College of Pharmacy

Administration

Johnnie L. Early II, dean
Wolfe Hall Room 2246
Phone: 419.530.1997

Wayne P. Hoss, associate dean for research and graduate studies
Wolfe Hall Room 2246
Phone: 419.530.1905

Christine N. Hinko, associate dean for student affairs
Wolfe Hall Room 1227
Phone: 419.530.1904

Curtis D. Black, assistant dean for academic affairs
Wolfe Hall Room 1246
Phone: 419.530.1951

Robert J. Schlembach, historian and interim director, pharmacy alumni affairs
Wolfe Hall Room 1259 C
Phone: 419.530.1935

Academic Departments

Department of Medicinal and Biological Chemistry
Marcia McInerney, interim chair
Phone: 419.530.2902/1981

Department of Pharmacology
William S. Messer, chair
Phone: 419.530.1910/1958

Department of Pharmacy Practice
Curtis D. Black, interim chair
Phone: 419.530.1951

Advisers

Coordinator of Advising and Student Affairs
Deborah J. Sobczak
Phone: 419.530.1904

Coordinator of Recruitment and Retention
José Trevino
Phone: 419.530.1904

Preprofessional Adviser
Deborah J. Sobczak
José Trevino

Athletes
Gerald P. Sherman

Honors Student Advisers
James P. Byers
Diane Cappelletty
Martin Ohlinger
William S. Messer
Walter W. Siganga
Katherine A. Wall

Professional Division Students
Assigned faculty

Professional Division: Out-of-Sequence Students
Christine N. Hinko

Fifth Year Students
Barbara M. Rudnicki
COLLEGE OF PHARMACY

Accreditation

The College of Pharmacy 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 American Council on Pharmaceutical Education (ACPE).

Programs in Pharmacy and the Pharmaceutical Sciences

The College of Pharmacy prepares students for careers in both 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 provide direct patient care services.

Pharmacy Licensure Program

– Doctor of Pharmacy

All students seeking a degree that will lead to pharmacy licensure will need to complete two years of course work in the preprofessional division of the College of Pharmacy. 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 (year 3) is competitive.

Beginning with fall 2000 the program of study leading to pharmacy licensure for entering freshman is the entry-level doctor of pharmacy (Pharm.D.). Students who have already completed a bachelor of science in pharmacy (B.S.P.) degree may enroll in the post-baccalaureate Pharm.D. degree program in order to gain additional skills and knowledge in various therapeutic areas.

Nationally, the last year for admission of freshmen who wish to pursue the five-year B.S.P degree was fall semester 1999. All students enrolled in The University of Toledo College of Pharmacy B.S.P. program must complete their degree by June 2004. After that date, only the Pharm.D. degree will be accredited for pharmacy licensure by ACPE.

Contingent Admission Program

A small group of academically exceptional high school graduates may be offered contingent admission to the entry-level Pharm.D. program. Automatic admission to the third year of the curriculum will be contingent upon successful completion of the first and second preprofessional years, while maintaining specific scholastic standards.

Pharmaceutical Sciences

(Non-Licensure Program)

The College of Pharmacy offers a four-year bachelor of science degree in pharmaceutical sciences (B.S.P.S.) to prepare students for a variety of careers in the pharmaceutical and biotechnological industries. Students seeking the B.S.P.S. degree will need to complete two years of course work in the lower division of the College of Pharmacy. Following the completion of a core set of required courses, students will apply to the upper division during their second year. Admission to the upper division of the college is competitive. The B.S.P.S. will not prepare students for state board licensure nor will it prepare students to practice pharmacy.

Pharmacy Graduate Degree Programs

The College of Pharmacy offers several non-licensure graduate degrees: the master of science degree in pharmaceutical sciences with program options in pharmacology/toxicology, industrial pharmacy and administrative pharmacy; the master of science degree in medicinal chemistry degree; and the doctor of philosophy degree in medicinal chemistry. Students should contact the College of Pharmacy for admission and curricular requirements.

A graduate certificate program is available to any qualifying student holding a B.S. degree in natural science who wishes to take graduate level courses in pharmacology and toxicology. Students completing this 15 semester hour program will be awarded a certificate in pharmacology/toxicology.

In addition to the above graduate programs, the college offers 1) the post-baccalaureate doctor of pharmacy degree (students enrolled in this program are already licensed pharmacists who are continuing their education at the doctoral level), and 2) the entry-level doctor of pharmacy degree, which leads to licensure.

Admission to the College

New Students

All new students admitted to the College of Pharmacy will begin their studies in the preprofessional or lower division. All undergraduate students in the College of Pharmacy will be considered preprofessional or lower division students until admitted to the professional division of the B.S.P., professional division of the Pharm.D. program or the upper division of the B.S.P.S. program. For the entry-level Pharm.D. and four-year B.S.P.S. programs, the College of Pharmacy limits student enrollment into the professional division (third year) in accordance with its facilities.

Transfer Students

In order for a student to transfer from other Ohio universities into any of the baccalaureate programs of the College of Pharmacy or change from another college within The University of Toledo to the College of Pharmacy, the student must have a higher education cumulative grade point average (HEd GPA) of at least 2.5 (the HEd GPA is based on all letter grades attained at all institutions of higher learning and uses the point average scale of A = 4.0), be in good standing at the University, and be eligible to return. Evaluation of transcripts from other institutions is not done until a student is admitted into the College of Pharmacy. The student may be required to take placement tests in English, chemistry and/or algebra. A student who has attended another Ohio college of pharmacy must have a cumulative HEd GPA of 2.5, be in good standing at the university and be eligible to return to the college of pharmacy previously attended. Students who wish to transfer credit from another college or university must have been enrolled full time in The University of Toledo College of Pharmacy and registered for 16 semester hours (a letter grade must be received in each course) for the one semester prior to provisional acceptance to the professional/upper division.
Students with course work from non-Ohio institutions will be evaluated on an individual basis. After a student is admitted, the student may be asked to supply non-returnable college catalogs so that course equivalencies can be determined. The student also may be required to take placement tests in English, chemistry and/or algebra. All international transcripts submitted by transfer students must be evaluated by a College of Pharmacy designated independent agency, at the applicant’s expense, for letter grade equivalency. Transfer students are only admitted to the lower division of the B.S. in pharmaceutical sciences or the preprofessional division of the B.S. in pharmacy or the entry-level Pharm. D. program. For a transfer student to be accepted into the second year of the program, all criteria and prerequisites for second-year class standing must be met. Second-year class standing begins only in the fall semester.

**General Criteria for Admission to the Professional Division of the Entry-Level Doctor of Pharmacy and the Upper Division of the B.S. in Pharmaceutical Sciences**

Admission to the professional/upper division normally is made only at the beginning of the fall semester. The number of students who receive final acceptance into either the upper division of the B.S. in pharmaceutical sciences program or the professional division of the B.S. in pharmacy or the entry-level doctor of pharmacy programs will be limited to the space available. Because the number of applicants usually exceeds the number of spaces, students are admitted on the basis of the following general criteria.

In order to be finally admitted into the professional/upper division, an applicant must have completed BIOL 2150 through 2180, CHEM 1230 through 1290, MATH 1750 and 1760, PHCL 2600 and 2620, CHEM 2410 through 2470, PHYS 1750 or its equivalent and ECON 1200; have completed a minimum of 63 earned semester hours prior to entrance into the professional/upper division; and have formally applied using the appropriate form (obtainable in the College of Pharmacy Office of Student Affairs — 1227 Wolfe Hall). If an applicant is accepted into the professional/upper division, the acceptance will be provisional pending the completion of the above courses. All course prerequisites for the professional/upper division must be completed two weeks before the first day of professional/upper division classes in the fall semester for which the application is made. If the applicant fails to meet the deadline for the completion of prerequisite courses, he/she will lose provisional admission status and must apply again for admission to the professional/upper division in the subsequent year.

Each applicant to the professional division of the licensure program will be asked to write an essay in response to a question provided by the admissions committee addressing a pharmacy-related issue.

Each applicant to the professional division will also provide the admissions committee (in care of the College of Pharmacy) with two letters of recommendation. The letters may be from professors, employers, clergy, close family friends and family health professionals (pharmacist, dentist, physician). Letters from relatives or College of Pharmacy faculty or staff are not acceptable.

All application materials must be received by the College of Pharmacy by a specified date of the same year the applicant anticipates entering the professional/upper division. There are no exceptions to the deadline.

A student who has applied for admission to the professional/upper division must maintain a 2.0 GPA (cumulative and semester) until all requirements for entrance into the professional/upper division are completed to be eligible for final admission.

In regard to admission into the professional/upper divisions, all applicants must have a cumulative GPA based upon a minimum of 16 semester hours at The University of Toledo (a letter grade must be received in each course). If a student has taken fewer than 30 semester hours at The University of Toledo, the higher educational grade point average (HEd GPA, which is based on all letter grades attained at all institutions of higher learning) will be used in the evaluation in place of The University of Toledo cumulative GPA if the HEd GPA value is less than The University of Toledo cumulative GPA. If the HEd GPA is greater than The University of Toledo cumulative GPA, the latter will be used.

Each application will be evaluated on the basis of the applicant’s personal essay (licensure program only) as defined above; cumulative GPA; and science GPA in the following specified courses: CHEM 1230 and 1240; BIOL 2150 and 2170; MATH 1750; PHYS 1750 or 2070; CHEM 2410; and PHCL 2600. All transfer courses equivalent to these specified courses will be evaluated for their respective equivalent semester quality hours. A preprofessional division student will not be allowed to fulfill requirements for the professional division by enrollment in both organic chemistry and physics during the summer prior to the first professional division year.

For the licensure program, at least 80 percent of those students to be admitted provisionally will be selected by the admissions committee based on the above criteria. The remaining positions will be filled by the admissions committee using the above criteria and a personal interview.

For the B.S.P.S. program, a minimum of a 2.5 cumulative GPA and a 2.5 science GPA (as defined above) will be required for provisional admission to the upper division.

Specific criteria have been approved by the faculty of the College of Pharmacy for the admission of transfer students or of change-of-college students into the professional division. These are outlined as follows:

- Applicants who have fulfilled all admission criteria for the professional division by a specified date of the year of application can have their name added to the eligible applicant pool.
- It is the applicant’s responsibility to insure that all University admission procedures or change-of-college procedures have been completed and that the necessary forms for the professional division application process have been received by the college by a specified date of the same year.
- The general criteria for admission to the professional division will be applied to the transfer student in the same manner as for the continuing College of Pharmacy student, i.e., cumulative GPA, science GPA, essential courses or their equivalents through the fall semester of the second year, personal essay and an accumulation of at least 44 semester hours. The applicant’s cumulative GPA from The University of Toledo or HEd GPA (as defined above), science GPA based on all equivalent specified courses and personal essay will be used in determining admission.
• The essential courses for final admission to the professional division consist of a three quarter or two semester sequence in general chemistry and its laboratories, a three quarter or two semester sequence in biology for majors and its laboratories, a three quarter or two semester sequence in mathematics (college algebra and courses equivalent to the Mathematics for Life Science sequence), a three quarter or two semester sequence in an equivalent functional anatomy and pathophysiology course, a three quarter or two semester sequence in organic chemistry and its laboratories, two quarters or one equivalent semester of intensive physics and the equivalent of a one semester microeconomics course. Sixty-three semester hours also are necessary for final admission.

• For the essential courses taken at other institutions, equivalency is almost automatic for courses in general chemistry, general biology for majors, organic chemistry and physics. Difficulty in determining equivalency has occurred with the mathematics sequence and the functional anatomy and pathophysiology sequence. In order to determine the equivalency of the mathematics courses and functional anatomy and pathophysiology courses, a) a complete syllabus or a complete set of course notes, b) examinations taken in the course, c) the name of the text and d) the name and telephone number of the course instructor or appropriate department chairperson should be provided.

• If a candidate is unable to meet the specified application deadline, the college has set up a second admission period after the initial admissions review if there are still spaces available for additional applicants.

**College of Pharmacy Honors Program**

The College of Pharmacy offers an Honors Program for eligible students in both B.S. in pharmaceutical sciences programs (licensure and nonlicensure tracks) as part of the University-wide Honors Program.

Highly qualified students entering the University in the College of Pharmacy will be considered for advanced placement and for entry into honors courses and honors sections of major courses offered in the first two years by the other colleges. Decisions regarding entry of students into the University Honors Program or into specific honors courses, will be made in consultation with the University Honors Program director and College of Pharmacy Honors advisers. Normally, entering students with an ACT composite score of 28 and above, coupled with a 3.75/4.00 high school GPA, will be considered for entry into honors courses. During the first two years of study, the College of Pharmacy offers courses that orient the student toward the profession of pharmacy and the pharmaceutical sciences and toward the moral and ethical responsibilities of pharmacists and pharmaceutical scientists. No honors sections of these orientation courses will be offered.

Two physiological chemistry courses and several electives are offered with honors sections. A specific honors seminar course and an honors thesis option are offered for some of the very best students in the program. These courses can fulfill requirements for electives. In addition to the overall college requirement, specific departmental requirements, on file in the respective department offices, also must be met for graduation from the College of Pharmacy with honors.

The B.S.P.S. with honors is attainable by all students who complete at least 33 semester hours of honors course work with a grade of B or better. In addition, at least 5 hours of the 33 noted above must be taken within the senior independent project and senior seminar. These courses are to be taken within the departments of medicinal and biological chemistry, pharmacology or pharmacy practice.

**Academic Policies**

The College of Pharmacy adheres to all of University of Toledo policies and procedures. Please refer to the General Section of this catalog for academic policies governing all students enrolled at the University. In any case where 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 College of Pharmacy (e.g., the Student Council Professionalism Statement, Student Academic Code—Responsibilities and Rights, and Student Rights Code—Academic Review and Appeal Process.)

**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.

**Withdrawal, Grade Deletion and Audit Policy**

Refer to the General Information section of this catalog for Drop, Withdrawal, Grade Deletion and Audit policies that apply to all students.

**Pass/No Credit (P/NC) Grade Option**

Refer to the General Section of The University of Toledo General Catalog for General Academic Policies that apply to all students. P/NC grading is not available for courses taught in the College of Pharmacy. In addition to courses for which P/NC grading is used exclusively, a student may elect P/NC grading for an additional 7 credit hours excluding course work in the natural sciences (biology, chemistry, physics and mathematics with the exception of MATH 0980). These P/NC hours are applicable only to courses in the humanities/fine arts and social sciences. Once the petition is filed, the request is irrevocable.

**Good Standing for Undergraduate Students**

The University of Toledo College of Pharmacy defines “Good Standing” as a cumulative GPA of 2.0. In addition, for the purpose of verifying State Board internship affidavits, the College of Pharmacy not only requires a cumulative GPA of 2.0, but also requires a GPA of 2.0 for the semester during which the internship credit is being requested. Students will not be granted internship credit for hours received during semesters they are on academic suspension.

**Personal Fitness**

The emotional and psychological stability of those practicing or preparing to practice pharmacy is considered to be very important for the proper performance of professional responsibility as a member of the health...
team. The faculty of the College of Pharmacy 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, such behavior may present a hazard not only to the student, but to patients as well. 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 College of Pharmacy views the admitted or proven personal abuse of such drugs, their transmission 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 College of Pharmacy. In addition, Boards of Pharmacy may revoke the internship license and/or deny licensure for various drug offenses. Since a current internship license is necessary for entrance into the experiential rotations in the required component of the College of Pharmacy curriculum, students without an internship license will be denied admission into these classes. Drug abuse in any form and/or misuse of drug documents must be totally avoided by those desirous of becoming pharmacists.

Probation, Suspension, Dismissal and Academic Performance

For all undergraduate students (preprofessional and professional divisions) in the College of Pharmacy:

A. Any student who fails to achieve a semester or cumulative GPA of 2.0 or greater at the end of any semester will automatically be placed on probation.

B. Any student who fails to achieve a semester or cumulative GPA of 1.0 or greater at the end of any semester will automatically be placed on probation, will undergo a record review by the College of Pharmacy Academic Performance Committee (APC), and may be suspended from the University without a preliminary probationary semester.

C. Any student who fails to achieve a semester or cumulative GPA of 2.0 or greater for any two of three consecutive semesters in attendance will undergo a record review by the College of Pharmacy APC and may be suspended from the University.

Suspension is by the dean on advice from the College of Pharmacy APC, which reviews the performance of all students periodically. Suspension is from the University. The period of suspension is at least one semester exclusive of the summer terms. A student who is suspended must petition the dean for readmission, in writing (with a copy to the associate dean for student affairs), 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 reenroll. If a student is readmitted and does not perform satisfactorily, permanent dismissal from the College of Pharmacy 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 College of Pharmacy organizations until the student is in good standing, as defined above.

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.

Only those students who have attained a University GPA of 3.0 or greater will be permitted to register for more than 21 credit hours in any semester.

Preprofessional Division/Lower Division

Please refer to the General Section of The University of Toledo General Catalog for General Academic Policies governing all students enrolled at the University.

Student Academic Code — Responsibilities and Rights

Refer to the General Section of The University of Toledo General Catalog and The University of Toledo Student Handbook for general policies that apply to all students.

College Level Examination Program Credit (CLEP)

The College of Pharmacy 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 in the humanities and social sciences examination will count only toward meeting the additional humanities and social science requirements.

Advanced Standing Credit

Refer to the General Section of The University of Toledo General Catalog for advanced standing credit (credit by exam) policies that apply to all students.

Degree Requirements

Bachelor of Science in Pharmacy Degree Requirements

Nationally, the last year for admission of freshmen who wish to pursue the 5-year B.S.P. degree was fall semester 1999. All currently enrolled students must complete their B.S.P. degree by June 2004. The B.S.P. degree is conferred upon candidates who have fulfilled the requirements described in this catalog. They are summarized as follows:

1. The completion of 169 semester hours of work.
2. The acquisition of 338 quality points or a GPA of at least 2.0 on the point average scale of A = 4 points.
3. The completion of all work required by the standard program for pharmacy students with such substitutions as may be approved by the dean of the college. The standard program may be revised at any time by faculty action. A student after five calendar years in the professional division may be required to retake courses and/or complete the course requirements consistent with the current College of Pharmacy bulletin.
4. Continuously enrolled students will be subject to the requirements for the degree of bachelor of science in pharmacy published in the Undergraduate Bulletin of the College of Pharmacy concurrent with their entry into the College of Pharmacy. Students without continuous enrollment, i.e., students who have been readmitted after an absence of an academic year (summers excluded), will be subject to the requirements concurrent with the semester during which they were readmitted to the college.

5. Student placement in college experiential rotations includes Cleveland and Toledo as well as other college-approved sites. In order to accommodate all students in the fifth year experiential rotations, it is necessary to assign students during the spring semester. (Summer and fall rotations are not available.) Each student is required to complete his or her experiential rotations at the assigned locations.

Curriculum

Preprofessional Division

First Year

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHPR 1000</td>
<td>Orientation 1</td>
</tr>
<tr>
<td>CHEM 1090 or 1230*</td>
<td>Elementary/General Chem I 3 or 4</td>
</tr>
<tr>
<td>CHEM 1280*</td>
<td>General Chemistry Lab I 1</td>
</tr>
<tr>
<td>BIOL 2150</td>
<td>Fund. of Life Sciences I 4</td>
</tr>
<tr>
<td>BIOL 2160</td>
<td>Fund. of Life Sciences Lab I 1</td>
</tr>
<tr>
<td>MATH 1750</td>
<td>Math. for Life Sciences I 4</td>
</tr>
<tr>
<td>Core Elective(s)**</td>
<td>4 or 3</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1240</td>
<td>General Chemistry II 4</td>
</tr>
<tr>
<td>CHEM 1290</td>
<td>General Chemistry Lab II 1</td>
</tr>
<tr>
<td>BIOL 2170</td>
<td>Fund. of Life Sciences II 4</td>
</tr>
<tr>
<td>BIOL 2180</td>
<td>Fund. of Life Sciences Lab II 1</td>
</tr>
<tr>
<td>MATH 1760</td>
<td>Math. for Life Sciences II 3</td>
</tr>
<tr>
<td>Core Elective**</td>
<td>3</td>
</tr>
</tbody>
</table>

*Depending on results of chemistry and mathematics placement examinations. If CHEM 1090 is required, it must be completed successfully before CHEM 1230 and 1280 may be taken, followed by CHEM 1240 and 1290.

Second Year

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHPR 2010</td>
<td>Introduction to Patient Care 2</td>
</tr>
<tr>
<td>CHEM 2410</td>
<td>Organic Chemistry I 3</td>
</tr>
<tr>
<td>CHEM 2460</td>
<td>Organic Chemistry Lab I 1</td>
</tr>
<tr>
<td>PHCL 2600</td>
<td>Funct. Anat. &amp; Pathophysiology I 4</td>
</tr>
<tr>
<td>PHYS 1750</td>
<td>Selected Topics in Physics 4</td>
</tr>
<tr>
<td>Core Elective**</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 2420</td>
<td>Organic Chemistry II 3</td>
</tr>
<tr>
<td>CHEM 2470</td>
<td>Organic Chemistry Lab II 1</td>
</tr>
<tr>
<td>PHCL 2620</td>
<td>Funct. Anat. &amp; Pathophysiology II 4</td>
</tr>
<tr>
<td>Core Elective(s)**</td>
<td>9</td>
</tr>
</tbody>
</table>

Core/Humanities and Social Sciences Requirements:

ENGL 1110 3
ENGL 1130, 1140, 1170, 1180, 1190, 1210, 1220 or 1230 3
ECON 1200 3
Select one (1) from the following:
PSY 1010 3
SOC 1010 3

**Core Electives refer to both University and college core elective requirements

To complete the total number of hours required for the bachelor of science in pharmacy degree, a student may choose freely with the following exceptions. Remedial courses may not be used. Furthermore, students may not apply more than a total of two credit hours from the following...
areas: studio art courses (ART), music courses with performing groups (MUS), activities courses (RCA/RCRT) and recreation and leisure studies (RLS).

**Entry-Level Doctor of Pharmacy Degree Requirements**

Following admission to the professional division, the entry-level Pharm.D. program students will complete a B.S.P.S. prior to admission to the graduate portion of the program. Students in the entry-level Pharm.D. track who have completed the B.S.P.S. at The University of Toledo with a 3.0 GPA are eligible for admission to the graduate portion of the Pharm.D. program provided that professional pharmacy standards and regulations are met.

A formal preadmission decision to the graduate portion of the Pharm.D. program will be made at the end of the fourth year while in the professional division. The final decision is contingent upon completion of the B.S.P.S. degree with a minimum GPA of 3.0. In order to graduate with the doctor of pharmacy degree, students must maintain a minimum of a 3.0 GPA with no grade lower than a C (2.0) in graduate courses as required for all graduate students.

Only students in the Pharm.D. track of the B.S.P.S. degree program will eventually qualify for state board licensure in the practice of pharmacy. To qualify, the student also must complete the graduate portion of the Pharm.D. curriculum. According to the American Council on Pharmaceutical Education, the national accrediting board for pharmacy in the United States (U.S.), all students graduating from any U.S. college of pharmacy after June 2004, and who are seeking licensure, will be required to hold the Pharm.D. degree.

A total of 137 semester hours is required for graduation with the B.S.P.S. - Pharm.D. track degree. Eligible students then may matriculate into the graduate portion of the Pharm.D. degree (see above statement). The curriculum is outlined below:

**First Year**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHPR 1000</td>
<td>Orientation</td>
</tr>
<tr>
<td>CHEM 1230</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>CHEM 1280</td>
<td>General Chemistry Lab I</td>
</tr>
<tr>
<td>BIOL 2150</td>
<td>Fund. of Life Sciences I</td>
</tr>
<tr>
<td>BIOL 2160</td>
<td>Fund. of Life Sciences Lab I</td>
</tr>
<tr>
<td>MATH 1750</td>
<td>Math. for Life Sciences I</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1240</td>
<td>General Chemistry II</td>
</tr>
<tr>
<td>CHEM 1290</td>
<td>General Chemistry Lab II</td>
</tr>
<tr>
<td>BIOL 2170</td>
<td>Fund. of Life Sciences II</td>
</tr>
<tr>
<td>BIOL 2180</td>
<td>Fund. of Life Sciences Lab II</td>
</tr>
<tr>
<td>MATH 1760</td>
<td>Math. for Life Sciences II</td>
</tr>
</tbody>
</table>

**Second Year**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHPR 2010</td>
<td>Introduction to Patient Care</td>
</tr>
<tr>
<td>CHEM 2410</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHEM 2460</td>
<td>Organic Chemistry Lab I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHCL 2600</td>
<td>Funct. Anat. &amp; Pathophysiology I</td>
</tr>
<tr>
<td>PHYS 1750</td>
<td>Selected Topics in Physics</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 2420</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>CHEM 2470</td>
<td>Organic Chemistry Lab II</td>
</tr>
<tr>
<td>PHCL 2620</td>
<td>Funct. Anat. &amp; Pathophysiology II</td>
</tr>
</tbody>
</table>

**Third Year**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBC 3310</td>
<td>Medicinal Chemistry I</td>
</tr>
<tr>
<td>PHCL 3700</td>
<td>Pharmacology I</td>
</tr>
<tr>
<td>MBC 3550</td>
<td>Physiological Chemistry I</td>
</tr>
<tr>
<td>PHPR 3070</td>
<td>Pharmaceutics I</td>
</tr>
<tr>
<td>MBC 3800</td>
<td>Microbiology &amp; Immunology</td>
</tr>
<tr>
<td>MBC 3850</td>
<td>Microbiology &amp; Immunology Lab</td>
</tr>
<tr>
<td>PHPR 3940</td>
<td>Early Practice Development*</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBC 3320</td>
<td>Medicinal Chemistry II</td>
</tr>
<tr>
<td>PHCL 3720</td>
<td>Pharmacology II</td>
</tr>
<tr>
<td>MBC 3560</td>
<td>Physiological Chemistry II</td>
</tr>
<tr>
<td>PHPR 3080</td>
<td>Pharmaceutics II</td>
</tr>
<tr>
<td>MBC 3800</td>
<td>Microbiology &amp; Immunology</td>
</tr>
<tr>
<td>MBC 3850</td>
<td>Microbiology &amp; Immunology Lab</td>
</tr>
<tr>
<td>PHPR 3940</td>
<td>Early Practice Development*</td>
</tr>
</tbody>
</table>

**Fourth Year**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHPR 3940</td>
<td>Early Practice Development*</td>
</tr>
<tr>
<td>PHPR 4400</td>
<td>Human Interactions in Healthcare</td>
</tr>
<tr>
<td>PHPR 4410</td>
<td>Professional Development I</td>
</tr>
<tr>
<td>PHPR 4430</td>
<td>Pathophysiology and Pharmacotherapy: Introduction</td>
</tr>
<tr>
<td>PHCL 4700</td>
<td>Pharmacology III</td>
</tr>
<tr>
<td>PHCL 4150</td>
<td>Biopharmaceutics &amp; Pharmacokinetics</td>
</tr>
<tr>
<td>MBC 4300</td>
<td>Chemotherapy &amp; Immunotherapy</td>
</tr>
</tbody>
</table>

* Some students will take PHPR 3940 in the fall; others will take it in the spring.

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHPR 4520</td>
<td>Management and Marketing</td>
</tr>
<tr>
<td>PHPR 4420</td>
<td>Professional Development II</td>
</tr>
<tr>
<td>PHPR 4440</td>
<td>PPT: Immunology</td>
</tr>
<tr>
<td>PHPR 4450</td>
<td>PPT: Renal</td>
</tr>
<tr>
<td>PHCL 4720</td>
<td>Pharmacology IV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHCL 5140</td>
<td>Statistics</td>
</tr>
<tr>
<td>PHPR 6210</td>
<td>Research Methods</td>
</tr>
<tr>
<td>PHPR 6940</td>
<td>Professional Practice Exposure</td>
</tr>
</tbody>
</table>

*(PHPR 6940 will consist of 80 hours of pharmacy practice)*

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

**Subsequent Graduate Courses in the Pharm.D. Program**

**First Semester: Summer between Fourth and Fifth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHCL 5140</td>
<td>Statistics</td>
</tr>
<tr>
<td>PHPR 6210</td>
<td>Research Methods</td>
</tr>
<tr>
<td>PHPR 6940</td>
<td>Professional Practice Exposure</td>
</tr>
</tbody>
</table>
degree.

characterization of living systems will be studied, examined and of pharmacy. The structure, diversity and functional understanding with emphasis on the nature of disease and the design and development of therapeutic entities.

While students who major in these more basic disciplines move on to increasingly specialized courses within those separate sciences, students of the pharmaceutical sciences, biomedical sciences or related life sciences matriculate in courses of study that continue to stress a cross fertilization of the ideas of fundamental biology and chemistry while focusing on the complexity and balance of living systems.

**General Program Requirements**

A total of 132 semester hours are required for graduation with the B.S.P.S. - non-Pharm.D. options.

**Lower Division Requirements**

In years 1 and 2, students in the B.S.P.S. program are required to meet the same requirements as are met by students in the Pharm.D. program. These are noted below:

### First Year

**First Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHPR 1000</td>
<td>Orientation</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 1230</td>
<td>Elementary/General Chem I</td>
<td>3 or 4</td>
</tr>
<tr>
<td>CHEM 1280</td>
<td>General Chemistry Lab I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2150</td>
<td>Fund. of Life Sciences I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2160</td>
<td>Fund. of Life Sciences Lab I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1750</td>
<td>Math. for Life Sciences I</td>
<td>4</td>
</tr>
<tr>
<td>Core Elective(s)**</td>
<td></td>
<td>4 or 3</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1240</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1290</td>
<td>General Chemistry Lab II</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2170</td>
<td>Fund. of Life Sciences II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2180</td>
<td>Fund. of Life Sciences Lab II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1760</td>
<td>Math. for Life Sciences II</td>
<td>3</td>
</tr>
<tr>
<td>Core Elective(s)**</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

*Depending on results of chemistry and mathematics placement examinations.

If CHEM 1090 is required, it must be completed successfully before CHEM 1230 and 1280 may be taken, followed by CHEM 1240 and 1290.

### Second Year

**First Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHPR 2010</td>
<td>Introduction to Patient Care</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 2410</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 2460</td>
<td>Organic Chemistry Lab I</td>
<td>1</td>
</tr>
<tr>
<td>PHCL 2600</td>
<td>Funct. Anat. &amp; Pathophysiology I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 1750</td>
<td>Selected Topics in Physics</td>
<td>4</td>
</tr>
<tr>
<td>Core Elective(s)**</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 2420</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 2470</td>
<td>Organic Chemistry Lab II</td>
<td>1</td>
</tr>
<tr>
<td>PHCL 2620</td>
<td>Funct. Anat. &amp; Pathophysiology II</td>
<td>4</td>
</tr>
<tr>
<td>Core Elective(s)**</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

The bachelor of science degree program in pharmaceutical sciences (B.S.P.S.) for non-Pharm.D. or non-licensure majors is a four-year baccalaureate program at The University of Toledo College of Pharmacy. This curriculum takes advantage of the educational base of the college in the health-related sciences. Graduates with the four-year degree in pharmaceutical sciences who are not seeking the Pharm.D. major will not be prepared or qualified for the state board licensure in the practice of pharmacy. The curriculum for these programs is divided into course work that assures a broad liberal education in the arts and sciences followed by an advanced course of study that leads to a concentration in the pharmaceutical sciences. The structure, diversity and functional characterization of living systems will be studied, examined and
Required Core of Upper Division Program for Pharmacology/Toxicology or Medicinal Chemistry Options*

* Admission to the upper division requires a 2.5 cumulative and science GPA

Third Year

MBC 3310 Medicinal Chemistry I .........................3
MBC 3320 Medicinal Chemistry II ........................3
PHCL 3700 Pharmacology I ................................3
PHCL 3720 Pharmacology II ................................3
MBC 3550 Physiological Chemistry I ....................3
MBC 3560 Physiological Chemistry II ..................3

Fourth Year

PHCL 4700 Pharmacology III ..............................3
MBC 4710 Targeted Drug Design or
MBC 4720 Advances in Drug Design or
PHCL 4800 Human-Xenobiotic Interactions ...........3

**Core Electives refer to both University and college core elective requirements

This general plan requires that about one-half of the 64 semester hours of coursework (an average of 16 hours/semester) taken in the upper division will be in the required core. The remaining courses would allow for a substantially variable elective program tailored to the interests of individual students.

Pharmacology/Toxicology (PTOX) Majors

In addition to the required core of courses for the upper division of the B.S.P.S. program, PHCL 4730, PHCL 4750 and PHCL 4760 are strongly recommended for all PTOX majors. For PTOX majors, a total of 24 semester hours in the upper division must be taken from the list of elective courses noted below.

Medicinal Chemistry (MBC) Majors

In addition to the required core of courses for the upper division of the B.S.P.S. program, an additional 25 hours of coursework must be selected from the list of elective courses below. Further, the final 15 hours of coursework necessary for the degree fulfillment may be selected, with the permission of the major adviser, from other undergraduate offerings at the 3000 or 4000 level.

PTOX and MBC Elective Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 3010</td>
<td>Molecular Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3020</td>
<td>Molecular Genetics Lab</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 3030</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3040</td>
<td>Cell Biology Lab</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 4010</td>
<td>Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4030</td>
<td>Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4050</td>
<td>Immunology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4110</td>
<td>Human Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4330</td>
<td>Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3310</td>
<td>Analytical Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 3320</td>
<td>Analytical Chemistry Lab</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 4300</td>
<td>Instrumental Analysis</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 3710</td>
<td>Physical Chemistry for the Biosciences I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3720</td>
<td>Physical Chemistry for the Biosciences II or 3</td>
<td>alternative to CHEM 3710/3720</td>
</tr>
<tr>
<td>CHEM 3730</td>
<td>Physical Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3740</td>
<td>Physical Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>MBC 3800</td>
<td>Immunology &amp; Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MBC 4300</td>
<td>Chemotherapy and Immunotherapy</td>
<td>3</td>
</tr>
<tr>
<td>MBC 4340</td>
<td>Contemporary Natural Remedies</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4380</td>
<td>Medicinal Plants</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4410</td>
<td>Nutrition in Health and Disease</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4420</td>
<td>Neuroscience</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4430</td>
<td>Biochemistry of Disease</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4450</td>
<td>New Drug Development</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4470</td>
<td>Advanced Immunotherapeutics</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4480</td>
<td>Chemical Defense Mechanisms in Plants</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4710**</td>
<td>Targeted Drug Design</td>
<td>3</td>
</tr>
<tr>
<td>MBC 4720**</td>
<td>Advances in Drug Design</td>
<td>3</td>
</tr>
<tr>
<td>MBC 4760</td>
<td>Biochemical Toxicology</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4770</td>
<td>Molecular Modeling in Drug Design</td>
<td>3</td>
</tr>
<tr>
<td>MBC 4800</td>
<td>Quantitative Structure Activity Relationships</td>
<td>2</td>
</tr>
<tr>
<td>MBC 4950:01</td>
<td>Research in Medicinal Chemistry</td>
<td>6-8</td>
</tr>
<tr>
<td>MBC 4950:91</td>
<td>Research in Medicinal Chemistry - Honors 6-8</td>
<td></td>
</tr>
<tr>
<td>MBC 4980</td>
<td>Special Topics in Drug Design</td>
<td>1-4</td>
</tr>
<tr>
<td>PHCL 4140</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4150</td>
<td>Biopharmaceutics/Pharmacokinetics</td>
<td>4</td>
</tr>
<tr>
<td>PHCL 4300</td>
<td>Selected Topics in Pharmacology</td>
<td>2</td>
</tr>
<tr>
<td>PHCL 4600</td>
<td>Epidemiology</td>
<td>4</td>
</tr>
<tr>
<td>PHCL 4620</td>
<td>Pharmacoepidemiology</td>
<td>4</td>
</tr>
<tr>
<td>PHCL 4710</td>
<td>Pharmacology/Toxicology Seminar</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4720</td>
<td>Pharmacology IV: Chemotherapeutics</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4730</td>
<td>Toxicology I</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4740</td>
<td>Introduction to Clinical Toxicology</td>
<td>2</td>
</tr>
<tr>
<td>PHCL 4750</td>
<td>Toxicology II</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4760</td>
<td>Toxicokinetics</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4770</td>
<td>Toxicological Risk Assessment</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4780</td>
<td>Practicum in Toxicology</td>
<td>12</td>
</tr>
<tr>
<td>PHCL 4800**</td>
<td>Human-Xenobiotic Interactions</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4850</td>
<td>Drug Disposition</td>
<td>2</td>
</tr>
<tr>
<td>PHPR 4010</td>
<td>Modern Drug Delivery</td>
<td>2</td>
</tr>
</tbody>
</table>

**Students may take as elective if not chosen as part of required core.

Senior Independent Project

Students in the B.S.P.S. program may develop, in collaboration with a specific faculty adviser, a short-term experimental problem designed to introduce them to research in the pharmaceutical sciences. This activity is expected to develop intensively over one or more semesters during the senior year and will be coordinated with a senior seminar or capstone course, which will focus more broadly on research ideas and their resolution (e.g., MBC 4710 or MBC 4720). Submission and acceptance by the faculty of a formal paper based on the experimental work will be a requirement.

Career Service Options

Often students will begin to develop specific career interests relatively early. Students may be placed during a summer session or on occasion during an academic semester in a practicum site. For example, students interested in toxicology as a longer-term career option may be provided with the opportunity to work in an industrial or government toxicology laboratory or regulatory agency.

Such “real life” experiences are valuable to students and will invariably help them select their career choices. Initially, this program will be voluntary; that is, it will not be required for graduation. The off campus experience will be available to as many students in the program for whom it can be arranged. Those wishing a career in industry immediately after graduation will be encouraged to take this option when it becomes available. In certain well-defined cases these experiences may be used as the basis for the senior independent project.
Required Core of Upper Division Program for Pharmaceutics (PHAR) Option*

* Admission to the upper division requires a 2.5 cumulative and science GPA

### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHPR 3010</td>
<td>Calculations</td>
<td>2</td>
</tr>
<tr>
<td>PHPR 3070</td>
<td>Pharmaceutics</td>
<td>4</td>
</tr>
<tr>
<td>PHPR 3080</td>
<td>Pharmaceutics II</td>
<td>4</td>
</tr>
<tr>
<td>MBC 3310</td>
<td>Med Chem I</td>
<td>3</td>
</tr>
<tr>
<td>MBC 3320</td>
<td>Med Chem II</td>
<td>3</td>
</tr>
<tr>
<td>MBC 3550</td>
<td>Physiol Chem I</td>
<td>3</td>
</tr>
<tr>
<td>MBC 3560</td>
<td>Physiol Chem II</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 3700</td>
<td>Pharmacology I</td>
<td>3</td>
</tr>
<tr>
<td>BIOE 2200</td>
<td>Biomaterials</td>
<td>3</td>
</tr>
<tr>
<td>ECON 4750</td>
<td>Health Economics</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 3720</td>
<td>Pharmacology II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3310</td>
<td>Analytical Chem</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 3360</td>
<td>Analytical Chem Lab</td>
<td>2</td>
</tr>
<tr>
<td>PHCL 4150</td>
<td>Biopharmaceutics/Kinetics</td>
<td>4</td>
</tr>
<tr>
<td>PHCL 4700</td>
<td>Pharmacology III</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4720</td>
<td>Pharmacology IV</td>
<td>3</td>
</tr>
<tr>
<td>PHPR 4550</td>
<td>Analysis of Pharm. Environment</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Biology Elective</td>
<td>3 or 4</td>
</tr>
<tr>
<td></td>
<td>UT Core Requirement</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Pharmaceutics &amp; General Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 3310</td>
<td>Analytical Chem</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 3360</td>
<td>Analytical Chem Lab</td>
<td>2</td>
</tr>
<tr>
<td>PHCL 4150</td>
<td>Biopharmaceutics/Kinetics</td>
<td>4</td>
</tr>
<tr>
<td>PHCL 4700</td>
<td>Pharmacology III</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4720</td>
<td>Pharmacology IV</td>
<td>3</td>
</tr>
<tr>
<td>PHPR 4550</td>
<td>Analysis of Pharm. Environment</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Pharmacy Elective</td>
<td>3 or 4</td>
</tr>
<tr>
<td></td>
<td>UT Core Requirement</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Pharmaceutics &amp; General Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

Required Core of Upper Division Program for Pharmacy Administration (PHAM) Option*

* Admission to the upper division requires a 2.5 cumulative and science GPA

### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBC 3310</td>
<td>Med Chem I</td>
<td>3</td>
</tr>
<tr>
<td>MBC 3320</td>
<td>Med Chem II</td>
<td>3</td>
</tr>
<tr>
<td>MBC 3550</td>
<td>Physiol Chem I</td>
<td>3</td>
</tr>
<tr>
<td>MBC 3560</td>
<td>Physiol Chem II</td>
<td>3</td>
</tr>
<tr>
<td>MBC 3800</td>
<td>Microbiology/Immunology</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 3700</td>
<td>Pharmacology I</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 3720</td>
<td>Pharmacology II</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 2040</td>
<td>Financial Acct Info</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 1020</td>
<td>Micro-Computer Appl Business</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Multicultural Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHCL 4700</td>
<td>Pharmacology III</td>
<td>3</td>
</tr>
<tr>
<td>PHCL 4720</td>
<td>Pharmacology IV</td>
<td>3</td>
</tr>
<tr>
<td>PHPR 4550</td>
<td>Analysis of Pharm Environment</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 3010</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 2060</td>
<td>Data Analysis for Business</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 3030</td>
<td>Management &amp; Behav Proc Orgs</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 3040</td>
<td>Principles of Financial Management</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Specialty Business Core requirements**</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Adviser-approved Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

**Specialty Business Core credits may be taken from the following list:

- HURM 3220 Human Resource Management       3
- ORGD 4780 Leadership Skills               3
- PSL 3440 Sales                           3
- PSL 4740 Sales                           3
- MKTG 4540 Business Marketing              3
- MKTG 4570 Product and Pricing Management  3

- BUAD 2070 Appl of Stat in Business Decisions  3
- BUAD 3020 Prin Manufacturing & Service Systems  3
- OPMT 3340 Quality Management               3

Criteria for B.S.P.S. Class Standing

<table>
<thead>
<tr>
<th>Year</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Earned less than 30 semester hours.</td>
</tr>
<tr>
<td>Second</td>
<td>Earned at least 30 semester hours, have a HEd GPA (as previously defined) of 2.5 or greater (based on the point average scale of A = 4.0) and enrolled for organic chemistry, physics and functional anatomy and pathophysiology.</td>
</tr>
<tr>
<td>Third</td>
<td>Earned at least 63 semester hours and officially accepted into the professional or the upper division.</td>
</tr>
<tr>
<td>Fourth*</td>
<td>Earned at least 101 semester hours and enrolled for PHCL 4150 and PHCL 4700.</td>
</tr>
</tbody>
</table>

* Pharm.D. Track

Note: 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 College of Pharmacy 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 professional division courses.

A student will only be permitted to take PHPR 1000 and 2010, and PHCL 2600 and 2620 in the College of Pharmacy until admitted to the professional or upper division. Only students admitted to the professional or upper division will be allowed to take 3000 or 4000 level courses in the college.
**College of Pharmacy Faculty**

**Department of Medicinal & Biological Chemistry**

**Julian A. Davies**, 1987*, distinguished university professor  
B.Sc., Imperial College of Sci. & Tech.; Ph.D., University of London

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

**Max O. Funk**, 1987*, professor  
B.S., Pennsylvania State University; Ph.D., Duke University

**Stephen L. Goldman**, 1987*, professor  
A.B., Brooklyn College; M.S., Ph.D., University of Missouri

**Channing L. Hinman**, 1985, associate professor  
B.S., Brigham Young University; Ph.D., University of California-Los Angeles

**Wayne P. Hoss**, 1985, professor and associate dean for research and graduate education  
B.S., University of Idaho; Ph.D., University of Nebraska

**Richard A. Hudson**, 1985, professor, interim vice provost for graduate education and dean of the graduate school  
B.A., Kalamazoo College; Ph.D., University of Chicago

**Jon R. Kirchhoff**, 1997*, associate professor  
B.A., State University of New York - Cortland; Ph.D., Purdue University

**Richard W. Komuniecki**, 1997*, professor  
A.B., Holy Cross College; M.S., Ph.D., University of Massachusetts

**Marcia F. McInerney**, 1991, associate professor and interim chair  
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

**Steven M. Peseckis**, 1994, associate professor  
B.S., Dartmouth College; Ph.D., Massachusetts Institute of Technology

**A. Alan Pinkerton**, 1987*, professor  
R.I.C., Brighton College of Technology; Ph.D., University of Alberta

**Joseph Schradie**, 1965, professor emeritus  
Pharm.D., M.S., Ph.D., University of Southern California; R.Ph.

A.B., Cornell University; Ph.D., University of California

**Katherine A. Wall**, 1991, associate professor  
B.S., Montana State University; Ph.D., University of California

**ASSOCIATED FACULTY**

**Graham J. Durant**, 1987, adjunct professor  
B.S., Ph.D., Birmingham University

**Wieslaw Klis**, 2001, research assistant professor  
Ph.D., University of Wroclaw

**Peter Nagy**, 1991, research associate professor  
Ph.D., Lorand Eotvos University of Sciences

**Jeffrey Sarver**, 2001, research assistant professor  
Ph.D., The University of Toledo

**L.M.V. Tillekeratne**, 1991, research professor  
D.Phil., Oxford University

**Department of Pharmacology**

**Kenneth A. Bachmann**, 1973, professor  
B.S. Pharm., Ph.D., The Ohio State University; R.Ph.

**James Byers**, 1998, assistant professor  
B.S.Ch.E, University of Maryland; M.S.Ch.E, Ph.D, The University of Toledo

**Johnnie L. Early II**, 2000, professor and dean  
B.S. Pharm., Mercer University; M.S., Ph.D., Purdue University; R.Ph.

**Robert B. Forney**, 1981*, associate professor (Medical College of Ohio and The University of Toledo)  
A.B., Ph.D., Indiana University

**Ezdihar A.M. Hassoun**, 1995, associate professor  
B.Sc. Pharm., University of Baghdad; Ph.D., University of Uppsala, Sweden

**Christine N. Hinko**, 1979, professor and associate dean of student affairs  
B.A., Clarion State College; Ph.D., The Ohio State University

**Boji Huang**, 1997, assistant professor  
M.D., First Medical School; M.S., University of Illinois - Champaign/Urbana; Ph.D., University of Texas

**William S. Messer Jr.**, 1985, professor and chair  
B.S., Springfield College; M.S., Ph.D., University of Rochester

**Robert J. Schlembach**, 1954, professor emeritus  
B.S. Pharm., The University of Toledo; M.Sc., Ph.D., Purdue University; R.Ph.

**Gerald P. Sherman**, 1978, professor  
B.Sc. Pharm., M.Sc., Ph.D., Philadelphia College of Pharmacy and Science; R.Ph.

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

* Joint appointment
ASSOCIATED FACULTY

David E. Albert, 1996, adjunct assistant professor
B.S. Pharm., The University of Toledo; M.S., Bowling Green State University; D.P.M., The Ohio State College of Podiatric Medicine

Department of Pharmacy Practice

Kenneth S. Alexander, 1972, professor
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.

Norman F. Billups, 1977, professor and dean emeritus
B.S. Pharm., M.S., Ph.D., Oregon State University; R.Ph.

Curtis D. Black, 1990, professor, interim chair and assistant dean for academic affairs
B.S. Pharm., The University of Toledo; M.S., Ph.D., Purdue University; R.Ph.

Marilyn C. Black, 1991, assistant professor
B.S. Pharm., The University of Toledo; R.Ph.

Diane M. Cappelletty, 2001, associate professor
B.S. Pharm., Pharm. D., The Ohio State University; R.Ph.

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

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

Monica G. Holiday-Goodman, 1988, associate professor
B.S. Pharm., Ph.D., Northeast Louisiana University; R.Ph.

Buford T. Lively, 1989, professor
B.S., West Virginia Institute of Technology; B.S. Pharm., West Virginia University; M.A., Marshall University; Ed.D. Pharm. Admin., West Virginia University; R.Ph.

Steven J. Martin, 1997, assistant professor
B.S. Pharm., Pharm.D., Ferris State University; R.Ph.

Laurie S. Mauro, 1985, associate professor
B.S. Pharm., Ohio Northern University; Pharm.D., The Ohio State University; R.Ph.

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

Linda McCall, 1998, assistant professor
B.S. Pharm., The University of Toledo; Pharm.D., Purdue University; R.Ph.

William P. Mies, 1972, assistant professor emeritus
B.S. Pharm., The University of Toledo; M.S., Ph.D., University of Michigan; R.Ph.

Walter W. Siganga, 1991, associate professor
B.S. Pharm., Howard University; M.S., The Ohio State University; Ph.D., University of Maryland; R.Ph.

* Joint appointment

ASSOCIATED FACULTY

Anne Baciewicz, 1986, adjunct associate professor
B.S. Pharm., Albany College of Pharmacy; Pharm.D., Medical University of South Carolina; R.Ph.

Deb Bakle, 1996, adjunct instructor
B.S. Pharm., The University of Toledo; R.Ph.

Pamela J. Black, 1996, adjunct assistant professor
B.S. Pharm., Pharm.D., The University of Toledo; R.Ph.

Mary Beth Bobek, 1996, adjunct assistant professor
Pharm.D., University of Michigan; R.Ph.

Ernest E. Boyd, 1993, adjunct professor
B.S. Pharm., Butler University; M.B.A., Indiana University; R.Ph.

Donna Capozzi, 1997, adjunct assistant professor
B.S. Pharm., Rutgers University; Pharm.D., Philadelphia College of Pharmacy and Science; R.Ph.

Riaz N. Chaudhary, 1997, adjunct assistant professor of clinical pharmacy
B.S., M.B., King Edward Medical College; M.D.

John Chudzinski, 1993, adjunct instructor
B.S. Pharm., The University of Toledo; R.Ph.

Marigel Constantiner, 1997, adjunct assistant professor of clinical pharmacy
B. S. Pharm., University of Puerto Rico; M.S., Purdue University; R.Ph.

Ronald Cowan, 1980, adjunct assistant professor
B.S., University of Washington; Pharm.D., University of California; R.Ph.

Tracy Dankoff, 1988, adjunct assistant professor
B.S. Pharm., Pharm.D., Duquesne University; R.Ph.

Karen Durniat, 1997, adjunct assistant professor
B.S.N., The University of Toledo; M.S.N., Medical College of Ohio; C.S.

Cynthia M. Dusik, 1992, adjunct assistant professor
B.S. Pharm., Pharm.D., University of Illinois - Chicago; R.Ph.

Eugene R. Eavy, 1997, adjunct instructor
B.S. Pharm., University of Michigan; M.B.A., Eastern Michigan University; R.Ph.

Alton Farmer, 1996, adjunct assistant professor
B.S. Pharm., The University of Toledo; R.Ph.

Petra Flannigan, 1997, adjunct assistant professor
Pharm.D., University of Illinois - Chicago; R.Ph.
Patricia F. Flores, 1997, adjunct assistant professor
Pharm.D., University of North Carolina; R.Ph.

Elizabeth Forrence, 1987, adjunct assistant professor
B.Sc., Albany University; Pharm.D., Philadelphia College of Pharmacy and Science; R.Ph.

Lawrence A. Frazee, 1993, adjunct assistant professor
B.S. Pharm., Pharm.D., The University of Toledo; R.Ph.

Paul A. Fritz, 1981, adjunct associate professor
B.A., Capital University; M.Div., Trinity Seminary; M.A., Ph.D., Bowling Green State University

Matthew A. Fuller, 1986, adjunct associate professor
B.Sc. Pharm., Ohio Northern University; Pharm.D., University of Cincinnati; R.Ph.

Morton Goldman, 1985, adjunct assistant professor
B.Sc. Pharm., University of Pittsburgh; Pharm.D., University of Cincinnati; R.Ph.

James H. Granecki, 1994, adjunct assistant professor
B.S. Pharm., J.D., The University of Toledo; R.Ph.

Helen Gutierrez, 1997, adjunct instructor
B.S. Pharm., The University of Toledo; R.Ph.

Herb Halley, 1991, adjunct assistant professor
B.S. Pharm., Pharm.D., Purdue University; R.Ph.

Marcus Haug, 1997, adjunct professor
B.Sc. Pharm., M.Sc. Hospital Pharmacy, North Dakota State University; Pharm.D., Purdue University; R.Ph.

Verneda A. Hawkins, 1993, adjunct assistant professor of clinical pharmacy
B.S. Pharm., University of Cincinnati; Pharm.D., University of Kentucky; R.Ph.

Lisa Hoisington, 1986, adjunct associate professor
B.S. Pharm., Pharm.D., University of Missouri; R.Ph.

William L. Horvath, 1991, adjunct professor
M.D., Temple University

Cloyd D. Jacobs, 1995, adjunct assistant professor
B.S., Oklahoma State University; B.S. Pharm., University of Oklahoma; M.B.A., Augusta College

Tony Jinks, 1996, adjunct assistant professor
B.S. Pharm., Pharm.D., Purdue University; R.Ph.

Maurice E. Jones, 1981, adjunct associate professor
B.Sc. Pharm., University of North Carolina; Pharm.D., University of Michigan; R.Ph.

James Klepcyk, 1979, adjunct professor
B.S. Pharm., The University of Toledo; M.S., The Ohio State University; R.Ph.

Linda Kosakowski, 1995, adjunct instructor
B.S. Pharm., The University of Toledo; R.Ph.

Jan Kover, 1996, adjunct assistant professor
B.S. Pharm., The University of Toledo; R.Ph.

Frank Krivanek, 1995, adjunct assistant professor
B.S. Pharm., M.S. Hospital Pharmacy Administration, The Ohio State University; R.Ph.

Kay S. Kyllonen, 1986, adjunct associate professor
B.S. Pharm., St. Louis College of Pharmacy; Pharm.D., University of Kentucky; R.Ph.

Alice C. Leone, 1989, adjunct instructor
B.S. Pharm., The Ohio State University; R.Ph.

Jeffrey D. Lewis, 1991, adjunct assistant professor
B.S. Pharm., Ohio Northern University; Pharm.D., University of Cincinnati; R.Ph.

Kewal K. Mahajan, 1993, adjunct assistant professor
M.B., B.S., Government Medical College; M.D., Institute of Medical Education and Research

Celeste Marx, 1993, adjunct assistant professor
Pharm.D., University of California; R.Ph.

Mary Sue McAslan, 1996, adjunct assistant professor
B.S. Pharm., Xavier University of Louisiana; R.Ph.

Michael B. McKeown, 1988, adjunct assistant professor
B.S. Pharm., The University of Toledo; R.Ph.

Rich Meinke, 1988, adjunct assistant professor
B.S. Pharm., Ohio Northern University; R.Ph.

Stephen A. Mendel, 1986, adjunct assistant professor
B.S. Pharm., The University of Toledo; Pharm.D., University of Cincinnati; R.Ph.

James B. Metzger, 1992, adjunct assistant professor
B.A., Harvard University; M.D., Johns Hopkins University

Steve Meyer, 1991, adjunct assistant professor
B.S. Pharm., M.S., The University of Toledo; R.Ph.

Paul Michaels, 1988, adjunct assistant professor
B.S. Pharm., The University of Toledo; Pharm.D., The Ohio State University; R.Ph.

Greg Milanich, 1996, adjunct assistant professor
B.S. Pharm., Ohio Northern University; R.Ph.

Todd Nesbit, 1996, adjunct assistant professor
B.S. Pharm., Ohio Northern University; Pharm.D., The Ohio State University; R.Ph.

Suzanne Nesbit, 1996, adjunct assistant professor
B.S. Pharm., Ohio Northern University; Pharm.D., The Ohio State University; R.Ph.
Deborah Newberry, 1994, adjunct instructor
B.S. Pharm., Butler University; R.Ph.

William Owad, 1988, adjunct associate professor
B.S. Pharm., M.B.A., The University of Toledo; R.Ph.

Doug Parr, 1993, adjunct assistant professor
B.S., Michigan State University; Pharm.D., University of Michigan; R.Ph.

Michael L. Piccolo, 1996, adjunct assistant professor
B.S., Texas A & M University; Pharm.D., The University of Texas; R.Ph.

Rob Plant, 1991, adjunct assistant professor
B.S. Pharm., University of Wisconsin; Pharm.D., Purdue University; R.Ph.

Michael Powell, 1991, adjunct associate professor
B.S. Pharm., The Ohio State University; M.S., University of Maryland; R.Ph.

Randy Pryka, 1989, adjunct associate professor
B.S. Pharm., The University of Toledo; Pharm.D., University of Utah; R.Ph.

James L. Pullella, 1983, adjunct associate professor
B.A., The University of Toledo; M.P.H., University of Michigan

Michael Reed, 1993, adjunct associate professor
B.S. Pharm., Pharm.D., University of Cincinnati; R.Ph.

W. Edward Ruth, 1993, adjunct instructor
B.S. Pharm., The Ohio State University; R.Ph.

Gregory Schepers, 1995, adjunct assistant professor
B.S. Pharm., North Dakota State University; Pharm.D., University of Michigan; R.Ph.

Joseph Schiavone, 1993, adjunct instructor
B.S. Pharm., Ohio Northern University; B.A., Walsh College; R.Ph.

Rob Shulman, 1992, adjunct instructor
B.S. Pharm., The University of Toledo; R.Ph.

Steven R. Smith, 1991, adjunct assistant professor
B.S. Pharm., Ohio Northern University; M.S., The University of Toledo; R.Ph.

Edwin J. Soeder, 1982, adjunct field professor
B.S. Pharm., The University of Toledo; R.Ph.

Rex A. Speerhus, 1993, adjunct assistant professor
B.S. Pharm., Duquesne University; R.Ph.

Thomas Stavenger, 1996, adjunct assistant professor
B.S. Pharm., University of Minnesota; R.Ph.

Richard Stewart, 1997, adjunct instructor of clinical pharmacy
B.S. Pharm., University of Kentucky; R.Ph.

Edward W. Strubel III, 1993, adjunct assistant professor
B.S. Pharm., Pharm.D., Purdue University; R.Ph.

Michael L. Thomas, 1995, adjunct instructor
B.S. Pharm., The University of Toledo; R.Ph.

Thomas J. Thompson, 1994, adjunct assistant professor
B.S. Pharm., University of Connecticut; M.S., The Ohio State University; M.B.A., Bowling Green State University; R.Ph.

Sandra Tolbert, 1987, adjunct assistant professor
B.S. Pharm., Pharm.D., University of Kentucky; R.Ph.

Keith W. Trettin, 1996, adjunct assistant professor
B.S. Pharm., M.B.A., The University of Toledo; R.Ph.

Mary Elizabeth Usalis, 1997, adjunct assistant professor of clinical pharmacy
Pharm. D., Creighton University; R.Ph.

Nancy E. Vendrell, 1996, adjunct assistant professor
B.S. Pharm., Duquesne University; Pharm.D., Medical University of South Carolina; R.Ph.

David Waller, 1981, adjunct associate professor
B.S. Pharm., The University of Toledo; M.S., The Ohio State University; R.Ph.

Cynthia Whalen, 1995, adjunct assistant professor
B.S. Pharm., Pharm.D., University of Kentucky; R.Ph.

Ethel M. Wilcox, 1980, adjunct professor
B.A., Southern Oregon College; M.S., Ph.D., Bowling Green State University

Melvin T. Wilczynski, 1982, adjunct instructor
B.S. Pharm., The University of Toledo; R.Ph.

Laura Wilson, 1996, adjunct assistant professor
Pharm.D., University of Illinois - Chicago; R.Ph.
Externship Faculty — Clinical Training Specialists

Lynn Abbott, R.Ph.
Rich Abel, R.Ph.
Mary Abraham, R.Ph.
Joe Adams, R.Ph.
Jeannie Alexander, R.Ph.
Marshall Allan, R.Ph.
Thomas Altenberger, R.Ph.
Kamal Amin, R.Ph.
Charles Anderson, R.Ph.
Thomas Arkwright, R.Ph.
Steve Armatas, R.Ph.
William Armbrrecht, R.Ph.
Dave Augustine, R.Ph.
Susan Ayers, R.Ph.
Norman Bacik, R.Ph.
Misty Baehr, R.Ph.
James Baker, R.Ph.
Elizabeth Baishnab, R.Ph.
Deb Bakle, R.Ph.
Elizabeth Baishnab, R.Ph.
Michael Calabrese, R.Ph.
Nadia Buzky, R.Ph.
Michael Burke, R.Ph.
Craig Buell, R.Ph.
Lori Bettinger, R.Ph.
Bruce Biggin, R.Ph.
Larry Brach, R.Ph.
JoAnne Brickner, R.Ph.
Karen Beard, R.Ph.
Thomas Baron, R.Ph.
Kenneth Barker, R.Ph.
Kara Balash, R.Ph.
Deb Bakle, R.Ph.
Elizabeth Baishnab, R.Ph.
James Baker, R.Ph.
Norman Bacik, R.Ph.
Misty Baehr, R.Ph.
James Baker, R.Ph.
Elizabeth Baishnab, R.Ph.
Michael Calabrese, R.Ph.
Nadia Buzky, R.Ph.
Michael Burke, R.Ph.
Craig Buell, R.Ph.
Lori Bettinger, R.Ph.
Bruce Biggin, R.Ph.
Larry Brach, R.Ph.
JoAnne Brickner, R.Ph.
Karen Beard, R.Ph.
Thomas Baron, R.Ph.
Kenneth Barker, R.Ph.
Kara Balash, R.Ph.
Deb Bakle, R.Ph.
Elizabeth Baishnab, R.Ph.
James Baker, R.Ph.
Norman Bacik, R.Ph.
Misty Baehr, R.Ph.
James Baker, R.Ph.
Elizabeth Baishnab, R.Ph.
Michael Calabrese, R.Ph.
Nadia Buzky, R.Ph.
Michael Burke, R.Ph.
Craig Buell, R.Ph.
Lori Bettinger, R.Ph.
Bruce Biggin, R.Ph.
Larry Brach, R.Ph.
JoAnne Brickner, R.Ph.
Karen Beard, R.Ph.
Thomas Baron, R.Ph.
Kenneth Barker, R.Ph.
Kara Balash, R.Ph.
Deb Bakle, R.Ph.
Elizabeth Baishnab, R.Ph.
James Baker, R.Ph.
Norman Bacik, R.Ph.
Misty Baehr, R.Ph.
David Miskell, R.Ph.
Kevin Mitchell, R.Ph.
Margaret Morgenstern, R.Ph.
Jamie Murphy, R.Ph.
John Mytrysak, R.Ph.
Jeffery Neidig, R.Ph.
Robert W. Nesbit, R.Ph.
Larry Neuber, R.Ph.
Karen Newberg, R.Ph.
Debbie Newberry, R.Ph.
Char Newmister, R.Ph.
Dennis Nisbett, R.Ph.
Dan Ngur, R.Ph.
Eloise Norwood, R.Ph.
Daniel Nowak, R.Ph.
John Nygard, R.Ph.
Tom Ohliger, R.Ph.
Martin Ohlinger, Pharm.D.
Kate O’Lenic, R.Ph.
Joe O’Leary, R.Ph.
Mary Beth O’Malley, R.Ph.
Samuel Ontko, R.Ph.
Kara Otto, R.Ph.
Robert Ostafi, R.Ph.
Rosemarie Pacer, R.Ph.
Patricia Pacheco, Pharm.D.
Doug Parr, R.Ph.
Andrea Pavlich, R.Ph.
Lisa Pawliski, R.Ph.
Stacy Petot, R.Ph.
Amy Pettaway, R.Ph.
Cash Pixley, R.Ph.
Ruth Plant, R.Ph.
Jim Posendek, R.Ph.
Mary Powers, R.Ph.
Tammy Powesland, R.Ph.
Ken Prayzer, R.Ph.
Cindy Puffer, R.Ph.
Jonathan Pugacz, R.Ph.
Helen Puskas, R.Ph.
Terri Radecki, R.Ph.
Karen Ramirez, R.Ph.
Kim Ranly, R.Ph.
Sandy Reid, R.Ph.
Eric Remsler, R.Ph.
Lucy Ribelin, R.Ph.
William Ribich, R.Ph.
Lisa Richard, R.Ph.
Martin Richards, R.Ph.
Norman Riggs, R.Ph.
Jeff Rinda, R.Ph.
John Ritner, R.Ph.
Daphne Roan, R.Ph.
Helene Robinson, R.Ph.
Kathy Robinson, R.Ph.
Darlene Rubin, R.Ph.
Garry Saccone, R.Ph.
Tom St. Aubin, R.Ph.
Bilal Salim, R.Ph.
Matthew Samari, R.Ph.
Paul Samenuk, R.Ph.
Carolyn Saunders, R.Ph.
Hala Sfeir Scaravelli, R.Ph.
Sue Scarbrough, R.Ph.
Dave Scardina, R.Ph.
Kelli Schafer, R.Ph.
Marcia Schettler, R.Ph.
Joe Schiavone, R.Ph.
Karel Schieferstein, R.Ph.
Charles Schlembach, R.Ph.
Jeannine Schreiber, Pharm.D.
Wendy Schultz, R.Ph.
Joseph Sciulli, R.Ph.
Daniel Scott, R.Ph.
Sherry Scotton, R.Ph.
Jeffrey Sessler, R.Ph.
Nancy Severt, R.Ph.
Michael Shaffer, R.Ph.
Karen Sheehan, R.Ph.
Shauna Shepherd, R.Ph.
Don Sheiroian, R.Ph.
Barry Shick, R.Ph.
Rob Shulman, R.Ph.
Paul Skodny, R.Ph.
Anne Slusher, R.Ph.
Craig Small, R.Ph.
Bennett Smith, R.Ph.
Linda Smith, R.Ph.
Michael Smith, R.Ph.
Val Smith, R.Ph.
Joe Smolinski, R.Ph.
Ed Soeder, R.Ph.
Janet Specker, R.Ph.
Kristine Steinert, R.Ph.
Greg Steinkерchner, R.Ph.
James Stevenson, R.Ph.
Floyd Steward, R.Ph.
Craig Stinard, R.Ph.
David Stoneman, R.Ph.
George Stoyanovich, R.Ph.
David Susa, R.Ph.
Paul Svabik, R.Ph.
Ellen Swartz, R.Ph.
Kelly Swearingen, R.Ph.
Jacquelyn Szink, R.Ph.
Michael Szymanski, R.Ph.
James Szyskowski, R.Ph.
Antoinette Tabor, R.Ph.
Brian Taffin, R.Ph.
Kathy Taylor, R.Ph.
Susan Thabit, R.Ph.
Mike Thomas, R.Ph.
Russ Thomas, R.Ph.
James Thompson, R.Ph.
Carol Timm, R.Ph.
Janet Titkemeier, R.Ph.
Tom Titkemeier, R.Ph.
James Toohey, R.Ph.
Robert Traffis, R.Ph.
Janet Trease, R.Ph.
Todd Tuttle, R.Ph.
Matt Treadway, R.Ph.
Tuan Tu, R.Ph.
John R. Ulrich, Pharm.D.
Al Varney, R.Ph.
Leslie Vassar, R.Ph.
Nancy VenDrell, Pharm.D.
Jean Venn, R.Ph.
May Lou Vivano, R.Ph.
David Vogan, R.Ph.
Susan Waldecker, R.Ph.
Dave Waller, R.Ph.
Ami Marie Walsh, R.Ph.
David Ward, R.Ph.
Susan Ward, R.Ph.
Mike Warren, R.Ph.
Dan Wearsch, R.Ph.
Jennifer Wearsch, R.Ph.
Mary Lou Wiles, R.Ph.
Lisa Wilson, R.Ph.
Lisa Wincek, R.Ph.
Virginia Wise, R.Ph.
Lisa Wojtowicz, R.Ph.
Mark Wolfe, R.Ph.
Jeanette Woodruff, R.Ph.
Linda Wu, Pharm.D.
Denise Youngen, R.Ph.
Abby Zaia, R.Ph.
Kent Zellner, R.Ph.
Gary Zimmerman, R.Ph.
Amy Zobler, R.Ph.
Hala Sfeir Scaravelli, R.Ph.