3

PHPR 4910 Pharmacy Practice Problems 1-5

PHPR 4960 Honors Thesis in
Pharmacy Practice 2-5

Others:

BIOL 3010 Molecular Genetics 3

BIOL 3210 Human Nutrition 3

BIOL 4110 Human Genetics 3

BIOL 4210 Molecular Basis of Disease..... 3

BUAD 2040 Financial Accounting Information 3

BUAD 2050 Accounting Business
Decision Making 3

BUAD 3010 Principles of Marketing 3

BUAD 3030 Manage. & Behave.
Processing Orgs. 3

BUAD 3040 Principles of Financial
Management 3

BUAD 3470 Legal & Ethical Environment
of Business 3

COUN 3140 Substance Abuse Prevention and
Community Programming 3

HCAR 4510 Medical and Legal
Aspects of Healthcare 3

HEAL 2800 Principles of Nutrition 3

HEAL 3300 Drug Awareness 3

HEAL 3600 Prevention and Control
of Disease 3

HEAL 4100 Health Behavior 3

HEAL 4400 Health Problems of Youth 3

HEAL 4560 Health Problems of Aging 3



HEAL	4700	Nutritional Science	3
HEAL	4750	Obesity and Eating Disorders	3
*MATH	2600 or 2640	Statistics.....	3
PHIL	3310	Science and Society	3
PHIL	3370	Medical Ethics	3
PSC	4330	Health Care Policy	3

*If required in your curriculum, it cannot be counted as an elective.

Pharm.D. Graduate Professional Electives

The following is a list of recommended graduate professional electives. A total of 5 credit hours of graduate professional electives is required. Other electives may be chosen with the written approval of the CPPS Curriculum Committee. A graduate course which significantly overlaps in content with a course used to fulfill the undergraduate professional elective requirement will not count towards fulfilling the graduate professional elective requirement. Credit for courses taken outside The University of Toledo can be counted towards professional elective credit requirements if a grade of C or better is earned, but grades will not be factored into CPPS or University of Toledo GPA calculations.

MBC

MBC	5100/7100	Research Practices in Medicinal Chemistry.....	1
MBC	5380	Medicinal & Poisonous Plants	3
MBC	5620/7620	Biochemical Techniques	2
MBC	6100/8100	Advanced Immunology	2
MBC	6190/8190	Advanced Medicinal Chemistry.....	4
MBC	6200/8200	Biomedical Chemistry.....	4
MBC	6420/6430	Protein Chemistry/ CHEM 6510/8510.....	2 or 4
MBC	6430/8430	Nucleic Acid Chem/ CHEM 6530/8530.....	2 or 4
MBC	6440/8440	Enzymology/ CHEM 6520/8520.....	2 or 4
MBC	6750/8750	Bioorganic Chemistry: Chemical Approaches to Enzymes.....	3
MBC	6800/8800	Methods in Biotechnology	3
MBC	6980	Special Topics in Biological Chemistry	1 to 5

PHCL

PHCL	5730	Toxicology I	3
PHCL	5750	Toxicology II	3
PHCL	5760	Toxicokinetics.....	3
PHCL	5990	Problems in Pharmacology	1 to 6
PHCL	6600	Seminar in Pharmacology	1
PHCL	6770	Toxicological Risk Assessment	3

PHPR

PHPR	5590	Readings Access & Cultural Competence	2
PHPR	5680	Parenteral Manufacturing	2
PHPR	5690	Dosage Form Design	3
PHPR	5710	Selected Topics in Pharmaceutical Techniques	2 to 3
PHPR	5720	Pharmaceutical Rate Processes	3
PHPR	5810	Finance & Personal Planning for Pharmacists	2

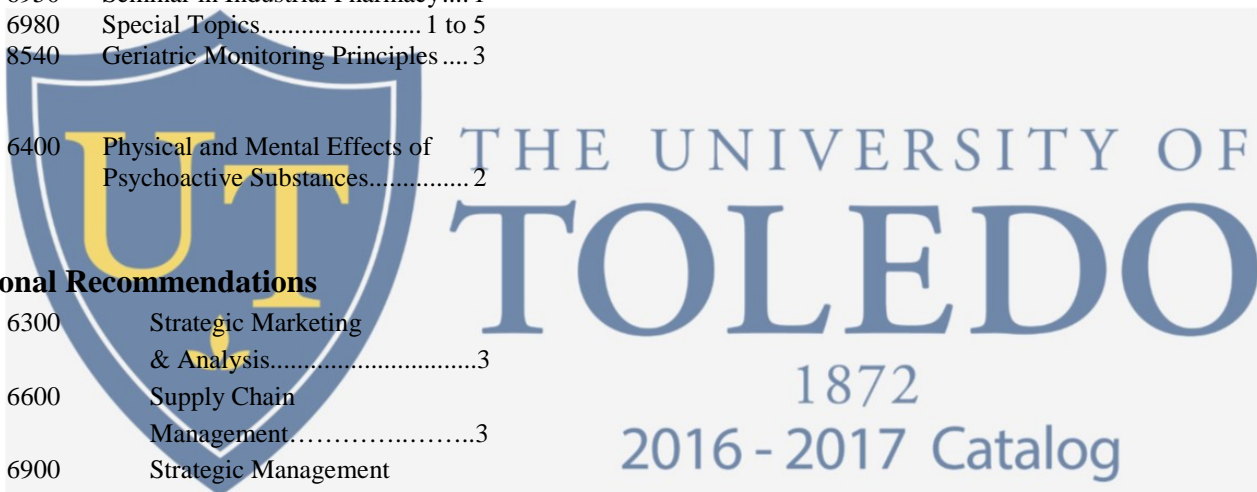
PHPR	5870	Compounding Boot Camp	2
PHPR	5990	Problems in Pharmacy Practice	1 to 6
PHPR	6400	Advanced Pharmacotherapy	2
PHPR	6410	Leadership: Principles and Practice.....	2
PHPR	6530	Research Methods in Pharmacy Practice	3
PHPR	6600	Seminar in Administrative Pharmacy	1
PHPR	6670	Chemical Dependency & The Pharmacist	3
PHPR	6700	Special Topics in Diabetes Care.....	2
PHPR	6810	Hospital Pharmacy Administration	3
PHPR	6820	Selected Topics in Hospital Pharmacy	3
PHPR	6830	Advanced Community Pharmacy Administration	3
PHPR	6840	Selected Topics in Community Pharmacy	3
PHPR	6950	Seminar in Industrial Pharmacy....	1
PHPR	6980	Special Topics.....	1 to 5
PHPR	8540	Geriatric Monitoring Principles....	3

PHM

PHM	6400	Physical and Mental Effects of Psychoactive Substances.....	2
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Additional Recommendations

BUAD	6300	Strategic Marketing & Analysis.....	3
BUAD	6600	Supply Chain Management.....	3
BUAD	6900	Strategic Management Capstone.....	3
COMM	6260	Business Communication and Technology.....	3
COUN	6240	Diagnosis and Mental Health	4
COUN	6470/8470	Drugs and Mental Health Counseling	4
EDP	5210	Child Behavior and Development	3
EDP	5230	Adult Development	3
HEAL	5750	Obesity and Eating Disorders.....	3
HEAL	6530/8530	Drug Use and Misuse.....	3
MGMT	5110	Introduction to Management	3
NURS	5280	Theories of Addictive Behavior	3
PSC	5330	Healthcare Policy	3
PSY	6600	Behavioral Neuroscience	3



PUBH	6330	Public Health and Aging.....	3
SOC	5160	Health and Gender	3
The University of Florida, College of Pharmacy			
PHA	5239	Legal and Org Environ of Medicines Use	3
PHA	6935	Selected Topics in Pharmacy: Pharmaceutical Crimes Practice & Procedure	3
PHA	6935	Selected Topics in Pharmacy: Veterinary Pharmacy	2
Mercer College of Pharmacy			
PHA	505	Community Pharmacy Ownership.....	2

Pharm.D./MBA Dual Degree Program

The College of Pharmacy and Pharmaceutical Science (CPPS) and the College of Business and Innovation (COBI) have worked cooperatively to enable students in the Pharm.D. program to earn an MBA.

Administration of the Pharm.D./MBA

The admission process for the Pharm.D./MBA will require that students apply to each program separately. More specifically, students will apply and be required to meet the admission requirements of the MBA program as administered by the COBI, and the same students will be required to apply and meet the admission requirements of the Pharm.D. program as administered by the CPPS. Pharm.D. students take the Pharmacy College Admission Test (PCAT), and that would be accepted by the MBA program in lieu of the GMAT. The COBI Graduate Student Advising Office provides advising for the MBA portion of the program. Degrees will be conferred separately with the COBI conferring the MBA, and the CPPS conferring the Pharm.D.

MBA Curriculum

Please see the COBI catalog for specific course information.

MBA Admissions Procedures

For admission to the program, The University of Toledo MBA program requires a 2.7 undergraduate GPA on a 4.0 scale and a score of 450 on the Graduate Management Admissions Test (GMAT) with a minimum score of 20 in both the verbal and quantitative sections or the PCAT for those in the Pharm.D./MBA Dual Degree Program. For further admission information please refer to the COBI catalog or online admissions website.

College of Pharmacy and Pharmaceutical Sciences Faculty

Department of Medicinal and Biological Chemistry

Amanda C. Bryant-Friedrich, 2007, Associate Professor and Dean of the College of Graduate Studies

B.S., North Carolina Central University; M.S., Duke University; Dr. rer. nat., Ruprecht-Karls Universität

Paul W. Erhardt, 1994, Distinguished University Professor

B.A., Ph.D., University of Minnesota

Ezdihar A.M. Hassoun, 1995*, Professor and Chair of Pharmacology

B.S. Pharm., University of Baghdad; Ph.D., University of Uppsala, Sweden

Channing L. Hinman, 1985, Associate Professor Emeritus

B.S., Brigham Young University; Ph.D., University of California - Los Angeles

Wayne P. Hoss, 1985, Professor Emeritus

B.S., University of Idaho; Ph.D., University of Nebraska

Richard A. Hudson, 1985, Professor Emeritus

B.A., Kalamazoo College; Ph.D., University of Chicago

Bina Joe, 2001*, Professor

B.S., M.S., and Ph.D., University of Mysore, Mysore Karnataka, India

Jon R. Kirchhoff, 1997*, Distinguished University Professor

B.A., State University of New York - Cortland; Ph.D., Purdue University

Richard W. Komuniecki, 1997*, Distinguished University Professor

A.B., Holy Cross College; M.S., Ph.D., University of Massachusetts

Marcia F. McInerney, 1991, Distinguished University Professor; Executive Associate Dean and Associate Dean for Research and Graduate Programs

B.A., University of Connecticut; M.S., Case Western University; Ph.D., University of Michigan

William S. Messer Jr., 1985*, Professor

B.S., Springfield College; M.S., Ph.D., University of Rochester

Surya Nauli, 2006, Adjunct Associate Professor

B.S., Minnesota State University; Ph.D., Loma Linda University

Susanne Nonekowski, 2009, Associate Lecturer

B.S., State University of New York College (SUNY) at Buffalo; M.S., Ph.D., University of Michigan

Steven M. Peseckis, 1994, Associate Professor and Associate Dean, Jesup Scott Honors College

B.S., Dartmouth College; Ph.D., Massachusetts Institute of Technology

A. Alan Pinkerton, 1987*, Distinguished University Professor

R.I.C., Brighton College of Technology; Ph.D., University of Alberta

Erin G. Prestwich, 2016 Assistant Professor
B.A., Wellesley College; PhD, Boston College

Youssef Sari⁺, 2010, Assistant Professor
B.S., Denis Diderot University; M.S., Orsay University; Ph.D., Pierre and Marie Curie University

Isaac T. Schiefer, 2013 Assistant Professor
B.S., The University of Toledo; Ph.D., University of Illinois at Chicago

Zahoor Ahmad Shah, 2009, Associate Professor
B.S., University of Kashmir; M.S., Ph.D., Hamdard University

James T. Slama, 1991, Professor and Director of BSPS Program
A.B., Cornell University; Ph.D., University of California, Berkeley

L.M.V. Tillekeratne, 2006, Professor
D.Phil., Oxford University

Hermann von Grafenstein, 2002, Associate Professor and Vice-Chair
M.S., M.D., Ludwig Maximilian University; Ph.D., Max Planck Institute of Biochemistry, Munich and the University of Konstanz

Katherine A. Wall, 1991, Professor and Chair
B.S., Montana State University; Ph.D., University of California, Berkeley

*Joint appointment

+Adjunct appointment

Department of Pharmacology and Experimental Therapeutics

Wissam AbouAlaiwi, 2014, Assistant Professor
B.S. Lebanese University; M.S. American University of Beirut; Ph.D. University of Toledo

Kenneth A. Bachmann, 1973, Distinguished University Professor Emeritus
B.S. Pharm., Ph.D., The Ohio State University; R.Ph.

Johnnie L. Early II, 2000, Professor and Dean
B.S. Pharm., Mercer University; M.S., Ph.D., Purdue University; R.Ph.

Paul W. Erhardt, 1994*, Distinguished University Professor
B.A., Ph.D., University of Minnesota

F. Scott Hall, 2014, Assistant Professor
B.A. Harvard College; Ph.D. Cambridge University

Ezdiyar A.M. Hassoun, 1995, Professor and Chair
B.S. Pharm., University of Baghdad; Ph.D., University of Uppsala, Sweden

Christine N. Hinko, 1979, Professor Emeritus
B.A., Clarion State College; Ph.D., The Ohio State University

Ming-Cheh Liu, 2007, Professor
B.S., National Taiwan University; M.S., Ph.D., The University of Georgia.

Marcia F. McInerney, 1991,* Distinguished University Professor and Associate Dean for Research and Graduate Programs
B.A., University of Connecticut; M.S., Case Western University; Ph.D., University of Michigan

William S. Messer Jr., 1985, Professor
B.S., Springfield College; M.S., Ph.D., University of Rochester

Ana Maria Oyarce, 2008, Associate Lecturer
B.S., University of Concepcion; M.S., Ph.D., Georgetown University

Youssef Sari, 2010, Associate Professor
B.S., Denis Diderot University; M.S., Orsay University; Ph.D., Pierre and Marie Curie University

Robert J. Schlembach, 1954, Professor Emeritus
B.S. Pharm., The University of Toledo; M.S., Ph.D., Purdue University; R.Ph.

Zahoor Ahmad Shah,* 2009, Associate Professor
B.S., University of Kashmir; M.S., Ph.D., Hamdard University

Caren Steinmiller, 2008, Associate Lecturer
B.A., M.S.P.S., The University of Toledo; Ph.D., Wayne State University

Amit K. Tiwari, 2015, Assistant Professor
B. Pharm, Ram-Eesh Institute; M.S., Ph.D., St. John's University

Hermann von Grafenstein, 2002*, Associate Professor
M.S., M.D., Ludwig Maximilian University; Ph.D., Max Planck Institute of Biochemistry, Munich and the University of Konstanz

Donald B. White, 1995*, Professor
B.S., University of California - Los Angeles; M.S., Ph.D., University of California - Irvine

Frederick E. Williams, 2002, Associate Professor, Department Vice-Chair
B.S., University of Michigan; M.H.S., Grand Valley State University; Ph.D., Medical College of Ohio

*Joint appointment

Department of Pharmacy Practice

Gabriella Baki, 2014, Assistant Professor
PhD., University of Szeged, Hungary; RPh., M.S. Pharm., Doctor of Pharmacy

Norman F. Billups, 1977, Professor and Dean Emeritus
B.S. Pharm., M.S., Ph.D., Oregon State University; R.Ph.

Bryan M. Bishop, 2015, Assistant Professor
B.S. Pharm., Pharm.D., The University of Toledo; RPh., BCPS

Sai Hanuman Sagar Boddu, 2011, Associate Professor
B.S., Pharm, Bapatla College of Pharmacy; M.S., NDMVP Samaj's College of Pharmacy; Ph.D., University of Missouri-Kansas City

Curtis D. Black, 1990, Distinguished University Professor Emeritus
B.S. Pharm., The University of Toledo; M.S., Ph.D., Purdue University; R.Ph.

Mary C. Borovicka, 2002, Associate Professor and Director of Advanced Professional Continuing Education
B.S. Pharm., Pharm.D., The University of Toledo; R.Ph., BCPS, BCPP

Diane M. Cappelletty, 2001, Professor and Department Chair
B.S. Pharm., Pharm.D., The Ohio State University; R.Ph.

Mariann D. Churchwell, 2005, Associate Professor
B.S. Pharm., Pharm.D., Wayne State University; R.Ph., BCPS

Angeline Gilis, 1996, Lecturer
B.S. Pharm., The University of Toledo; R.Ph.

Charles I. Hicks, 1971, Professor Emeritus
B.S. Pharm., M.S., University of Iowa; R.Ph.

Monica G. Holiday-Goodman, 1988, Professor and Associate Dean for Health Science Campus Student Affairs and Diversity
B.S. Pharm., Ph.D., Northeast Louisiana University; R.Ph.

Rose Jung, 2008, Clinical Associate Professor, Clinical Lecturer
B.S. Pharm, Rutgers University; Pharm.D., St. Johns University; M.P.H., The University of Toledo; R.Ph., BCPS

Megan A. Kaun, 2006, Clinical Associate Professor, Clinical Lecturer, and Director of Pharm.D. Experiential Education
Pharm.D., The University of Toledo; R.Ph., BCPS, BCACP

Aaron J. Lengel, 2008, Clinical Associate Professor, Clinical Lecturer
Pharm.D., The University of Toledo; R.Ph., BCACP

Laurie S. Mauro, 1985, Professor and Assistant Dean for Academic Affairs
B.S. Pharm., Ohio Northern University; Pharm.D., The Ohio State University; R.Ph.

Vincent F. Mauro, 1985, Professor
B.S. Pharm., Ohio Northern University; Pharm.D., The Ohio State University; R.Ph., FCCP

Julie A. Murphy, 2012, Assistant Professor
B.S. Pharm., Pharm.D., The University of Toledo; R.Ph., BCPS, FASHP, FCCP

Jerry Nesamony, 2008, Associate Professor
B. Pharm., M. Pharm., Medical College, University of Kerala; Ph.D., The University of Louisiana at Monroe

Martin J. Ohlinger, 2002, Clinical Associate Professor; Clinical Lecturer
B.S., College of William and Mary; B.S. Pharm, Pharm.D., Virginia Commonwealth University/MCV; R.Ph., BCPS

Anthony J. Pattin, 2015, Assistant Professor
B.S. Pharm., Pharm.D., The University of Toledo; R.Ph.

Michael J. Peeters, 2005, Clinical Associate Professor; Clinical Lecturer
B.S. Pharm., University of Alberta; Pharm.D., University of Washington; R.Ph., BCPS, MEd, FCCP

Sarah E. Petite, 2015, Assistant Professor
Pharm.D., Ohio Northern University; R.Ph., BCPS

Sharrel L. Pinto, 2005, Associate Professor

B.S. Pharm, D.M.M. University of Mumbai; M.S. Pharm., The University of Toledo; Ph.D., The University of Florida

Mary F. Powers, 2002, Professor and Associate Dean for Main Campus Student Affairs and Enrollment Management

B.S. Pharm., The University of Toledo; Ph.D., Medical College of Ohio; R.Ph.

Eric G. Sahloff, 2003, Associate Professor

B.A., B.S. Pharm., Pharm.D., The University of Toledo; R.Ph., AAHIVP

Kimberly Schmude, 2002, Clinical Associate Professor, Clinical Lecturer

B.S. Pharm., Pharm.D., The University of Toledo; R.Ph.

Michelle Schroeder, 2012, Assistant Professor

Pharm. D., Ohio Northern University; R.Ph, BCACP, CDE

Michelle L. Serres, 2010, Clinical Associate Professor, Clinical Lecturer and Assistant Director of Pharm.D. Experiential Education

Pharm.D., The University of Toledo; R.Ph., BC-ADM, BCACP

Varun A. Vaidya, 2009, Associate Professor

B.S. Pharm., Bharati Vidyapeeth College of Pharmacy; Ph.D., University of Tennessee

