

Curriculum

For Standards 9-15:

Use a check to indicate the information evaluated to assess the standards in this section:

- Description of the professional competencies of the Curriculum. (9)
- Licensing statistics of graduates (e.g., North American Pharmacist Licensure Examination™ (NAPLEX®) and Multistate Pharmacy Jurisprudence Examination® (MPJE®)) for the last 5 years including first-time pass rates and competency area scores. (9, 15)

- Description of the curricular structure. (10)
- Demonstrate how both the didactic and experiential components meet the Standards for core curriculum and IPPE and APPEs in regard to percentage of curricular length. (10)
- Description of how the results of curricular assessments are used to improve the curriculum. (10)
- Demonstrate how the components and contents of the curriculum are linked to the expected competencies and outcomes through curricular mapping or other techniques. (10)
- Description of any nontraditional pathway(s) leading to the Doctor of Pharmacy degree. **(If Applicable)**(10)
- Description of the members of the Curriculum Committee (or equivalent) and charges in the last academic year. (10)

- Description of teaching and learning methods used in the curriculum, including nontraditional pathway(s) leading to the Doctor of Pharmacy degree (if applicable). (11)
- Description of efforts to address the diverse learning needs of students. (11)
- Data that link teaching-and-learning methods with curricular outcomes (Standards 3, 10 and 15). (11)
- Examples of instructional tools, such as portfolios (**to be made available on-site**), used by students to assist them in assuming responsibility for their own learning and for measuring their achievement. (11, 15)
- Description of both formative and summative assessments used to evaluate teaching and learning methods used in the curriculum, including nontraditional pathway(s) leading to the Doctor of Pharmacy degree (**if applicable**) (Standards 3, 10 and 15). (11)

- List of the professional competencies and outcome expectations for the professional program in pharmacy. (12)
- Examples of didactic and experiential course syllabi, including stated outcomes related to desired competencies (**to be made available on-site**). (12, 13)
- Description of the assessment measures and methods used to evaluate achievement of professional competencies and outcomes along with evidence of how feedback from the assessments is used to improve outcomes (Standards 3, 9, 10 and 15). (12)

- Description of the curricular structure and content of all curricular pathways. (13)
- Description of how the curricular content for all curricular pathways is linked to Appendix B of Standards 2007 through mapping or other techniques. (13)
- Examples of assessment and documentation of student performance and the attainment of desired core knowledge, skills and values (Standards 3, 9, 10 and 15). (13)
- Evidence that knowledge, practice skills and professional attitudes and values are integrated, reinforced and advanced throughout the curriculum, including the pharmacy practice experiences. (13)

- Introductory and advanced pharmacy practice experience manuals, including assessment forms (**to be made available on-site**). (14)
- List of introductory and advanced pharmacy practice experience sites and locations offered in the previous academic year, with sites affording student interactions with other health care professionals designated. (14)
- The objectives for each required pharmacy practice experience and the responsibilities of the student, preceptor, and site. (14)
- Examples of assessment and documentation of student performance, nature and extent of patient and health care professional interactions, and the attainment of desired outcomes (Standards 3, 9, 10 and 15). (14)
- List of current preceptors with details of credentials (including licensure) and practice site. (14)
- Description of how the aggregate experiential programs address students having direct interactions with diverse patient populations in a variety of health care settings. (14)

- ☑ Aggregate data from students about the type (diverse) and number of patients, problems encountered, and interventions. (14)
- ☑ Evidence of assuring, measuring, and maintaining quality of the site. (14)
- ☑ Examples of quality improvement as a result of the practice site assessments. (14)

- ☑ Description of assessment measures used to evaluate student learning and curricular effectiveness. (15)
- ☑ Examples of assessment instruments and activities employed, including comparisons with national data and, if desired, selected peer-group programs (include a description of the basis for the peer-group selection) and trends over time (Standard 3, 9 and 10). (15)
- ☑ Examples of how assessment data has been used to improve student learning and curricular effectiveness (Standards 3,9 and 10). (15)
- ☑ Assessments of teaching-and-learning methods used in the curriculum, including nontraditional pathway(s) leading to the Doctor of Pharmacy degree (if applicable) Standards 3, 9, and 10). (15)
- ☑ Assessment measures and methods to evaluate achievement of professional competencies and outcomes (Standards 3, 9, 10 and 12). (15)

- ☑ Interpretation of the data from the AACP Surveys of Students, Faculty, Preceptors and Alumni.
- ☑ Raw data from the AACP Surveys of Students, Faculty, Preceptors and Alumni.
- ☑ Other documentation or data that provides evidence of meeting the standard.

Standard 9: The Goal of the Curriculum:

The college or school's professional degree program curriculum must prepare graduates with the professional competencies to enter pharmacy practice in any setting to ensure optimal medication therapy outcomes and patient safety, satisfy the educational requirements for licensure as a pharmacist, and meet the requirements of the university for the degree.

The curriculum must develop in graduates knowledge that meets the criteria of good science;² professional skills, attitudes, and values; and the ability to integrate and apply learning to both the present practice of pharmacy and the advancement of the profession. Graduates must be able to identify and implement needed changes in pharmacy practice and health care delivery.

1) Description of Compliance:

The mission of the COP is to educate future healthcare professionals to meet the diverse pharmaceutical care needs of the people of Louisiana and to serve the profession of pharmacy through a balanced program of education, research, service and patient care. The entry level Doctor of Pharmacy curriculum is an integration of basic, pharmaceutical, clinical and administrative sciences that ensures the development of professional and general education abilities to prepare practitioners to effectively provide pharmaceutical care in a changing profession. Consistent with the educational philosophy of the University, the educational process is based on a student-centered approach that values life-long learning and the development of complex problem-solving skills. Students must demonstrate a commitment to developing life-long learning habits, the abilities required for a competent and contemporary patient-centered pharmacy practice, and behaviors and attitudes necessary for professional and practice growth and development.

The current PharmD curriculum was developed based on the 1998 Educational Outcomes of the AACP Center for the Advancement of Pharmaceutical Education (CAPE), ([Appendix 9-1](#)). The College is in the process of a major curricular revision that started with the development of a new set of measurable competencies. These competencies are enumerated in Standard 10 and may be found in [Appendix 9-2](#).

The formal education process in administrative and basic pharmaceutical sciences serves as a foundation of pharmacy education on which practice pharmacy programs are built. Courses are based on the pedagogical concept of "bench-to-bedside" and drug discovery process. Administrative science courses focus on professional practice management, healthcare delivery systems, patient communication, legal and ethical issues and pharmacoconomics. Medicinal chemistry courses are designed with the idea of learning the importance of biologically active molecular structures with

² "Good science" implies having the following characteristics: evidence-based, logical, convincing, explanatory, honest, testable, and systematic.

properties suitable for pharmacotherapy, shelf-life and chemical pathway for drug metabolism. Pharmacology and toxicology courses are designed to understand the action of drugs at the receptor targets and their toxic effects on the body. Pharmaceutics courses are designed to deal with kinetics of drug disposition in the body based on physiochemical properties. Applications of these principles are discussed to help students make effective decisions during drug therapy.

An early focus on professional skills, attitudes and values is integrated into the curriculum to increase students' commitment to professionalism. Students are introduced to patient care through service learning and introductory pharmacy practice experiences (IPPE). Service learning occurs throughout the first three academic years, and introductory practice experiences occur during the summers between the first and second years and the second and third years. Reflection assignments and preceptor evaluations are used throughout the early experiences for assessment.

Upon successful completion of all didactic coursework and early experiences, students begin an eight-month series of advanced pharmacy practice experiences (APPE). During these experiences, students are expected to interact with both healthcare providers and patients to ensure that safe and effective pharmaceutical care is provided to every patient. Students are mentored by faculty or preceptors who are certified by the COP Office of Experiential Education (OEE) to ensure that students appreciate, model, and internalize the need for professionalism and ethical behavior.

Students are made aware of health care disparities early in the curriculum. Issues concerning cultural diversity and health care disparities are interspersed throughout the curriculum and reinforced through experiential learning. Based on survey data, more than 90% of preceptors agreed that their practice sites provide interactions with diverse patient populations ([Appendix 6-1](#)) and 91% of graduating students indicated that their pharmacy practice experiences permitted them to have direct interaction with diverse patient populations ([Appendix 6-2](#)).

The philosophy, mission, goals, and outcomes of the PharmD program support compliance with Standard 9. National Pharmacist Licensure Examination (NAPLEX) pass rates at or above the national average for four of the past five years indicate that the curriculum is achieving its goal ([Appendix 9-3](#)). Multi-State Pharmacy Jurisprudence Exam (MPJE) pass rates have been greater than 88% in four of the past five years ([Appendix 9-4](#)). Of the respondents completing the [Students](#), [Faculty](#) and [Preceptor](#) Surveys, the majority responded positively with respect to curricular outcomes. In particular, 100% of graduating [students](#) who responded to the survey were aware of expected

behaviors with respect to professional conduct and 100% of [alumni](#) and 96% of [preceptors](#) felt that the PharmD program prepared students to exhibit professional attitudes and behaviors.

Graduates responding to the [alumni](#) survey indicate that they work in all areas of the profession. Forty-one percent of respondents work in chain-community pharmacies, 6% in independent community pharmacies, 43% in hospital pharmacies, 4% in academia, and 6% in other areas. Ninety-six percent of graduating students agree or strongly agree that they are prepared to enter pharmacy practice ([Appendix 6-2](#)).

2) Checklist:

	Ok	N.I.
The college or school's professional degree program curriculum prepares graduates with the professional competencies to enter pharmacy practice in any setting to ensure optimal medication therapy outcomes and patient safety, satisfies the educational requirements for licensure as a pharmacist, and meets the requirements of the university for the degree. Including: <ul style="list-style-type: none"> The ability to provide patient care in cooperation with patients, prescribers, and other members of an interprofessional health-care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, cultural, economic, and professional issues, emerging technologies, and evolving biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences that may impact therapeutic outcomes. The ability to manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel, to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use. The ability to promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers. 	●	○
The curriculum develops in graduates knowledge that meets the criteria of good science; professional skills, attitudes, and values; and the ability to integrate and apply learning to both the present practice of pharmacy and the advancement of the profession.	●	○
Graduates are able to identify and implement needed changes in pharmacy practice and health care delivery.	●	○
In developing knowledge, skills, attitudes, and values in students, the college or school ensures that the curriculum fosters the development of professional judgment and a commitment to uphold ethical standards and abide by practice regulations.	●	○
The college or school ensures that the curriculum addresses patient safety, cultural competence, health literacy, health care disparities, and competencies needed to work as a member of or on an interprofessional team.	●	○
The curriculum encompasses content, instructional processes, course delivery, and experiential education.	●	○
The college or school has addressed the guidelines for this standard.	●	○

3) Comments:

Although ULM's NAPLEX pass rate in 2002 was below the national average, the candidates taking this exam included both BS and PharmD graduates. Since students who obtained the BS degree were not educated under the PharmD curriculum, the testing data for that year is not an

accurate assessment of the PharmD curriculum. Furthermore, pass rates of ULM graduates have been above the national average since the updated blueprint and new NAPLEX passing standard were enacted in May 2005.

Pass rates on the Multistate Pharmacy Jurisprudence Examination also indicate similar success. ULM pass rates were above the national average in 7 of 10 reporting periods from 2002 to 2006. Two of the three periods in which ULM pass rates were below the national average were January to June 2002 and January to June 2003—periods in which there were a significant number of BS graduates taking the exam. Therefore, as with the NAPLEX exam, the testing data for these periods may not be an accurate assessment of the PharmD curriculum.

The COP collaborated with colleagues in the ULM College of Health Sciences and the Department of Foreign Languages to offer Spanish 104, a foreign language course for students in health care professions. All students in the PharmD program who meet the course prerequisites have the opportunity to enroll in this University-wide elective course, better preparing them to narrow the gap in providing drug education to Spanish-speaking patients.

Currently, the pre-pharmacy curriculum requires students to complete at least seventy hours of courses, including courses in the biologic and physical sciences as well as in English and in other humanities classes. This curriculum will be replaced after the next admission cycle by a three-year pre-pharmacy curriculum that will complement the new professional curriculum to be instituted in August 2009 for the class of 2013.

4) Quality Improvements:

Alumni Survey data ([Appendix 9-6](#)) indicate that curricular components addressing medication errors should be enhanced. However, preceptor ([Appendix 6-1](#)) and student survey results ([Appendix 6-2](#)) are not in agreement. This component of the curriculum should be reviewed and monitored for improvement.

5) Final Evaluation:

Meets the Standard	Partially Meets the Standard	Does Not Meet the Standard
<p>Faculty are able to discuss the goal and philosophy of the curriculum NAPLEX Pass rates are not lower than 2 standard deviations below the national mean. Graduates work in all areas of the profession (e.g. not all in hospitals or community settings).</p> <p><input checked="" type="checkbox"/> Meets the Standard</p>	<p>The goal of the curriculum is poorly communicated or understood among the faculty and administration (e.g., the dean and department heads, know about it, but not the faculty). Graduates are directed toward one particular practice (e.g. community pharmacy) to the exclusion of others. NAPLEX scores are significantly inconsistent from year to year. The college or school has a plan and is in the process of addressing all issues related to not meeting the requirements of this standard.</p> <p><input type="checkbox"/> Partially Meets the Standard</p>	<p>NAPLEX scores of students are 2 or more standard deviations below the national mean (refer to ACPE policy). Graduates have difficulty securing employment of choice or suffer from low employment rates. Students do not exhibit professional attitudes, values and behaviors. Employers or state boards of pharmacy indicate that students are unprepared for practice.</p> <p><input type="checkbox"/> Does Not Meet the Standard</p>

Standard 10: Curricular Development, Delivery, and Improvement:

The college or school's faculty must be responsible for the development, organization, delivery, and improvement of the curriculum. The curriculum must define the expected outcomes and be developed, with attention to sequencing and integration of content and the selection of teaching and learning methods and assessments. All curricular pathways must have both required and elective courses and experiences and must effectively facilitate student development and achievement of the professional competencies.

The curriculum for the professional portion of the degree program must be a minimum of four academic years or the equivalent number of hours or credits. The curriculum must include didactic course work to provide the desired scientific foundation, introductory pharmacy practice experiences (not less than 5% of the curricular length) and advanced pharmacy practice experiences (not less than 25% of the curricular length).³

1) Description of Compliance:

The [PharmD Program](#) is a four-year professional program composed of 132 credit hours and includes 92 required didactic credit hours, 10 elective didactic credit hours and 30 experiential credit hours. Of the experiential credit hours, six are IPPE hours and 24 are APPE hours.

During the first professional (P1) year, the student is introduced to basic biomedical/pharmaceutical sciences, pharmacy practice management, medical literature evaluation and professional ethics. Service learning and an IPPE in the community setting are required. The second professional (P2) year incorporates pharmacy practice courses in addition to basic pharmaceutical science, experiential and service learning courses. The third professional (P3) year completes the didactic training and includes pharmacy practice, administrative, and service learning. The final year (P4) is comprised of full-time advanced pharmacy practice experiences, including community, institutional, ambulatory care, acute care, and elective settings.

The COP has a standing curriculum committee consisting of students and faculty representing all disciplines with members from the main campus as well as from both satellite campuses. The primary function of the committee is to oversee curricular issues, review data provided by the Assessment Committee, recommend curricular changes and review new course offerings. Curricular revisions are presented to the faculty for discussion and approval. In this process, all faculty have input into curricular decisions.

In March of 2005, the faculty voted overwhelmingly in favor of a major pharmacy curriculum analysis and redesign. During the past three years, the curriculum committee has worked toward completely redesigning the professional curriculum. The curriculum committee and administration hoped to have the new professional curriculum designed and approved for implementation in the fall of 2008. However, this goal was revised in April 2007, with the new date for implementation set for

³ Refer to Standards 13 and 14 and Appendices B and C for additional detail and guidance.

the fall of 2009. To reach this goal, the curriculum committee has held multiple retreats and regular meetings and is currently meeting twice per month.

To complete the charge, the curriculum committee began by writing and refining a set of seven competency statements, or educational outcomes. These educational outcomes, which define expectations for a graduate of the COP, are: 1) provide comprehensive patient specific pharmaceutical care; 2) communicate effectively; 3) appropriately manage and use resources of the healthcare system; 4) identify, interpret, and evaluate literature needed for the provision of drug information and pharmaceutical care; 5) promote health improvement and self care; 6) think critically; and 7) demonstrate appropriate interpersonal, professional, and ethical behaviors. These outcomes were further defined to drive curricular design ([Appendix 9-2](#)).

Once the educational outcomes were completed, the pre-pharmacy curriculum was re-engineered, thus giving the professional program a new base from which to develop. The [new pre-pharmacy](#) curriculum is found on page 137 of the ULM catalog. Students completing the pre-pharmacy requirements are encouraged to do so in conjunction with the pursuit of a four-year degree. The pre-pharmacy curriculum, completed in February 2006, was approved unanimously by COP faculty. The pre-pharmacy program will transition into the three-year requirements in 2008 and will become mandatory in 2009. During the transition year in 2008, students completing the three-year requirements will be accepted preferentially, and only students completing the three-year requirements will be accepted for admission in 2009.

The committee is currently involved in the next stages of curricular redesign and will be addressing such concerns as number of hours needed to achieve the approved outcomes, possible curricular deficits in content that may not completely address Appendix B of the ACPE guidelines and optimal integration/placement of courses within the curriculum. Through assessment feedback, deficits have been identified that are being addressed in the current curriculum.

While the curriculum includes 10 credit hours of electives, the availability of elective choices had to be increased to allow students the opportunity to pursue individual pharmacy-related interests. In the past year, ten new elective courses were developed and approved. In addition, the required Pharmacotherapy Forum course was expanded to assess communication and research skills through a variety of methods. The course's revision was due in part to the COP's need to comply with the general education capstone requirement implemented by the University.

Finally, current APPEs consist of eight one calendar-month advanced practice experiences. Because this is slightly less than the requirement of 25% of the total credit hours, as clarified by ACPE, the curriculum committee has recommended that the APPEs be changed to six six-week experiences for students graduating on or before 2011 and seven six-week experiences for students graduating after 2011. This change takes effect in May of 2008.

2) Checklist:

	Ok	N.I.
The college or school's faculty is responsible for the development, organization, delivery, and improvement of the curriculum.	●	○
The curriculum defines the expected outcomes and is developed with attention to sequencing and integration of content and the selection of teaching and learning methods and assessments.	●	○
All curricular pathways have both <i>required</i> and <i>elective</i> courses and experiences and effectively facilitate student development and achievement of the professional competencies.	●	○
The curriculum for the professional portion of the degree program is a minimum of four academic years or the equivalent number of hours or credits.	●	○
The didactic course work provides the desired scientific foundation.	●	○
Introductory pharmacy practice experiences are not less than 5% of the curricular length (i.e., 300 hours).	●	○
The advanced pharmacy practice experiences are not less than 25% of the curricular length (i.e., 1440 hours).	○	●
On behalf of the faculty, the Curriculum Committee (or equivalent) manages curricular development, evaluation, and improvement to ensure that the curriculum is consistent with the collective vision of the faculty and administration.	●	○
The curriculum complies with university policies and procedures and the accreditation standards.	●	○
Student representation and feedback are integral parts of curricular development and improvement.	●	○
The Curriculum Committee (or equivalent) has adequate resources to serve as the central body for the management of orderly and systematic reviews of curricular structure, content, process, and outcomes, based on assessment data.	●	○
The college or school has addressed the guidelines for this standard.	●	○

3) Comments:

Ninety-eight percent of faculty are aware that a committee structure is in place and functioning to manage curricular development, evaluation and improvement. Eighty percent of the faculty agree that they are appropriately consulted in curricular matters ([Appendix 9-5](#)).

4) Quality Improvements:

In recent years, the curriculum committee has identified curricular changes being made without appropriate committee consultation and approval. The importance of this formal approval process is being emphasized to the faculty.

5) Final Evaluation:

Meets the Standard	Partially Meets the Standard	Does Not Meet the Standard
<p>The curriculum committee is an agent for improvement that is broadly composed of faculty members and students.</p> <p>The curriculum committee evaluates and approves all courses and oversees the sequencing and integration of course content.</p> <p>The curriculum committee's reviews are proactive, recurrent, and systematic.</p> <p>The faculty as a whole is engaged in committee processes through discussion and voting.</p> <p>Introductory-practice experiences are not less than 5% of total credit during the didactic component and include exposure to community and institutional settings.</p> <p>Advanced-practice experiences are not less than 25% of total credit, and occur after the didactic component is complete.</p> <p>Preparation and reflection periods are included in the syllabus for early and advanced practice experiences.</p> <p>The curriculum has elective as well as required courses.</p> <p><input checked="" type="checkbox"/> Meets the Standard</p>	<p>Preparation or reflection periods are missing from either early or advanced-practice experiences, but not both.</p> <p>The curriculum committee exists, but it is not representative of the faculty.</p> <p>The curriculum committee has no mechanism for proactive, recurrent, and systematic reviews.</p> <p>Introductory practice experiences are all in one setting.</p> <p>The college or school has a plan and is in the process of addressing all issues related to not meeting the requirements of this standard.</p> <p><input type="checkbox"/> Partially Meets the Standard</p>	<p>No preparation and reflection periods are included in the syllabus for early and advanced practice experiences.</p> <p>The college or school has no curriculum committee or it is ineffective.</p> <p>Introductory-practice experiences are nonexistent or less than 5% of total credit during the didactic component.</p> <p>Advanced-practice experiences are less than 25% of total credit.</p> <p>The curriculum has few elective courses, or poor scheduling practices effectively make it impossible for many students to take desired electives.</p> <p><input type="checkbox"/> Does Not Meet the Standard</p>

Standard 11: Teaching and Learning Methods:

The college or school, throughout the curriculum and in all program pathways, must use and integrate teaching and learning methods that have been shown through curricular assessments to produce graduates who become competent pharmacists by ensuring the achievement of the stated outcomes, fostering the development and maturation of critical thinking and problem-solving skills, meeting the diverse learning needs of students, and enabling students to transition from dependent to active, self-directed, lifelong learners.

1) Description of Compliance:

The College uses a variety of teaching and learning methods to produce graduates who become competent pharmacists and active, self-directed learners. Although the traditional lecture format is a predominate technique, especially in foundation courses, a variety of active learning methodologies have been introduced to promote learning and to aid students in the transition from dependent to independent learning. Active learning methods are integrated into the curriculum to meet diverse learning needs of students while developing critical thinking and problem-solving skills. Most classes use a variety of techniques in addition to lecture material ([Appendix 11-1](#)).

Students have opportunities to participate in the education of patients and other students throughout the curriculum. Notable examples from this school year include P1 students involved in service learning projects that also provided local community service, P2 students involved with a cholesterol screening and education project in community pharmacies, and P3 students involved in a health fair where they counseled heart failure patients on medications and lifestyle modifications. P4 students in experiential courses participated in a variety of acute and ambulatory care practices providing patient education, staff in-services and interactive learning with medical students.

Although a description of each activity is not possible in this summary, there are several outstanding examples of teaching innovation that merit comment. In PHAR 586, Advanced Cardiac Life Support (ACLS) techniques are taught using a teaching zole (EKG machine) and a crash cart equipped with appropriate medications. Students run a code situation from cardiac rhythm examples that are provided on the EKG machine. Students in PHAR 608 and 609 may visit various laboratories to learn what is involved when lab tests are ordered and what may happen that could cause abnormal or erroneous results. These APPE students are also encouraged to write “survival guides” for the next group of students that give insight into the process and specify skills that are needed. In PHAR 506, students complete the Student Leadership Practices Inventory as a formative assessment process. Students compare self-assessment of leadership behaviors with observer-assessed behaviors. In PHAR 524, student interest is generated by calculation of individual blood

alcohol concentrations based upon student physiology and different alcohol consumption amounts. Discussions follow on legal limits and metabolism times. In PHAR 426, students wear goggles that simulate low vision disease states to learn what it is like to be an elderly person trying to manage medications with poor eyesight. These students also prepare copy-ready patient education brochures dealing with identification and prevention of medication-related problems in the elderly population. In PHAR 586 and PHAR 587, students play a bingo game in conjunction with geriatrics and play jeopardy games to review the lectures on osteoarthritis and gout. In PHAR 493, students develop business plans using a commercial software program.

The faculty is involved in the improvement of educational materials, learning activities and assessment processes. A recent survey indicates that faculty members have learned and incorporated new techniques into the curriculum through literature review, consultation with other educators, examining AJPE course designs, and by their participation in a variety of faculty development activities. Various faculty members participated in AACP New Teacher and ASHP New Practitioner seminars on teaching improvement, ASHP Continuing Education on Active Learning, a Professional Compounding Centers of America tutorial, and a number of continuing education sessions offered by the University, including statistical analysis of test questions and the ULM Academy of Teaching Excellence. A recent grant for the COP provided a computerized patient simulator, SimMan[®]. This new teaching tool allows the introduction of new patient simulation exercises to develop clinical and decision-making skills in students.

Technology is incorporated into all aspects of the curriculum, and distance learning techniques are used when appropriate for students to have access to faculty at the two satellite campuses. The COP faculty utilize Blackboard™ for the provision of course materials; however, Blackboard™ will be replaced by Moodle beginning in the Fall 2008 semester. In spring 2008, the COP will incorporate TurningPoint Technology's™ audience response system into the classroom for education and assessment purposes.

Currently, assessment activities are in place to measure student competencies and outcomes ([Appendix 11-2](#)). Several classes include formative assessments and competency level assessments and activities allowing students to assess their level of achievement of desired competencies and outcomes ([Appendix 11-1](#)). These efforts are reflected in results from alumni surveys indicating that they were encouraged to assume responsibility for their own learning (98% agree). In graduating student surveys, 93% agree that the curriculum has prepared them to reflect critically on personal

skills and actions and make plans to improve when necessary. In addition, 95% of graduating students indicated that they developed the skills needed to prepare for continued learning after graduation ([Appendix 6-2](#)). Recent assessment feedback from the capstone course has led to initiatives related to teaching methodologies. One initiative is to require additional technical writing throughout the curriculum starting with the P1 drug information course. Assessment activities for the new educational outcomes will be incorporated into the curriculum when it is completed.

2) Checklist:

	Ok	N.I.
The college or school, throughout the curriculum and in all program pathways, uses and integrates teaching and learning methods that have been shown through curricular assessments to produce graduates who become competent pharmacists by ensuring the achievement of the stated outcomes, fostering the development and maturation of critical thinking and problem-solving skills, meeting the diverse learning needs of students, and enabling students to transition from dependent to active, self-directed, lifelong learners.	●	○
The college or school evaluates the effectiveness of its curricular innovations through its assessment activities.	○	●
The outcomes of the distance-learning activities are appropriate for the student population and achievable through distance study. <div style="text-align: right;">N/A <input type="checkbox"/></div>	●	○
The college or school has addressed the guidelines for this standard.	●	○

3) Comments:

The 2007 COP survey of graduating students indicates that 95% of respondents agree they are prepared to provide patient care in accordance with legal, ethical, social, economic, and professional guidelines. This finding is also apparent in the alumni survey: 98% of respondents agree. In addition, 97% of students agree that they are prepared to enter pharmacy practice. These responses are supported by a ULM passing rate on the NAPLEX that is above the national average ([Appendix 9-3](#)).

During this past year, several research projects involving students were accepted for presentation at the Annual AACP Conference in July 2007. The projects were undertaken either as active learning projects for individual classes or as informational studies to improve the curriculum.

For example, in PHAR 585, students participated in a pre-post survey project involving cholesterol screenings in community pharmacies. Students in PHAR 470 surveyed a sample of Louisiana pharmacies to assess compliance with the sterile compounding requirements of USP 797. In PHAR 506, a before-after project assessed student leadership knowledge, behaviors and attitudes. The Office of Student and Professional Affairs performed a study that compared attributes of professionalism between P1, P2, P3 and P4 classes. The Office of Experiential Education evaluated

student, faculty, and preceptor attitudes regarding components of advanced community practice experiences by P4 students.

4) Quality Improvements:

The improvement of educational methodology and learning and the improvement of assessment activities are ongoing issues of curricular development. Implementation of a more comprehensive assessment plan will provide quality enhancement feedback for educational improvements. Capstone exams for P3 and P4 students and progression exams for self-assessment for P1-P2 students are being developed. Plans for the use of these milestone exams as a part of programmatic and student assessment are under development by the Curriculum and Assessment Committees. Knowledge and skills are assessed as a part of practice laboratory, and in the new curriculum, a six semester pharmaceutical care laboratory sequence will give students the ability to reinforce previously learned knowledge and apply skills in a simulated practice atmosphere. Electronic student portfolios will be implemented with the 2007 P1 class's first introductory practice experience to foster student self-directed learning. Methods for use throughout the semester with didactic courses and practice simulations are being studied with implementation expected with the 2008 P1 class. Faculty development programs aimed at providing faculty with skills to address the needs of diverse learners will also improve teaching and learning methodologies.

5) Final Evaluation:

Meets the Standard	Partially Meets the Standard	Does Not Meet the Standard
<p>Faculty members use a variety of teaching-and-learning techniques (e.g., active learning, case studies, etc.).</p> <p>Results from capstone exams are used to assess and remediate individual student learning as well as to assess the effectiveness of the curriculum.</p> <p>A process is used throughout the curriculum to document that students are applying knowledge and skills.</p> <p>Preceptors tailor instruction to meet the needs of the student by challenging strengths and remediating weaknesses.</p> <p>Students are supported to become self-directed, lifelong learners.</p>	<p>A process is used in the curriculum to document knowledge, but not application and skills.</p> <p>Faculty are participating in structured development activities in order to move from a lecture-based curriculum to one that uses a variety of teaching-and-learning techniques.</p> <p>The college or school has a plan and is in the process of addressing all issues related to not meeting the requirements of this standard.</p>	<p>Lecture is the primary mode of instruction.</p> <p>No process is used to document that students are applying knowledge and skills.</p> <p>The college or school has no evidence of assessing and evaluating teaching methodologies.</p> <p>Students are dependent learners and lack critical-thinking and problem-solving skills.</p> <p>The college or school has no strategies or systems to support the needs of diverse learners.</p>
<p><input type="checkbox"/> Meets the Standard</p>	<p><input checked="" type="checkbox"/> Partially Meets the Standard</p>	<p><input type="checkbox"/> Does Not Meet the Standard</p>

Standard 12: Professional Competencies and Outcome Expectations:

Professional pharmacist competencies that must be achieved by graduates through the professional degree program curriculum are the ability to:

1. Provide patient care in cooperation with patients, prescribers, and other members of an interprofessional health care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, cultural, economic, and professional issues, emerging technologies, and evolving biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences that may impact therapeutic outcomes.
2. Manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel, to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use.
3. **Promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers.**

These professional competencies must be used to guide the development of stated student learning outcome expectations for the curriculum. To anticipate future professional competencies, outcome statements must incorporate the development of the skills necessary to become self-directed lifelong learners.

1) Description of Compliance:

The COP previously adopted the 1998 CAPE Outcomes for the curriculum ([Appendix 9-1](#)). Mapping of this curriculum was completed in 2003 and only minor changes have been made since that time. Surveys of faculty, Pharm.D.-level alumni, preceptors, and P4 students generally concur in suggesting that graduates are prepared for entry-level practice. Ninety-eight percent of student respondents agreed that they were prepared to enter pharmacy practice and 88% of alumni respondents agreed that their coursework had prepared them for their first job. Also, 92% of this same group of alumni agreed that their coursework had prepared them for their practice experiences ([Appendix 9-6](#)). Particular confidence was expressed by all stakeholders in graduates' abilities to gather and use patient-specific information to identify medication-related problems, provide patient care in accordance with legal, ethical, social, economic, and professional guidelines, work with other stakeholders to identify and resolve problems related to medication use, promote wellness and disease prevention services and reflect critically on personal skills and actions and make plans to improve when necessary ([Appendix 6-1](#), [Appendix 9-5](#), [Appendix 9-6](#)). Additionally, alumni, preceptor, and faculty respondents expressed confidence in graduates' abilities to communicate with patients, patients' agents, and healthcare providers.

In March 2005, the College faculty was surveyed concerning the effectiveness of the current PharmD curriculum and the possible need for curricular redesign. Overwhelmingly, the faculty believed that significant revision was needed to address future needs of pharmacy practice. The committee spent 10 additional months arriving at a list of seven broad outcomes, which were then discussed and approved unanimously by the faculty. Numerous sources, including CAPE outcomes

in place at that time, were used in creating the competencies. The new outcomes ([Appendix 9-2](#)) include specific competencies as well as general abilities such as critical thinking and communication skills and address the three major professional competencies and outcome expectations of Standard 12. The curriculum committee is designing an integrated modular curriculum around these competencies. One significant step taken was to increase the length of the [pre-pharmacy curriculum](#) from two to three years to include a more rigorous science background. The redesigned professional curriculum will require this additional background, starting with the students entering the professional program in fall 2009. The committee will provide the curricular framework based on the new competencies while detailed course or module content will be developed by faculty. Curricular mapping, insuring a logical progression of learning concepts as well as of intellectual development and professional socialization, will be integral to the final product.

2) Checklist:

	Ok	N.I.
Professional Competencies 1, 2 and 3 guide the development of stated student learning outcome expectations for the curriculum.	●	○
Graduates are able to provide patient care in cooperation with patients, prescribers, and other members of an interprofessional health-care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, cultural, economic, and professional issues, emerging technologies, and evolving biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences that may impact therapeutic outcomes.	●	○
Graduates are able to manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel, to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use.	●	○
Graduates are able to promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers.	●	○
Outcome statements include developing skills to become self-directed lifelong learners.	●	○
Graduates possess basic knowledge, skills, attitudes, and values to practice pharmacy independently by graduation.	●	○
The college or school has addressed the guidelines for this standard. (Not Applicable)	●	○

3) Comments:

Certain gaps in the curriculum, reflected in part by survey results, had already been identified during discussions leading to the new list of outcomes adopted in August 2006. Content in certain of the pharmaceutical sciences, social/behavioral/ administrative sciences, and clinical sciences areas included in Appendix B of the new ACPE guidelines will need to be enhanced.

4) Quality Improvements:

5) Final Evaluation:

Meets the Standard	Partially Meets the Standard	Does Not Meet the Standard
<p>Faculty have written and adopted a set of competencies and outcomes and are conversant about them. The curriculum is built on the competencies which are linked to courses through the curricular map.</p> <p><input checked="" type="checkbox"/> Meets the Standard</p>	<p>Faculty are in the process of developing competencies and outcomes and there is a high likelihood that they will be adopted. The faculty are in the process of curricular mapping.</p> <p><input type="checkbox"/> Partially Meets the Standard</p>	<p>The program does not use a curricular map or equivalent. The program has no stated competencies. The college or school's educational outcomes or competencies are not aligned with those required by the standards.</p> <p><input type="checkbox"/> Does Not Meet the Standard</p>

Standard 13: Curricular Core—Knowledge, Skills, Attitudes, and Values:

To provide the thorough scientific foundation necessary for achievement of the professional competencies, the curriculum of the professional degree program must contain the following:

biomedical sciences

pharmaceutical sciences

social/behavioral/administrative sciences

clinical sciences

Knowledge, practice skills, and professional attitudes and values must be integrated and applied, reinforced, and advanced throughout the curriculum, including the pharmacy practice experiences.

1) Description of Compliance:

The percentage of the required credit hours devoted to each of the four content areas in the entry level Pharm. D. curriculum is summarized ([Appendix 13-1](#)) for each year of the curriculum and for the entire curriculum.

The COP Doctor of Pharmacy curriculum provides the student with the background needed to practice as an entry-level pharmacist or enter into a pharmacy residency. This is accomplished through a traditional model of pharmacy education where students receive training in pharmacy administration, medicinal chemistry, pharmacology, and pharmaceuticals during the early part of the curriculum. Once students have a solid background in these disciplines, they begin the pharmacotherapy portion of their education.

The formal education process in the biomedical/basic pharmaceutical sciences is achieved through educational training from four basic pharmaceutical science divisions including medicinal chemistry/pharmacognosy, pharmacology/physiology, pharmaceuticals and toxicology. These serve as a foundation for a pharmacy education on which clinical and practice pharmacy programs are built. Courses are designed from the concept of “bench-to bedside” and drug discovery process. Medicinal chemistry courses are designed with the idea of learning the importance of biologically active molecular structures with properties suitable for pharmacotherapy, shelf life and chemical pathway for drug metabolism. Pharmacology and toxicology courses are designed to understand the action of drugs at the receptor targets and their toxic effects on the body. Pharmaceutical courses are designed to deal with kinetics of drug disposition in the body based on their structural properties described in medicinal chemistry. Applications of these principles are discussed to help students make decisions during drug therapy.

P1 students receive the majority of their education through didactic training with laboratory time. Students are introduced to basic biomedical/pharmaceutical sciences and pharmacy practice

management. Medicinal chemistry is introduced with structure and function of proteins, nucleic acids, carbohydrates and lipids. Enzyme kinetics and biopharmaceutical properties of drugs are discussed for students to understand the importance of drug design for biological relevance. Pharmacology courses are introduced with the aim of learning principles and concepts of cellular and organ system physiology and the physiological basis of pharmaceutical care. To gain more insight into drug development and translate their knowledge into pharmaceuticals, students begin basic pharmaceutical calculations with laboratory experience. Students also have an Introduction to Pharmacy class that is followed by an Ethics in Pharmacy Practice class during the second semester. Students are taught drug information retrieval and evaluation. Professional practice management is covered in both semesters. During the summer, students complete their first pharmacy practice experience (IPPE) in a community pharmacy setting. This experience introduces students to the practice of pharmacy, and reflection assignments as well as preceptor evaluations are used for student assessment. An early focus on professional skills, attitudes, and values is intended to enhance students' professional socialization.

P2 students complete their pharmaceutical sciences education and begin their education in disease processes and pharmacotherapy. During medicinal chemistry courses, students learn structure-function relationships of drugs and their therapeutic applications. The chemical basis of pharmacology and pharmacotherapy is discussed for each of the agents presented. Pharmacology emphasizes central nervous system, cardiovascular and endocrine pharmacology. Pharmaceutics courses give emphasis to pharmaceutical calculations, pharmacokinetics and several specialized drug delivery systems. Students begin the disease processes and pharmacotherapy sequence during the first semester of the second year. This sequence is a longitudinal experience over the next four semesters of the curriculum. This class is taught by pharmacy practice faculty either onsite or using distance technology. The class has assigned case times in addition to didactic lectures. This course sequence comprises the majority of all pharmacotherapy and disease pathology. Students also are involved in a self-care course that focuses on the use of over-the-counter medications. Students are required to take the first two of ten credit hours of electives during this year. Their second year is completed by another IPPE, which takes place in an institutional setting. This experience is intended to introduce the student to institutional pharmacy practice including parenteral therapy. The student is required to produce monographs for ten IV medications, and reflective writing assignments are used throughout the practice experience for student assessment.

The third year finishes didactic training. The disease processes and pharmacotherapy sequence continues throughout the third year with major focuses on infectious disease and oncology. During the Fall semester, students receive didactic lectures on research methods and design in addition to core training in pharmacy law, both State and Federal. Students also enroll in a pharmacy care lab where a wide variety of topics are reinforced from prior courses. Lab time is allotted for practicing patient counseling and communication skills, which complements material covered in the didactic course. Students are required to complete three credit hours of electives during the Fall semester of the year and five during the Spring semester. Students finish the didactic series with an applied pharmacokinetics course and patient assessment course. The third year is completed with a course that meets University capstone requirements and is designed to assess students' overall communication and research abilities. In addition, students are assessed for preparedness for advance practice experiences.

Upon completion of all didactic work, students begin an eight-month series of advanced pharmacy practice experiences (APPEs). Students are required to complete one calendar month in each of the following settings: institutional, community, acute care, ambulatory care, and either a second acute care or ambulatory care. Students are allowed up to three months of elective experiences with only one being an approved non-patient care experience (e.g. research, academia, administration). During these practice experiences, students are expected to interact with both healthcare providers and patients to ensure that safe pharmaceutical care is provided to every patient. During these experiences, students are mentored by faculty and or volunteer preceptors to ensure that students appreciate the need for professionalism and ethical behavior.

Currently, the required curriculum for the professional program is completely self-contained, and all classes are taught by the COP faculty. Having all classes taught within the COP has been a great advantage in coordinating and optimizing the quality and sequence of information presented.

General education abilities such as critical thinking, professionalism, and communication are embedded throughout the curriculum. Evaluation and assessment of this approach can be found in the results obtained from the alumni survey ([Appendix 9-6](#)). Overall, alumni expressed their proficiency in the areas of problem solving to optimize patient care and medication use. Alumni also expressed confidence in establishing a team with other stakeholders. These findings strongly suggest that students are adequately exposed to and trained in topic areas including communication skills, professionalism, critical thinking, teamwork, problem solving, mathematical skills and information

management. However, data also shows that alumni were less confident in their abilities to assure medication use systems optimized patient outcomes and minimized medication errors and health risks. Alumni also showed less confidence in assessing the cost-effectiveness of a clinical service in a patient care setting, as well as interpreting pharmacoeconomic data relevant to specific diseases and their management. These findings suggest that, although alumni felt the curriculum prepared them well for pharmacy practice, it also is evident that improvements can be made in some areas associated with the ability to interpret and apply drug use and health policies, as well as the cost effectiveness and safety of medication.

Information collected in the alumni survey showed that nearly 80% of those taking the survey believed that the curriculum was properly sequenced and provided adequate opportunities to engage in practical application of knowledge and active learning ([Appendix 9-6](#)). Overall, alumni felt very well prepared by their coursework for entrance into the pharmacy profession.

2) Checklist:

	Ok	N.I.
The curriculum contains the necessary elements within the following areas as outlined in Appendix B of the Standards:	●	○
• biomedical sciences	●	○
• pharmaceutical sciences	●	○
• social/behavioral/administrative sciences	●	○
• clinical sciences	●	○
• Knowledge, practice skills, and professional attitudes and values are integrated and applied, reinforced, and advanced throughout the curriculum, including the pharmacy practice experiences.	●	○
• The biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences are of adequate depth, scope, timeliness, quality, sequence, and emphasis to provide the foundation and support for the intellectual and clinical objectives of the professional degree program.	●	○
• The sciences provide the basis for understanding the development and use of medications and other therapies for the treatment and prevention of disease.	●	○
• Where instruction is provided by academic units of the university other than the pharmacy program, these areas are developed in accordance with the professional degree program's curricular goals and objectives; and assessment liaison mechanisms ensure effective instructional delivery and achievement of the educational objectives of the program.	●	○
N/A (no outside instruction) <input checked="" type="checkbox"/>		
• The college or school has addressed the guidelines for this standard.	●	○

3. Comments:

Overall, the curriculum appears to be adequate and effective in the basic instruction of core knowledge and the application of this knowledge to optimize patient therapeutic outcomes. Alumni respondents agreed that the curriculum prepared them to communicate with patients, patients' agents, and health care providers (98%), exhibit professional attitudes and behavior (100%), and provide patient care in accordance with legal, ethical, social, economic, and professional guidelines (98%) ([Appendix 9-6](#)).

4. Quality Improvements:

Areas that appear to need improvement are those associated with evaluating the cost effectiveness of medication and identifying and reducing risk to minimize error in patient care. Pharmacy administration courses are scheduled during the first professional year, and students need more development in these areas throughout the curriculum. Needs in this area are being addressed through changes with the new curriculum and pre-pharmacy curriculum.

5. Final Evaluation:

Meets the Standard	Partially Meets the Standard	Does Not Meet the Standard
<ul style="list-style-type: none"> • Courses have coordinators and are integrated across disciplines. • Faculty from different disciplines communicate with each other and all disciplines are represented on committees. • Courses are well managed with content experts delivering specific topics as needed. • Faculty cooperate and work as teams when preparing courses. • The content is aligned with the recommendations listed in Appendix B of Standards 2007. <p><input checked="" type="checkbox"/> Meets the Standard</p>	<ul style="list-style-type: none"> • The content is in the process of being mapped to the recommendations listed in Appendix B of Standards 2007. • The college or school has a plan and is in the process of addressing all issues related to not meeting the requirements of this standard. <p><input type="checkbox"/> Partially Meets the Standard</p>	<ul style="list-style-type: none"> • Courses are integrated in name, but not in actual practice, i.e., information is presented independently without respect to the material being covered by other disciplines. • Content areas noted in Appendix B of the Standards 2007 are not addressed in the curriculum. • The instruction provided by other academic units of the university does not meet the educational objectives of the curriculum. <p><input type="checkbox"/> Does Not Meet the Standard</p>

Standard 14: Curricular Core—Pharmacy Practice Experiences:

The college or school must provide a continuum of required and elective pharmacy practice experiences throughout the curriculum, from introductory to advanced, of adequate scope, intensity, and duration to support the achievement of the professional competencies presented in Standard 12.

The pharmacy practice experiences must integrate, apply, reinforce, and advance the knowledge, skills, attitudes, and values developed through the other components of the curriculum. The objectives for each pharmacy practice experience and the responsibilities of the student, preceptor, and site must be defined. Student performance, nature and extent of patient and health care professional interactions, where applicable, and the attainment of desired outcomes must be documented and assessed.

In aggregate, the pharmacy practice experiences must include direct interaction with diverse patient populations in a variety of practice settings and involve collaboration with other health care professionals. Most pharmacy practice experiences must be under the supervision of qualified pharmacist preceptors licensed in the United States.

1) Description of Compliance:

The pharmacy practice experience curriculum consists of Introductory Pharmacy Practice Experiences (IPPEs) and Advanced Pharmacy Practice Experiences (APPEs). The purpose of the IPPEs and APPEs is to provide a mechanism for students to apply and reinforce the knowledge and skill sets learned throughout the didactic portion of the curriculum. Service learning is required during regular semesters with IPPEs occurring during the summers between the first and second and second and third years. Preceptor evaluation and reflective writing is used to assess students' experiences. The Pharmacy Education Management System (PEMS) is used to track students' progress.

IPPEs begin in the summer after the first professional year with a three credit hour (160 hours of experience) Introduction to Community Practice Experience (Phar 480) and consists of one calendar month in an independent pharmacy ([Appendix 14-1](#)). Following the second professional year, students are enrolled in the Introduction to Institutional Practice (Phar 481) which consists of one calendar month in an institutional pharmacy for another 160 hours of practice experience ([Appendix 14-2](#)).

APPEs encompass the fourth professional year and constitute 25% of the professional curriculum. There are five required experiences of one calendar month each and three elective experiences of which a minimum of two must be patient care focused. Elective experiences must come from an approved list ([Appendix 14-3](#)).

Qualifications to be a preceptor with the COP are outlined in the experiential policies and procedures ([Appendix I-7](#)). Of the 616 preceptors in the database, 615 are registered pharmacists, and sites provide for a maximum student:preceptor ratio of 2:1. All practice experience sites are located within the United States and the majority (81%) are in Louisiana ([Appendix I-8](#)).

The COP employs 22 full time faculty preceptors with the remaining being volunteers. Beginning in fall 2006, all new volunteer preceptors are required to complete a preceptor application ([Appendix 14-4](#)), a curriculum vitae and a syllabus. Preceptor candidates are then required to sign an affiliation agreement and undergo an orientation to the program. Thereafter, an annual “Preceptor Conference” is provided at various locations within the state and at various times during the year. Attendees are updated with regard to COP policies, provided opportunities to enhance preceptor skills and provided three to five hours of continuing education.

Each preceptor receives a copy of the IPPE and/or APPE Manual in addition to the preceptor manual. Within these manuals are the required professional competencies and the requirements for each type of experience, including the responsibilities of the student and the preceptor. Ninety-seven percent of preceptors stated that student responsibilities were well-defined at their site, and 95% stated that preceptor responsibilities and practice experience objectives were well-defined ([Appendix 6-1](#)). A biannual newsletter is also published to keep preceptors informed of changes and new developments in the program as well as to reemphasize policies and procedures ([Appendix 14-5](#)).

The COP has over 400 affiliation agreements in addition to its affiliation with LSUHSCs in various parts of the state, allowing the student population access to a diverse patient population. Practice experiences are located in both urban and rural areas of the state. More than 90% of preceptors stated that their practice site provides direct interaction with a diverse patient population.

Students are assigned to both IPPE and APPE practice sites using the PEMS. To provide students with a diverse range of practice experiences and to avoid conflicts of interest, students are not placed in practice sites where they are presently employed or have previously been employed as interns or technicians or in practice sites owned or operated by relatives. Student assignments are based on, but are not limited to, student preference, site and preceptor quality, contractual agreements with sites, and student capacity at a particular site. All students are assigned to a minimum of 2 APPEs with faculty preceptors. Students may not receive any financial compensation or reimbursement for participation in IPPEs or APPEs ([Appendix 14-3](#)).

Throughout the first three years, various service learning projects allow students to apply classroom knowledge. Service learning is a form of experiential education in which students engage in activities that address individual and community needs together with structured opportunities designed to promote student learning and development. Service learning may include visiting nursing home patients and empathy projects for P1 students and cholesterol, blood pressure and diabetes

screening and cardiovascular risk assessment for P2 students. P2 students are given opportunities to mentor P1 students by participating in group projects that provide nutrition education to elementary students. P2 and P3 students are combined to provide brown bag counseling sessions and non-prescription medication presentations. Service learning is completed as a requirement of one of the didactic courses and evaluated through reflective writing.

Through practice experiences and preceptor interactions, students gain experience in problem solving and providing patient care services while applying knowledge of the basic and pharmaceutical sciences learned in the classroom and practice laboratories. Students are expected to learn through their own observations, personally chosen readings, their patients, and by observing and collaborating with their preceptors. Through the practice experience, students continue to mature while progressing from student to practitioner.

Students involved in introductory and advanced community and institutional experiences are required to participate at practice sites a minimum of eight hours per day and five days per week. In many sites, students have complete access to medical records, both paper and electronic. Because of the collaboration with teaching medical centers, students are exposed to a variety of patient populations of different age, racial and socioeconomic backgrounds and are able to experience the diagnosis and treatment of a variety of diseases. Additionally in these settings, students collaborate with other health care professionals such as physicians, nurses, physician assistants, and students of other health care programs. Ninety-five percent of preceptors stated that their site enabled students to collaborate with professionals from other health care fields. ([Appendix 6-1](#)) Eighty-eight percent of alumni surveyed also stated that they collaborate with professionals from other health care fields ([Appendix 9-6](#)).

Quality assurance and assessment of practice sites and preceptors involve both student evaluation and site visits by the Office of Experiential Education. Student and preceptor evaluations are the backbone of the pharmacy practice experience quality assurance and assessment procedures. Students evaluate the site and preceptor within five days of completing each experience. This information is available to the Office of Experiential Education and to the sites and preceptors for quality improvement. IPPE and APPE Policies ([Appendix 14-3](#)) outline the procedure for selecting quality practice experience sites. The recent incorporation of the preceptor application ensures that students receive quality practice experiences sites. According to a recent survey, 77% of students said that their APPE sites were of high quality ([Appendix 6-2](#)).

Student evaluation rubrics are based on the category of the experience. In patient care experiences, students are evaluated on four primary outcomes during the APPEs (clinical skills, information resources, communication skills and professionalism) ([Appendix 14-6](#)). Students must also complete required assignments during the P4 year. Students complete the assignment checklist as they successfully complete each assignment, which is then approved by the preceptor. Assignments are designed to help students develop proficiency in various skills used by practicing pharmacists ([Appendix 14-7](#)). During the community and institutional experiences, students also have assignment checklists that must be completed prior to the end of the experience and approved by the preceptor.

All evaluations are documented online using PEMS. One advantage to using PEMS is that preceptors can view student evaluations of previous experiences with the purpose of identifying potential areas of student deficiencies. In addition to clinical assignments, students must also complete daily logs of how time was spent on various activities for that day ensuring students are focusing on the required learning objectives.

2) Checklist:

	Ok	N.I.
The college or school provides a continuum of required and elective pharmacy practice experiences throughout the curriculum, from introductory to advanced, of adequate scope, intensity, and duration to support the achievement of the professional competencies presented in Standard 12.	<input type="radio"/>	<input checked="" type="radio"/>
The pharmacy practice experiences integrate, apply, reinforce, and advance the knowledge, skills, attitudes, and values developed through the other components of the curriculum.	<input checked="" type="radio"/>	<input type="radio"/>
The objectives for each pharmacy practice experience and the responsibilities of the student, preceptor, and site are defined.	<input checked="" type="radio"/>	<input type="radio"/>
Student performance, nature and extent of patient and health care professional interactions, where applicable, and the attainment of desired outcomes are documented and assessed.	<input checked="" type="radio"/>	<input type="radio"/>
In aggregate, the pharmacy practice experiences include direct interaction with diverse patient populations in a variety of practice settings and involve collaboration with other health care professionals.	<input checked="" type="radio"/>	<input type="radio"/>
Most pharmacy practice experiences are under the supervision of qualified pharmacist preceptors licensed in the United States.	<input checked="" type="radio"/>	<input type="radio"/>
The college or school ensures that preceptors receive orientation regarding the outcomes expected of students and the pedagogical methods that enhance learning, especially for first-time preceptors prior to assuming their responsibilities, ongoing training, and development.	<input checked="" type="radio"/>	<input type="radio"/>
Students do not receive remuneration for any pharmacy practice experiences (introductory or advanced) for which academic credit is assigned. ⁴	<input checked="" type="radio"/>	<input type="radio"/>
The introductory pharmacy practice experiences involve actual practice experiences in community and institutional settings and permit students, under appropriate supervision and as permitted by practice regulations, to assume direct patient care responsibilities.	<input checked="" type="radio"/>	<input type="radio"/>

⁴ A professional degree program in an institution that meets the definition and characteristics of “cooperative education” (www.co-op.edu) may apply to ACPE for a waiver of this requirement.

All required advanced pharmacy practice experiences in all program pathways are conducted in the United States or its territories and possessions (including the District of Columbia, Guam, Puerto Rico, and U.S. Virgin Islands).	●	○
Required experiences include primary, acute, chronic, and preventive care among patients of all ages and develop pharmacist-delivered patient care competencies in the following settings: <ul style="list-style-type: none"> • community pharmacy • hospital or health-system pharmacy • ambulatory care • inpatient/acute care general medicine 	●	○
The college or school has addressed the guidelines for this standard.	●	○

3) Comments:

During Hurricanes Katrina and Rita in the fall of 2005, the COP lost approximately 40% of its APPE sites. Faculty and volunteer preceptors within the state responded to the challenge accepting extra students while maintaining a 2:1 student:preceptor ratio, enabling P4 students to graduate on time. Even after the hurricanes, 92% of alumni stated the College provided an adequate number and mix of experiences. The strength of the experiential program is the variety of quality experience sites of both faculty and volunteer preceptors. Because the state has many rural as well as urban areas, students have the opportunity to learn in diverse practice areas and work with diverse patient populations. The Department of Clinical and Administrative Sciences has made great strides in increasing the number of ambulatory care experiences that were rather limited only a few years ago.

4) Quality Improvements:

The COP curriculum currently provides 32 weeks of APPEs for students during the fourth professional year. Because this does not meet current ACPE standards, the COP has implemented a change in the structure of the APPEs, requiring six six-week experiences for students graduating in 2009-11, and seven six-week experiences for students graduating in 2012 and beyond.

One of the necessary components of experiential practice quality assurance is periodic direct visits to each practice site. According to a recent survey of preceptors, only 31% have received a site visit. This percentage includes those who are inactive. However, 54% of APPE sites actively used in the 2007-08 academic year have had site visits. Other visits are scheduled. Seventy-two percent stated that they received needed support from the Office of Experiential Education ([Appendix 6-1](#)). The Office strives to visit each active site regularly to monitor and improve quality. The primary deficiency stated by preceptors has been the available database and literature support provided by the COP, which is currently identifying ways to provide these services to preceptors.

5) Final Evaluation:

Meets the Standard	Partially Meets the Standard	Does Not Meet the Standard
<p>The introductory through advanced practice experiences form a continuum with no gaps.</p> <p>The college or school provides elective rotations.</p> <p>Introductory experiences expose students to actual practice sites not simulated ones.</p> <p>Most experiences are under the supervision of a pharmacist.</p> <p>The student-to-preceptor ratio facilitates individual instruction, guidance, supervision, and assessment.</p> <p>Students are not paid for practice experiences.</p> <p>Preceptors are primarily licensed as pharmacists.</p> <p>Preceptors are trained to meet the needs of the college or school and have defined positions with it.</p> <p>Preceptors evaluate students and vice versa.</p> <p>The college or school has quality assurance mechanisms that include visiting sites.</p> <p>The coordination and management of rotations is straightforward and efficient (e.g., students are notified in a timely manner whether their choices for rotations have been accepted).</p> <p>Rotations occur in diverse practice settings covering all required areas (community, institutional, etc.).</p> <p>Practice experiences cover diverse patient populations in terms of disease state, race, age, gender, and cultural background.</p> <p>The college or school has criteria for defining the level of practice (e.g., advanced community) which are validated by the faculty (e.g., worksheet to enroll a preceptor; review syllabi for the rotation).</p> <p>The practice experiences support the achievement of the required professional competencies.</p> <p>Student outcomes and patient interaction are documented and assessed.</p>	<p>Some introductory practice experiences are missing in first 3 academic years or the progression of experiences do not form a continuum from introductory to advanced.</p> <p>The college or school has quality assurance mechanisms that do not include visiting sites.</p> <p>The college or school has a plan and is in the process of addressing all issues related to not meeting the requirements of this standard.</p> <p>Some required areas are not adequately covered.</p>	<p>One or more required introductory or advanced experiences is/are missing.</p> <p>Preceptors are not properly trained.</p> <p>Some preceptors are not licensed in the state of practice.</p> <p>Required rotations fall below the expectations the standard.</p> <p>One or more required pharmacy practice experiences occur(s) overseas.</p> <p>The college or school has no quality assurance mechanisms.</p> <p>The college or school has an inadequate number of preceptors.</p> <p>The majority of students are not precepted by pharmacists.</p> <p>Outcomes are not documented or not assessed.</p>
<p><input checked="" type="checkbox"/> Meets the Standard</p>	<p><input type="checkbox"/> Partially Meets the Standard</p>	<p><input type="checkbox"/> Does Not Meet the Standard</p>

Standard 15: Assessment and Evaluation of Student Learning and Curricular Effectiveness:

As a component of its evaluation plan, the college or school must develop and carry out assessment activities to collect information about the attainment of desired student learning outcomes. The assessment activities must employ a variety of valid and reliable measures systematically and sequentially throughout the professional degree program. The college or school must use the analysis of assessment measures to improve student learning and the achievement of the professional competencies.

The college or school must systematically and sequentially evaluate its curricular structure, content, organization, and outcomes. The college or school must use the analysis of outcome measures for continuous improvement of the curriculum and its delivery.

1) Description of Compliance:

The COP [Assessment Plan](#) and [Assessment Map](#) are on the COP website. Assessment techniques other than exams are being used ([Appendix 11-1](#)). These assessments are tailored to measure the professional outcomes that have been outlined by the College ([Appendix 9-2](#)).

The Mission, Planning, and Assessment Committee has recently reviewed and updated the assessment plan that was put in place in 2003. The committee is also reviewing data that have been collected, which includes ACPE student, faculty, preceptor, and alumni surveys; student service satisfaction surveys; student evaluations of courses and instructors; assessments of IPPEs and APPEs; student evaluations of preceptors and practice sites; performance on NAPLEX and MPJE exams; employers surveys; and student attrition and progression. Electronic student portfolios are planned for 2008.

Available data suggests that graduates are achieving relevant competencies. During the past five years, NAPLEX First-Time Candidate Group pass rates for ULM have been close to or above the national average ([Appendix 9-3](#)). Furthermore, 92% of alumni agreed they were properly prepared to enter their practice experiences. Eighty-eight percent also agreed they were prepared by the program to successfully enter the profession. Ninety-two percent agreed that their COP education experience was very good. The [alumni](#) and [preceptor](#) surveys indicate that the COP is meeting its educational objectives.

The COP systematically evaluates its curricular structure, content, organization and outcomes. The curriculum committee is responsible for curricular review and change. The Associate Dean of Assessment and Outcomes Research is responsible for oversight of the outcomes assessment program. The Mission, Planning and Assessment Committee evaluates data and makes recommendations through the Associate Dean. The committees have representation from key stakeholders, including faculty, students and administration. These committees meet regularly during

the school year with frequent electronic collaboration. Curricular outcomes assessment data are being collected and will be used to identify problems and make appropriate curricular changes.

The COP takes significant steps to ensure the credibility of degrees and integrity of student work. The Academic Standards Committee, in cooperation with the Associate Dean of Academic Affairs, is charged with assuring that the COP is meeting retention and progression standards. The Board of Ethical and Professional Conduct, consisting of eight students and four faculty members, is responsible for recommending sanctions and reprimands proceeding from any infraction of the [Code of Ethical and Professional Conduct](#). In addition, faculty members provide deterrents to academic dishonesty.

2) Checklist:

	Ok	N.I.
The college or school develops and carries out assessment activities to collect information about the attainment of desired student learning outcomes. The assessment activities employ a variety of valid and reliable measures systematically and sequentially throughout the professional degree program.	●	○
The college or school uses the analysis of assessment measures to improve student learning and the achievement of the professional competencies.	●	○
The college or school systematically and sequentially evaluates its curricular structure, content, organization, and outcomes.	●	○
The college or school uses the analysis of outcome measures for continuous improvement of the curriculum and its delivery.	○	●
The college or school has developed a system to evaluate curricular effectiveness.	●	○
The college or school ensures the credibility of the degrees it awards and the integrity of student work.	●	○
The college or school has addressed the guidelines for this standard.	●	○

3) Comments:

Some noteworthy examples of assessments are:

- Starting with 2008, P1 students will participate in self-assessment through electronic student portfolios that measure outcome competencies.
- For the P3 year in the Professional Practice Laboratory (445), students are assessed at each lab period on interprofessional interactions, counseling skills, identification of medication interactions, dosing problems, and proper drug choices using problem-based learning sequences ([Appendix 15-1](#)). Weekly performance assessments from these encounters are used to encourage individual progress and improve outcomes.

- Throughout the experiential curriculum, assessment and documentation of student performance and the attainment of desired outcomes is guided by use of student evaluation forms and assignment checklists ([Appendix 15-2](#)). Evaluation forms are designed to measure experience-specific outcomes ([Appendix 14-3](#)). Evaluators are required to provide mid-point assessments in all areas in addition to final evaluations, allowing the student and evaluator to address areas of weakness and improve deficiencies as the experience progresses.

4) Quality Improvements:

Areas of concern include feedback to the curriculum committee, evaluation of curricular effectiveness, measurements and analysis of the achievement of student competencies and learning outcomes. The College has addressed the guidelines for this standard. Although not every portion of the standard has been accomplished, plans have been formulated for completion of these goals. In July 2007, an Associate Dean of Assessment and Outcomes Research was appointed and a program assessment analyst was hired to assist with implementation of a comprehensive assessment plan.

5) Final Evaluation:

Meets the Standard	Partially Meets the Standard	Does Not Meet the Standard
<p>Assessment data are used for program improvement.</p> <p>The college or school uses multiple measures to evaluate professionalism.</p> <p>The college or school has a systematic plan for assessing student learning outcomes.</p> <p>The college or school is gathering and using both formative and summative assessment data.</p> <p>Portfolios document progressive achievement of the competencies through integrated learning experiences.</p> <p>Students are involved in self assessment.</p> <p><input checked="" type="checkbox"/> Meets the Standard</p>	<p>The assessment plan is not systematic.</p> <p>Data from the assessment plan are not analyzed or not fed back into the curriculum.</p> <p>The college or school has a plan and is in the process of addressing all issues related to not meeting the requirements of this standard.</p> <p><input type="checkbox"/> Partially Meets the Standard</p>	<p>The college or school has no assessment plan or does not systematically carry out evaluations of student learning and curricular effectiveness.</p> <p>The college or school can not document progressive achievement of the competencies as demonstrated in the learning experience.</p> <p>The college or school does not have mechanisms to diagnose and correct underlying problems that might diminish learning such as perceived stress on the faculty, staff, or students.</p> <p>Assessment and evaluation activities to allow comparison of outcomes between alternate program pathways are not carried out.</p> <p>Data is not used to improve the curriculum or its delivery.</p> <p>Assessment activities do not use valid or reliable measures.</p> <p>Assessment activities do not include assessment of students, faculty or preceptors.</p> <p>Assessment methods do not promote consistency and reliability within and among faculty, practice sites and preceptors.</p> <p>No systems are in place to ensure the integrity of student work and limit opportunities for academic misconduct.</p> <p><input type="checkbox"/> Does Not Meet the Standard</p>