COLLEGE OF PHARMACY AND PHARMACEUTICAL SCIENCES

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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.

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. Pre-Professional and Professional division curricular requirements for the degree programs will be those listed in the catalog for the years in which the student enters the respective division. 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.
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 required pre-professional course work prior to entering the professional division. 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 required pre-professional coursework prior to entering the professional division. Following the completion of a core set of required courses, students will undergo a progression review 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.

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-p division students until admitted to the professional divisions of the Pharm.D. or B.S.P.S. programs. For the entry-level Pharm.D. program, 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 direct-from-high school 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.
Transfer students meeting the eligibility requirements may apply directly to the PharmD program through PharmCAS. Transfer students interested in the PharmD program but who do not meet the requirements may enroll in the pre-professional division. Contact an academic advisor for more information.

- 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.

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

- PharmD
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 application to the professional division of the PharmD program:

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)

- Pre-professional & BSPS
International students entering the Pre-professional or BSPS Programs will follow The University of Toledo’s TOEFL requirements.
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

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 GPA. Students who have a cumulative GPA ≥ 2.5 but < 2.7 will be reviewed by program administrators, and a decision made to admit, to admit conditionally, or to deny admission until the minimum GPA is achieved.

Application/Progression Review

Applicants for direct admission into the B.S.P.S. programs should contact the Director of the BSPS Programs for details. Students requesting a progression review should contact the Office of Student Affairs for details.

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
- PHYS 2610 or KINE 2560 and 2570
- ENGL 1110 and ENGL 1130
- Minimum 2.7 GPA (cumulative) following the spring and, if applicable, summer semesters. Students who have a cumulative GPA ≥ 2.5 but < 2.7 will be reviewed by program administrators, and a decision made to admit, to admit conditionally, or to deny admission until the minimum GPA is achieved.

Evaluation

Each application will be evaluated on the basis of the applicant's cumulative 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 PCAT writing score 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 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. Two recommendations must also be submitted as a component of the PharmCAS application. 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. 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. There are several pathways for application to the Pharm.D. program. They are described as follows.

- **Contingent Admission (0+6)**

  This pathway is designed for highly qualified high school seniors applying to The University of Toledo. During their second year at UT, students continuing to meet the Contingent Admission criteria will be required to submit a PharmCAS application and supplemental application.

  **Eligibility for Application**
  To be eligible to apply through the "Contingent Admission" pathway, the following (or their equivalents) must be completed:

  - High school GPA of 3.75 or higher
  - ACT composite score of 29 or higher (SAT >1300)
  - The PCAT is NOT required to apply through the Contingent Admission pathway.

  **Evaluation**
  Each application will be evaluated on the basis of the applicant’s:

  - High school GPA of 3.75 or higher
  - ACT composite score of 29 or higher (SAT >1300)
  - Essay (2 hours, online)
  - Phone Interview
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 and 1760)
- MATH 2640 (or 2600)
- PHCL 2610 (or KINE 2560 and 2570)
- PHYS 1750 (or 2070 and 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 pre-professional coursework at the end of the sophomore (second year) fall semester at UT

Semester GPA of 2.0 or higher during sophomore (second year) spring and summer semesters at UT

Must “pass” all remaining required coursework

Must have a valid Social Security number

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

- Early Admission (1+5)

This pathway is designed for highly qualified direct-from-high school first-year UT students who did not receive Contingent Admission (did not apply or not awarded). Early Admission applicants will be required to submit a PharmCAS application and a supplemental application.

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 (Fall and Spring of first college year).

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 (or MATH 1750 and 1760)
- BIOL 2170 and 2180
- CHEM 1230, 1240, 1280, and 1290
- PHCL 2610 (or KINE 2560)

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

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 (or MATH 1750 and 1760)
  - BIOL 2170
  - CHEM 1230 and 1240
  - PHCL 2610 (or KINE 2560)
- Comprehensive communication review
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 MATH 1750 and 1760)
- MATH 2640 (or MATH 2600)
- PHCL 2610 (KINE 2560 and 2570)
- PHYS 1750 (or 2070 and 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
- MATH 2640 (or MATH 2600)
- PHCL 2610 (or KINE 2560 and 2570)

- 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 by the end of Fall semester sophomore (2nd year):

Science AND cumulative GPAs of 3.50 or higher

The following required science courses MUST have been completed:

- MATH 1850 (or MATH 1750)
- BIOL 2170 and 2180
- CHEM 1230, 1280, 1240, 1290, 2410, and 2460
- PHCL 2610 (or KINE 2560)
- PHYS 1750 or 2070

PCAT score ≥ 60th percentile AND writing score of 3 or higher

Completed PharmCAS application and supplemental application

A minimum of 44 earned semester hours
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 (or KINE 2560)
- PCAT Score
- Personal interview

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 MATH 1750 and 1760)
- MATH 2640 (or MATH 2600)
- PHCL 2610 (or KINE 2560 and 2570)
- 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

- 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 by the end of Fall semester of sophomore (2nd year):
  - MATH 1850 (or MATH 1750)
  - BIOL 2170 and 2180
  - CHEM 1230, 1280, 1240, 1290, 2410, and 2460
  - PHCL 2610 (or KINE 2560)
  - PHYS 1750 or 2070
- PCAT score ≥ 30th percentile AND writing score of 2 or higher
- Completed PharmCAS application and supplemental application
- A minimum of 44 earned semester hours
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 (or KINE 2560)

PCAT Score(s)

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. 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.

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 MATH 1750 and 1760)
- MATH 2640 (or 2600)
- PHCL 2610 (or KINE 2560 and 2570)
- PHYS 1750 (or 2070 and 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
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 throughout the undergraduate curriculum. 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 division. 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 electives within the major.

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 C or better and who have a minimum cumulative GPA of 3.3. In addition, five to eight hours of the 33 must be taken within the honors thesis project and honors seminar. These courses are to be taken within the department 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 Polices 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). 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 expected and prohibited conduct and of the sanctions to be imposed if prohibited 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.

Requirements for Academic Progression -- Pre-professional Program

Policies

1. Good Academic Standing
   a. The College of Pharmacy and Pharmaceutical Sciences defines “good academic standing” for pre-professional students in the following manner: a minimum term and cumulative GPA of 2.00

2. Academic Probation
   a. A student will be placed on Academic Probation for the following:
      i. Earning a semester or cumulative GPA < 2.00
      ii. Earning a semester GPA < 1.00; this performance may lead to suspension (see section on suspension below) from the University without a preliminary probationary semester.
   b. Any student on Academic Probation for two of three consecutive semesters in attendance will be suspended (see section on suspension below) from the University.
   c. Students will remain on academic probation until the cumulative GPA is raised to 2.00 or greater.

3. Suspension
   a. Any student on academic probation who earns a semester or cumulative GPA of < 2.00 will be suspended for a period of one (1) semester, not including summer semesters.
   b. Any student who earns a cumulative GPA < 1.00 will be suspended for a period of one (1) semester, not including summer semesters.
   c. In lieu of suspension, an eligible student may choose to transfer to another college or program within The University of Toledo.

4. Readmission from Suspension
   a. Students serving suspension have the right to petition for readmission to the CPPS. A student must request readmission via a written petition to the chair of the APC at least eight (8) weeks prior to the returning semester.
   b. A student returning from suspension will be placed on probation. The student must earn a term GPA of 2.00 or better and a grade of D+ or better in all subsequent coursework or the student will be subject to dismissal.
5. Dismissal
   a. Any student returning from suspension and earning a term GPA < 2.00 and/or a course grade of D or less, will be dismissed from the CPPS.
   b. In lieu of dismissal, an eligible student may choose to transfer to another college or program within The University of Toledo.
6. GPA recalculation for undergraduate courses will be allowed, in accordance with the policies of The University of Toledo.

Requirements for Academic Progression – Professional Division Students in the Bachelor of Science in Pharmaceutical Sciences program (Pharmacology/Toxicology, Medicinal Chemistry, Cosmetic Sciences and Formulation Design, Pharmaceutics, and Pharmacy Administration)

Policies

1. Good Academic Standing
   a. The College of Pharmacy and Pharmaceutical Sciences defines “good academic standing” for professional division students in the Bachelor of Science in Pharmaceutical Sciences program (Pharmacology/Toxicology, Medicinal Chemistry, Cosmetic Sciences and Formulation Design, Pharmaceutics, and Pharmacy Administration) in the following manner: a minimum term and cumulative GPA of 2.00

2. Academic Probation
   a. A student will be placed on Academic Probation for the following:
      i. Earning a semester or cumulative GPA < 2.00
      ii. Earning a semester GPA < 1.00; this performance may lead to suspension (see section on suspension below) from the University without a preliminary probationary semester.
   b. Any student on Academic Probation for two of three consecutive semesters in attendance may be suspended (see section on suspension below) from the University.
   c. Students will remain on Academic Probation until the cumulative GPA is raised to 2.00 or greater.

3. Suspension
   a. Any student on academic probation who earns a term or cum GPA of < 2.00 or grade of F may be suspended for a period of one (1) semester, not including summer semesters.
   b. Any student who earns a cumulative GPA < 1.00 may be suspended for a period of one (1) semester, not including summer semesters.

4. Readmission from Suspension
   a. Students serving suspension have the right to petition for readmission to the CPPS. A student must request readmission via a written petition to the chair of the APC at least eight (8) weeks prior to the returning semester.
   b. A student returning from suspension will be placed on probation. The student must earn a term GPA of 2.00 or better and a grade of D- or better in all subsequent coursework or the student will be subject to dismissal.

5. Dismissal
   a. Any student returning from suspension and earning a term GPA < 2.00 and/or a course grade of F will be dismissed from the CPPS.

6. GPA recalculation for undergraduate courses will be allowed, in accordance with the policies of The University of Toledo.
Requirements for Academic Progression – Doctor of Pharmacy Program (Policy No. 3364-83-07)

1. Good Academic Standing
   a. The College of Pharmacy and Pharmaceutical Sciences defines “good academic standing” for students enrolled in the Doctor of Pharmacy (PharmD) Program in the following manner:
      i. Maintaining minimum required course cumulative GPA ≥ 2.75
      ii. Earning grade of C or better in all required courses
   b. A grade below a C in any required 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).
   c. To hold an office in a CPPS organization or represent the CPPS, a student enrolled in the CPPS must be in “good academic standing.”

2. Academic Progression*
   a. To advance to the P2 year, the student must earn the following:
      i. A required course cum GPA ≥ 2.75
      ii. A grade of C or better in all required courses
   b. To matriculate to the P3 year, the student must earn the following:
      i. A required course cum GPA ≥ 2.75
      ii. A grade of C or better in all required courses
   c. To advance to the P4 (APPE) year, the student must earn the following:
      i. A required course cum GPA ≥ 2.75
      ii. A grade of C or better in all required courses
   d. To graduate with a Doctor of Pharmacy degree from the UT-CPPS, the student must earn the following:
      i. A required course cum GPA ≥ 2.75
      ii. A grade of C or better in all required courses

*Students not permitted to move on to the next professional year due to failure to meet academic requirements will be allowed to repeat previous coursework in an attempt to meet the necessary requirements for advancement.

3. Academic Probation
   The following academic performance will lead to Academic Probation
   a. Earning a required course cum GPA <2.75
   b. Earning a grade less than a C in required course.
   c. A student will remain on probation until he/she achieves academic good standing or is no longer enrolled in the program.
   d. Failure to pass a pharmacy practice experience or dismissal from a pharmacy practice experience (for reasons other than an action detrimental to patient care and/or to the clinical service).

4. Dismissal
   The following academic performance or circumstances will lead to dismissal from the Doctor of Pharmacy Program:
   a. Earning ≥ 4 grades less than a C on first attempt in required courses (P1-P3 years).
   b. Earning a required course term GPA < 2.00
   c. Earning a required course cum GPA <2.25 (excluding the Fall P1 semester)
   d. Earning a grade < C in a repeated required course.
   e. Student no longer able to complete the program in the required six (6) calendar year time period from the initial enrollment semester – student’s P1 Fall semester. (See Policy 3364-83-04 Time for Completion of the Doctor of Pharmacy Program)
   f. If dismissed from the Doctor of Pharmacy program, the student may continue to earn a BSPS degree if he/she has not already done so or transfer to other Colleges/Programs within the University as eligible.
   g. A student may appeal a dismissal (Refer to CPPS Appeal Policy: 3364-83-05)

The following experiential performance may make you eligible for dismissal:
   a. Any student on probation due to experiential performance who fails to pass a pharmacy practice experience or is dismissed from a pharmacy practice experience.
5. Petition for Readmission after Dismissal
   a. A student who is dismissed may petition the APC for readmission. If the petition is accepted, the college will
determine the conditions under which the student will be permitted to re-enroll.
   b. A student must submit the petition within one calendar year of the date of dismissal.*
   c. If a student is readmitted and does not meet expectation for academic progression, permanent dismissal from the
College of Pharmacy and Pharmaceutical Sciences will result.

   *Time between dismissal and readmission will count toward “Time to completion of the PharmD Program (See
Policy 3364-83-04 Time for Completion of the Doctor of Pharmacy Program)

6. Pharmacy Required Course GPA calculation
   a. The pharmacy required course GPA will consist of all required professional program pharmacy core-curriculum
undergraduate and post-baccalaureate coursework (see below).
   b. Required courses may not be repeated more than once.
   c. All required courses (first attempt and repeated) will be counted towards required course cumulative GPA,
regardless of the University grade recalculation policy.
   d. A repeated required course grade, in which a student earned a grade of B or better on the first attempt, will not be
included in the required course GPA.
   e. Neither undergraduate nor post-baccalaureate elective coursework will be counted towards pharmacy required
course GPA.

7. Matriculation
   a. To matriculate to the post B.S.P.S. portion (P3-P4) of the Doctor of Pharmacy program, the student must earn both
of the following:
      i. A required course cum GPA ≥ 2.75
      ii. A grade of C or better in all required courses
   b. Students failing to achieve these two requirements will not matriculate and must do one of the following:
      i. Retake required courses to demonstrate an improved aptitude for the material and seek matriculation with
the next year’s class.
      ii. If eligible, graduate with a Bachelor of Science in Pharmaceutical Sciences (BSPS) degree. However,
doing so would prevent the student from taking/retaking additional undergraduate courses towards
achieving a PharmD degree, thus ending any opportunity to further pursue a PharmD degree at The
University of Toledo.
      iii. If eligible, consider transferring to one of the other five tracks (Pharmaceutics, Pharmacology/Toxicology,
Pharmacy Administration, Medicinal and Biological Chemistry, or Cosmetic Sciences and Formulation
Design) of the BSPS program.
      iv. If eligible, change colleges within the University of Toledo or transfer to another institution.
Pharmacy Required Courses (used in calculation of pharmacy required course cumulative GPA)

*Required P1-P2 Level Courses

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*Required P3-P4 Level Non-APPE Courses

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**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”.

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 (Please refer to Policy 3364-83-05: Appeal Procedure for Academic Performance and Progression). 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

a. 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]”
b. 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.

c. 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.

d. The Dean will review all applicable evidence presented by the PAPAC, the student, and the APC and any other requested information.

e. After completing such review, the Dean may ask for a meeting with the student.

f. 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.

g. 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, pharmaceutics, 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

PharmD electives (undergraduate or graduate) are not counted toward PharmD core-curriculum courses.

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.

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 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 Frederic and Mary Wolfe Center, Health Education Building, Suite 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 under Current Student Links. 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: http://www.utoledosg.org/

**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 Policy #3364-71-05 or other academic policies: http://www.utoledo.edu/policies/

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**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 to http://www.utoledo.edu/policies/academic/college_of_pharmacy/pdfs/3364-83-06.pdf for more information on the policy. To apply for a Leave of Absence (LOA), please go here to complete the application.

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**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 during different semesters and the 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.
# BPS Pre-professional (PREP) Curriculum Guide

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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
⁴ Students accepted into the College of Pharmacy and Pharmaceutical Sciences should be academically prepared to be placed into MATH 1850 and CHEM 1230. Students placing into a lower math level - MATH 1200, MATH1320 or MATH1750 and/or placing into a lower level chemistry - CHEM 1090 (based on students' testing scores) will require additional hours for graduation.

Students should consult their Degree Audit for coursework that fulfills elective course requirements in the General Education/Core area.
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. Progression 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, testing and stability of cosmetic ingredient and active ingredient incorporation into a consumer acceptable product which is eye appealing, stable, safe and delivers its claims.

Cosmetic Science and Formulation Design Professional Division Curriculum

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<tr>
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<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Cosmetic Science Electives</td>
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</tbody>
</table>

* If not taken during Pre-professional Division
* See Cosmetic Science elective list
All requirements listed above must be fulfilled with a minimum of 126 semester hours required for graduation.

**Cosmetic Science and Formulation Design Electives**

A total of 6 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

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<tr>
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All requirements listed above must be fulfilled with a minimum of 126 semester hours required for graduation.

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.

*Internship 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.

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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. Chem4 ......................... 6-12

P2 Year

First Semester

MBC 4710 Targeted Drug Design3 .................................. 3
Major Elective (Recommend MBC 4850)2 ................... 1-10
MBC Laboratory (Recommend MBC 4880)1 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.

4In 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

* Internship 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

<table>
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<th>SUBJECT</th>
<th>NUMBER</th>
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All requirements listed above must be fulfilled with a minimum of 126 semester hours required for graduation.

1To be chosen from the pharmaceutics major electives. 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.

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<td>Principles of Nutrition</td>
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*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**

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<tr>
<th>Professional Term</th>
<th>SUBJECT</th>
<th>NUMBER</th>
<th>COURSE TITLE</th>
<th>CR HRS</th>
<th>COURSE REQUIREMENTS</th>
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### Major Electives

*Recommend BIOL 3010 & 3020 MBC 3330*  

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*Major Elective (Recommended MBC 3100)*  

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*Major Elective*  

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<td>PHCL 4780</td>
<td>Internship in Pharmacology/Toxicology</td>
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</table>

1. To be chosen from the PTOX electives list.  
2. Required for internship and only offered in spring.  
3. Internship can be taken in the summer before the P2 year.  

All requirements listed above must be fulfilled with a minimum of 126 semester hours required for graduation.

### 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.

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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 Hnrs 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, marketing, 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.

<table>
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<tr>
<th>Professional Term</th>
<th>SUBJECT</th>
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<th>COURSE TITLE</th>
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### 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

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P2 Spring

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

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 Pharm. D. program is accredited by ACPE and will be revisited for reaccreditation in Fall of 2019.

Graduate Professional Doctor of Pharmacy

Students must graduate with the BSPS Doctor of Pharmacy prior to beginning the final two years (P3 Summer through P4 Spring) of the Doctor of Pharmacy program.

<table>
<thead>
<tr>
<th>PROFESSIONAL TERM</th>
<th>SUBJECT</th>
<th>NUMBER</th>
<th>COURSE TITLE</th>
<th>CR HRS</th>
<th>COURSE REQUIREMENTS</th>
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<tr>
<td>P3 Summer</td>
<td>PHPR</td>
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<td>PPT 5</td>
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<td>Graduate Professional Electives**</td>
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** A total of 5 credit hours of Graduate Professional Electives is required

P3 Fall

<table>
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<tr>
<th>SUBJECT</th>
<th>NUMBER</th>
<th>COURSE TITLE</th>
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<tr>
<td>MBC</td>
<td>5300</td>
<td>Molecular Designs of Cancer Chemotherapy</td>
<td>1</td>
<td>Coreq PHPR 5300</td>
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<tr>
<td>PHPR</td>
<td>5300</td>
<td>Design and Applications of Cancer Chemotherapy</td>
<td>1</td>
<td>Coreq MBC 5300</td>
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<tr>
<td>PHPR</td>
<td>6070</td>
<td>PPD-5</td>
<td>3</td>
<td>Coreq PHPR 6130, Coreq PHPR 6340</td>
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<td>PHPR</td>
<td>6130</td>
<td>PPT-6</td>
<td>4</td>
<td>Prereq PHPR 6120 (Min grade C), Coreq PHPR 6070</td>
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<td>PHPR</td>
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<td>Advanced Applied Pharmacokinetics</td>
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<td>PHPR</td>
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<td>PHCAD 3</td>
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<td>PHPR</td>
<td>6340</td>
<td>Research Design &amp; Drug Literature Eval 2</td>
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<td><strong>17-19</strong></td>
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**A total of 5 credit hours of Graduate Professional Electives is required**

## P3 Spring

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites/Corequisites</th>
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<tbody>
<tr>
<td>MBC 6320</td>
<td>Neurological &amp; Psychiatric Drugs</td>
<td>1</td>
<td>Copreqs PHCL6320, PHPR 6140</td>
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<tr>
<td>PHCL 6320</td>
<td>Neurological &amp; Psychiatric Pharmacology</td>
<td>1</td>
<td>Coreqs MBC 6320, PHPR 6140</td>
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<td>PHPR 6080</td>
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<td>Prereq PHPR 6070 (Min grade C) Coreqs PHPR 6140, PHPR 6250</td>
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<td>PHPR 6140</td>
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<td>PHPR 6250</td>
<td>Self-Care</td>
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<td>Coreq PHPR 6080</td>
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<td>PHPR 6280</td>
<td>PHCAD-4</td>
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<td>PHPR 6310</td>
<td>Jurisprudence and Ethics</td>
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**Graduate Professional Electives**

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

## P4 Fall

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<tr>
<th>Course</th>
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<th>Credits</th>
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<tr>
<td>PHPR 8630</td>
<td>Longitudinal Drug Information***</td>
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<tr>
<td>PHPR 8940-001</td>
<td>Advanced Pharmacy Practice Experience I</td>
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<td>PHPR 8940-002</td>
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<td>PHPR 8940-003</td>
<td>Advanced Pharmacy Practice Experience III</td>
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<tr>
<td>PHPR 8940-004</td>
<td>Advanced Pharmacy Practice Experience IV</td>
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**Option of graduate elective (if not completed in P3)**

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<tr>
<th>Credits</th>
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<tbody>
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*** Can be taken in Fall or Spring

## P4 Spring

<table>
<thead>
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<th>Course</th>
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<td>PHPR 8630</td>
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<tr>
<td>PHPR 8940-005</td>
<td>Advanced Pharmacy Practice Experience V</td>
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<td>PHPR 8940-006</td>
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<tr>
<td>PHPR 8940-008</td>
<td>Advanced Pharmacy Practice Experience VIII</td>
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**Option of graduate elective (if not completed in P3)**

<table>
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<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>16-18</strong></td>
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</table>
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 4910 .... Problems 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

**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
The University of Florida, College of Pharmacy

The University of Florida, College of Pharmacy

The University of Florida, College of Pharmacy

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.

Pharm.D./MBA Dual Degree Program

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. The Pharmacy College Admission Test (PCAT) is accepted by the MBA program in lieu of the GMAT. Students may be eligible for a GMAT waiver based on the current GMAT waiver procedure; the COBI Graduate Programs Office should be contacted for current eligibility requirements. 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

Integrated Curriculum
PharmD/MBA students may replace OPMT 5510 Statistics with the College of Pharmacy and Pharmaceutical Sciences PHPR 4330, PHPR 6340, or any Statistics I equivalent course. Up to three of the College of Pharmacy and Pharmaceutical Sciences courses will serve as MBA electives. The nine credit hours of elective course work will be fulfilled by (3) AAPE rotations (12 credit hours) from the Management and Administration Track. Students in the dual degree program will earn their MBA in General Administration since the MBA electives are replaced with College of Pharmacy and Pharmaceutical Sciences courses. Please see the COBI catalog for specific course information related to the MBA.

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.

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

Marcia F. McInerney, 1991, Distinguished University Professor; Executive Administrative Dean and Associate Dean for Research and Graduate Studies
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, Distinguished University 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
B.S., Dartmouth College; Ph.D., Massachusetts Institute of Technology

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

Youssef Sari, 2010*, Associate 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 and Vice-Chair
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
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

Ezdihar A.M. Hassoun, 1995, Professor
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 and Vice-Chair of the Medicinal and Biological Chemistry (MBC) Department
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 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

Kenneth S. Alexander, 1972, Professor Emeritus
B.Sc. Pharm., M.Sc., Philadelphia College of Pharmacy and Science; Ph.D., University of Rhode Island; Ed Sp., The University of Toledo; R.Ph.

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, Associate 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, Senior 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, Associate Lecturer
Pharm.D., The University of Toledo; R.Ph., BCACP

Laurie S. Mauro, 1985, Professor and Associate Dean for Academic Affairs and Director of Educational Assessment
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; Associate 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; Senior 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, Senior 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 Serres-Seegert, 2010, Clinical Associate Professor, Associate Lecturer and Assistant Director of Pharm.D. Experiential Education
Pharm.D., The University of Toledo; R.Ph., BCADM, BCACP

Varun A. Vaidya, 2009, Associate Professor
B.S. Pharm., Bharati Vidyapeeth College of Pharmacy; Ph.D., University of Tennessee