2004-2005

Doctor or Pharmacy Program

Degrees Awarded: Pharm.D.

Program Review Panel:

Chair, College of Pharmacy faculty: Kim Hancock
College of Pharmacy faculty: Mike Klepser, Mary Frances Ross, Curtis Smith, Gregg Potter, Greg Wellman, Norwood Neumann
Alumni member: Tom Schinzel
Faculty member outside the College of Pharmacy: Doug Fonner
Administrative Representatives: Steve Durst, Rod Larson, Eric Jarvi

Purpose: Conduct a study of the Doctor of Pharmacy Program to evaluate its strengths and weaknesses.

Data Collection Techniques:

1. Student evaluation of program 2004
2. Faculty perception of program survey 2004
3. Advisory Committee/Alumni survey 2003 - 2004
4. Labor market analysis
5. Evaluation of facilities and technology used for instruction, including health science library resources, laboratory space, and classroom space
6. Curriculum evaluation
7. Employer perception of program survey 2004

Schedule of Events:

Activity	Leader	Target Date
Student evaluation of program	Smith	April 1
Employer perception of program	Smith	April 1
Faculty perception of program	Klepser	April 1
Advisory Committed perception of program	Durst	April 1
Labor market analysis	Larson	April 1
Evaluation of facilities and equipment	Neumann	April 1
Curriculum evaluation	Wellman	April 1

To: Jack Buss, Chair, Academic Program Review Committee

From: Kim Hancock, Associate Professor, College of Pharmacy

Subject: Proposed budget for the Pharmacy Program review panel

Date: February 16, 2004

Below is the proposed budget for the Pharmacy Program Review Panel. Please contact me if you have any questions.

Surveys

Copying Cost	$ 80.00
Mailing Cost	15.00

Student Wage Support

40 Hours at $5.75	230.00
Final Document Copying Costs	300.00
Total	**$625.00**

Questions for Doctorate in Pharmacy Program Review Panel Fall 2004

The following questions or requests for information are the result of our discussion concerning specific statements or material within the Doctorate in Pharmacy Program Review Panel document. The page number containing the material upon which the question is based is cited prior to the question.

10
6 **The questions 18, 19, 20 indicate dissatisfaction with several courses in the curriculum. Have the changes that have been made resolved the problem?**

response The Law and Ethics (question 19) course has been redesigned and is being taught by an adjunct faculty member and a full time faculty member. The first group of graduates to complete the new Law and Ethics course will be surveyed in April 2005 in addition to ongoing Curriculum Committee evaluation. We will continue to monitor the MPJE as one measure of student performance in law. The Assessment Committee is currently evaluating the August 2004 graduate survey to determine if the concerns noted in Pharmacy Management and Sociopharmacy were a one-time occurrence or reflect a more serious problem requiring intervention.

12
13
20
94 **What is the basis of the concern expressed in recommendation 6? It does not appear to be a concern in the graduate and employer surveys. Has any attempt been made to communicate this concern to the Language and Literature Department?**

response The Clinical Seminar course taught in the fourth year of the curriculum requires the student to write a publication quality research paper. Students and faculty have expressed much frustration because students lack the skills to write at this level. Unfortunately the instrument used did not capture this information because the students taking the survey had not yet graduated or may have not taken the course yet. The curriculum committee is currently working on addressing this issue and is the process of contacting the Language and Literature Department to discuss possible solutions.

The Assessment Committee has charged the Curriculum Committee to identify a "writing styles" guide for faculty consideration. This guide will serve as a backbone as the Assessment Committee develops "writing outcomes" across the pharmacy curriculum. These outcomes statements will subsequently be presented to the faculty for approval.

24 Please discuss the concern with respect to overlapping of material in team taught courses. Please describe the function of the module coordinator. Has this arrangement adequately addressed the problem?

Response Historically, lecturers in team-taught courses, such as Pharmacotherapeutics and Integrated Lab, were encouraged to discuss area of potential overlap with other faculty that would be discussing related topics. Unfortunately, this did not occur on a regular or uniform basis. For example, there was no standardization among faculty members with respect to normal laboratory values. These items at times had caused substantial confusion among the students. Module coordinators were established in an effort to prevent such confusion in the future. Prior to the beginning of the semester, the module coordinator calls a meeting of all module participants. At this time, participants discuss what they expect to cover during the discussion of their topics. Duplicative material is identified and the faculty members involved decide the most appropriate distribution of the material. This year several areas of potential duplication were identified and resolved. With regard to the example provided above, the module coordinators and the course coordinators have begun to create a list of standard laboratory and clinical values and equations. This list will be distributed among faculty and they will be instructed to adhere to the list when developing normal laboratory values. Use of module coordinators has been extremely effective.

33 34 39 The faculty expressed concern about the Dean and Department Head. Has any attempt been made to address this concern?

response The results of the survey were distributed to the Department Heads. As a result of the Department Head's concerns, an email was sent containing excerpts of the survey to all department members. The email requested that each faculty member meet with the Department Head individually in his/her office to discuss their concerns after which an all department meeting was proposed to openly address the key issues. Many faculty members did not feel that this method of addressing the matter was appropriate and chose not to meet with him. After more than two months, only two faculty members have met with the Department Head to discuss their viewpoints. No attempt has been made to discuss the issue any further.

The Department Head will also be proposing a half-day "conflict resolution"/"team building" retreat for early next semester, which will be discussed at the next department meeting.

The panel is unaware of any discussions regarding the Dean.

39 93 **Concern was expressed with respect to access to Library resources. At which sites does the problem occur? If the problems are at the off campus sites, has there been discussion with the library staff at those sites?**

response The problems with library access occurs to the greatest extent at the off campus sites. Off campus sites such as Grand Rapids and Kalamazoo rely heavily on the host institutions to provide access to medical literature, in many cases there is no formal affiliation agreement with these sites to provide access. A large number of students and faculty are teaching/practicing throughout the state in community and hospital pharmacies that are not located near a medical library. These faculty and students have an even greater barrier to medical literature and must solely rely on the Internet and FLITE.

Since Jessica Rush started as the liaison between the College of Pharmacy and the library, the library staff has improved their understanding of this problem and has expressed willingness to remedy the situation. At this point, however, we are not sure that the finances necessary to do this are available. We believe that Jessica Rush understands the issues and is currently working on resolving them however progress has been slow.

39 93 **What is the current status of the workload documents?**

response The Dean has charged both department heads with re-visiting the workload issue with an eye towards developing a unified workload document. This charge was conveyed to the faculty at the August faculty meeting. No progress has been made since then.

43 **How many surveys were sent out to the members of the Advisory Board? The Alumni Board? The Experiential Review Board?**

response Advisory Board = 10
Alumni Board = 12
Experiential Review Board = 12

46 **Is the concern expressed about a lack of practical business training a general feeling or the view of one individual? Has this concern been evaluated?**

response Since pharmacists can practice in a wide variety of settings, it is difficult to teach a "practical" business model that will cover all the possibilities. Therefore, fundamental business concepts and basic management tools are taught with the expectation that graduates will be able to adapt them to their chosen area within the profession.

47 **Please clarify the projections with respect to the job market for graduates.**
93 **Is there no longer a shortage of pharmacists in Michigan?**

response A nationwide shortage still exists. However, it isn't as significant as it was a year or two ago. Within Michigan, there are a few locations (primarily in the Detroit/Flint areas) where finding a position as a pharmacist may be difficult. This is primarily due to the UAW mandating mail order pharmacy for all of its current employees and retirees. Even so, our graduates are able to find positions – they just may not be in the exact location that they initially wanted.

49 **The proposed increase in enrollment appears to be a concern. What are the**
66 **implications of going to 150 students with respect to instruction on the Big**
67 **Rapids Campus? At the Clinical sites?**

response On the Big Rapids Campus the major issue is workload. The enrollment in the College will be increased 25% at full implementation of the enrollment expansion plan, which translates to a 25% increase in workload. While student numbers are increasing the number of faculty on campus is decreasing, leaving those faculty within the College to pick up the additional workload. Without a workload policy in place, faculty are expected to continue to teach courses they traditionally taught without any evaluation of workload. Faculty burn out and retention could also become an issue if workload is not addressed. Classroom and lab space is being developed but is limited by the existing structure, which prevents classrooms from being designed in an optimal manner.

The implications off campus are a potential overburden of clinical faculty and clinical sites. Hiring more clinical faculty may solve this problem but may lead to overcrowding in the Advanced Experiential sites. Clinical sites in the highly desired cities (Grand Rapids and Kalamazoo, since this is where the P3 year is taught) are almost fully utilized. Hospitals and clinics are only willing to provide space for a certain number of students. Since Ferris does not have its own health sciences center we are dependent on the good will of the clinical site. Therefore, new clinical sites must be developed in other regions of the state (ie. Flint, Saginaw, etc.). This is what is currently being done. Whether we will find faculty who want to practice that far from the main and satellite campuses is unknown.

Another issue is recruiting and retaining Clinical Faculty for the new positions. Pharmacy clinical faculty have special skills and abilities which are highly sought after outside of academia. Many times clinical faculty can easily find, challenging, exciting, and almost always higher paying clinical pharmacy positions in the same city where they currently teach. This means retaining clinical faculty can be difficult. With more faculty needed for more students this hiring, retaining, leaving and rehiring cycle will be a constant drain on the department, both for faculty and administrators. This is also true of the faculty on the Big Rapids Campus.

Finally, and probably most importantly, more students means a greater student to faculty ratio in the final year of the program. The American College of Clinical Pharmacy recommends a student:faculty ratio of no more than 3:1 during most advanced pharmacy practice experiences. A larger ratio not only detracts from the students' experiences but also increases the risk of medication use errors. With more students the student to faculty ratio must frequently increase to 4:1. More clinical faculty can help lower this ratio, however then the two other problems expressed above become more obvious.

The College was mandated to expand enrollment even before the first class admitted to the all Pharm.D. Program had graduated. This mandate to expand came from the University administration without input from the faculty of the College. It would seem prudent to evaluate our progress and manpower.

62 **How were the criteria used for admissions determined? Are they static or do they change from year to year.**

response The admissions formula is re-assessed each year. A regression analysis is conducted using the current student GPA's and their pre-pharmacy data. While the principles factors generally do not change, the weight each one carries within the formula generally does from year to year. A draft formula is presented to the Admissions Committee and final adjustments/additions are made in March or April.

MEMORANDUM

DATE: November 17, 2004

TO: Academic Senate

FROM: Academic Program Review Council

RE: Recommendations for:

Doctorate in Pharmacy

CC: Kim Hancock, Ian Mathison, Thomas Oldfield, Michael Harris

IDENTITY OF PROGRAM:

Doctorate in Pharmacy

RECOMMENDATION OF ACADEMIC PROGRAM REVIEW COUNCIL:

We recommend that this program be Continued

CATALOG ENTRY:

Why Choose the College of Pharmacy?

Over one-half of the pharmacists practicing in Michigan are graduates of Ferris. Graduates are well prepared for the North American Pharmacists Licensure Examination (NAPLEX), which is required for licensure in Michigan and most other states.

Ferris offers a six-year program leading to a doctor of pharmacy (Pharm.D.) degree. The entering-level program operates on a 2-4 format. Pre-Pharmacy is two years with the last four years spent in the professional program provided by the College of Pharmacy. At Ferris, Pre-Pharmacy is offered through the College of Arts and Sciences. Transfer guides are available for most of the state's colleges and universities.

Pre-Pharmacy subjects include general biology, microbiology, general and organic chemistry, calculus, statistics, economics, English, communication skills, psychology or sociology, and cultural enrichment. All course work designated as pre-pharmacy must be completed in order to finalize admission. Prospective students should familiarize themselves with the University's General Education Guidelines.

Great Career Options

Since its inception in 1893, the College of Pharmacy has adapted its programming to meet the challenges and complex demands of an ever-changing profession. Current emphasis is on clinical practice and the provision of pharmaceutical care to ensure that the patient's drug therapy is appropriate, safe, effective for the condition being treated and cost-effective. Graduates of the College will be prepared to deliver pharmaceutical care to patients in a wide range of practice settings.

Some of the many fields of specialization open to the pharmacist include:

Community pharmacy—most pharmacists are engaged in this type of professional practice in either independently owned or chain pharmacies.
Hospital pharmacy—this field offers a variety of assignments in support of physicians, nurses and other members of the health care team in dealing with the medication needs of patients.
Industrial pharmacy—opportunities include those related to production, quality control, research, administration and sales promotion. Included also are the medical service representatives needed to keep physicians, dentists and pharmacists informed of new developments.

Other career options include home health care, long-term care, nuclear pharmacy, public health, law and various areas of pharmacy education and specialization.

Admission Requirements

Admission to the College of Pharmacy entry-level programs is highly competitive and is granted to the best qualified applicants on a space available basis. Priority is determined using a formula based primarily on academic performance and Pharmacy College Admission Test (PCAT) scores. Although the minimum acceptable cumulative GPA obtained in pre-pharmacy is 2.5, the average of successful applicants is much higher. The Pre-Pharmacy program can be taken at Ferris or at any other accredited college or university.

Graduation Requirements

The College of Pharmacy at Ferris State grants the doctor of pharmacy degree. Graduation requirements for the Pharm.D. degree include completion of all work outlined in the Pharm.D. curriculum, a cumulative GPA of at least 2.0 and recommendation for the degree by the faculty of the College of Pharmacy based on academic performance and ethical and professional standards.

The Application Process

Applications to the Ferris Pre-Pharmacy program (College of Arts and Sciences) or the Pharmacy program (College of Pharmacy) may be obtained by writing to the Office of Admissions, Ferris State University, 1201 S. State Street, CSS 201, Big Rapids, MI 49307-2737 or calling 231-591-2100. Applications are also available from the College of Pharmacy (www.ferris.edu/htmls/colleges/pharmacy/admissions/application.htm) and at the offices of Michigan high school and college counselors.

Applications and general information on the PCAT can be obtained by writing to: The Psychological Corporation, PSE Customer Relations - PCAT, 19500 Bulverde Road, San Antonio, TX 78259, or by calling 1-800-622-3231.

Applications, along with transcripts, are to be submitted after the completion of at least three semesters or four quarters of college work. It is expected that applicants will have completed all first year courses and at least the first semester of courses normally taken the second year.

Most importantly, the majority of the chemistry and biology/microbiology prerequisites need to be successfully completed prior to the application deadline. All submissions should be received prior to January 31 of the year the student wishes to enter the College to assure consideration.

Successful applicants will be notified of their conditional acceptance by the College in early April. Final acceptance will be contingent upon receipt of transcripts verifying successful completion of all Pre-Pharmacy requirements.

Accreditation

The College of Pharmacy is recognized by the Michigan Board of Pharmacy and is accredited by the American Council of Pharmaceutical Education, the national accrediting agency for all colleges of pharmacy. Ferris is a member of the American Association of Colleges of Pharmacy.

BACKGROUND INFORMATION OBTAINED FROM THE ACADEMIC PROGRAM REVIEW PROCESS:

CRITERIA SUMMARY BASED ON CONCLUSIONS OF THE PROGRAM PANEL:

- **Centrality to FSU Mission**
  The mission of Ferris State University is to "be a national leader in providing opportunities for innovative teaching and learning in career-oriented, technological and professional education."
  - The Pharmacy program is a professional program that supports this mission through the use of innovative classroom teaching and experiential education which both lead to the student being prepared to begin their career following graduation.
- **Uniqueness and Visibility**
  - The Pharmacy program is a professional four year Doctoral program, one of only three pharmacy programs in the state. The only other professional doctoral program at Ferris similar to pharmacy is optometry.
  - Approximately one-third of the students enrolled in the honors program designate pharmacy as their program of choice. Pre-pharmacy students are offered early enrollment into the pharmacy program.
  - The split campus model used to deliver the curriculum also enhances visibility of the program throughout the state.
    - Students visiting experiential sites wear a Ferris State University intern badge and are easily recognized as a Ferris student by patients and other healthcare professionals at experiential site.
    - The P-3 facilities at Western Michigan University and GR MERC are shared with many other healthcare programs from other universities in the state, and signage at both locations recognizes Ferris State University.
    - In the P-4 year, students enroll in clerkship rotations throughout the state, interacting with patients and other healthcare providers.
- **Service to State and Nation and World**
  - The majority of pharmacists practicing in the state have graduated from Ferris.
  - Faculty and administrators from the College of Pharmacy serve as leaders in many state and national organizations, including the Michigan Pharmacy Association, Michigan Board of Pharmacy, American Association of Colleges of Pharmacy, American College of Clinical Pharmacy, National Community Pharmacy Association, and the American Society of Health Systems Pharmacists.
  - The College also provides continuing education opportunities for pharmacists.
    - Approximately 300 pharmacists attend each year the annual CE seminar presented in Big Rapids
    - Approximately 90 pharmacists and other health care practitioners attend the Infectious Disease Symposium presented in Grand Rapids.
    - Other CE opportunities have been offered at different sites through out the state and have allowed pharmacists to receive certification in a specialty area.
- **Demand by Students**
  - The demand for seats in the College of Pharmacy has increased every year since 2001, as can be seen by the increase in qualified and total applicants the College receives.
  - The number of students admitted in 2001 and 2002 was 120, however due to a University mandate to increase enrollment 130 students were admitted in 2003, and 142 in 2004.
  - In 2005 enrollment will reach a maximum when 150 students are admitted.
- **Demand for Graduates**
  - There is currently a shortage of pharmacist nationwide that is projected to worsen as the leading edge of baby boomers begins to reach retirement age. The primary source of the shortage can be seen in the demand for pharmacists in the large chain settings. This has affected almost all pharmacist career pathways increasing average salaries and overall demand within the profession. The nationwide shortages is reflected in a recent chain pharmacies survey that reported 4133 pharmacy openings (3648 full-time, and 485 part-time) for January 2004.

- **Placement Rate and Average Salary of Graduates**
  - Because of the recent implementation of the Pharm.D. degree, data is not currently available for placement for these graduates. However, 48% of students responding to the "senior survey" identified they had already accepted positions prior to graduation.
  - Pharmacy compensation has been positively affected by the recent shortage. But even before this shortage surfaced a few years ago, salaries were favorable and had of history of steady growth.
  - The average salary of Pharmacists is over $80,000 per year.
- **Service to Non-Majors**
  - Currently a member of the College of Pharmacy Faculty is involved in courses for the Michigan College of Optometry and the College of Allied Health Sciences. The courses are: OPTM 532 - General Pathology, OPTM 533 - General and Ocular Pharmacology, and DHYG 218 - Pharmacology for Dental Hygienists.
  - Faculty and Administrators from the College of Pharmacy are involved in orientation course offered by the Honors College, FSUH 290 - Orientation to the Discipline of Pharmacy. This is a 1 hour course offered the Fall term of the sophomore year to pre-pharmacy students enrolled in the Honors College.
- **Quality of Instruction**
  - Educational standards for the Doctor of Pharmacy degree have brought faculty to Ferris with degrees in pharmaceutics, medicinal/biochemistry, pharmacology, pharmacognosy, toxicology, pharmaceutical administration, business, and pharmacy practice. This type of experience from around the nation provides a diverse and rich teaching and practice environment for students of the College of Pharmacy.
  - The College of Pharmacy provides clinical training in practice setting that is not only recognized locally and regionally, but nationally.
  - The multi-disciplinary nature of medical training, allows our students the opportunity to not only interact with a diverse array of pharmacists, but also physicians, nurses, social workers and other health care paraprofessionals.
  - Faculty use many different methods for teaching including classroom lecture, practice-based laboratory, recitation, problem based learning, group learning, and web-enabled learning.
  - The College of Pharmacy has broken new ground for the University with distance education classrooms operating in two different cities with class sizes of 100-130 (future growth to 150).
  - Students graduating from the program pass the pharmacy licensure exam at approximately the same rate as the nation.
- **Facilities and Equipment**
  - Facilities in Big Rapids house the first two professional years with classrooms in Grand Rapids, and Kalamazoo used to house the third professional year of the program.
  - The Big Rapids campus is undergoing renovation to improve the student study lounge area as well as convert several labs into classroom space. Much of this was necessary to support the increased enrollment.
  - Comments from students indicate the need for increased space in Grand Rapids and Kalamazoo as the enrollment expansion proceeds and more students move through the curriculum and reach these locations in the third professional year.
  - Hospital and community pharmacies through out the state are used for the fourth professional year to provide the experiential portion of the program. With increased enrollment more of these sites will be necessary to meet the demand.
  - None of the APPE sites are owned by Ferris and therefore each individual institution allocates space for faculty and students. Because faculty members are not employees of these institutions and because space in any health care facility is at a premium, faculty offices are frequently small and/or shared with other faculty at the same institution.
  - Student meeting areas are also limited, primarily because conference rooms in general at health care institutions are limited, with a significant demand for their use. This is one reason that new pharmacy practice faculty must be placed at institutions without a current affiliation with Ferris State University.
  - The College of Pharmacy must continue to work with affiliated institutions to maintain or increase office and meeting space necessary to adequately educate its students.

- **Library Information Resources**
  - Significant efforts to correct the deficiencies in the Library resources are underway.
    - Additional staff members in the Library will improve service to both on- and off-campus faculty.
    - Additional resources and improved access methods will increase consistency and reliability.
  - The recruitment of a Drug Information Specialist for the College also will contribute to increased progress in providing updated resources and methods that ensure access.
  - Efforts must be continued to reduce the fragmented nature of on-line access to journals and references.
  - Initial conversations have been held with the desire to secure access to a complete informational database such as OVID.
    - Ongoing expansion of the program, both in enrollment and geographically, requires that a secure and consistent informational source for all students and faculty be provided.
    - Current expenditures for pharmacy resources must be evaluated and the possibility of combining various health-care related budget lines to obtain a more costly, but more complete data base must be considered.
- **Faculty: Professional and Scholarly Activities**
  - Many faculty within the College of Pharmacy work at various scholarly activities, However since scholarly activity is not a University priority, support and resources for scholarly activity are limited.
  - The high faculty to student ratios in the College, and the amount of time faculty spend teaching limits the amount of time they are able to devote to the pursuit of scholarly activities.
  - Faculty are rewarded for scholarly activities as a component of promotion and merit.

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Grants and Contracts	$ 1912	$ 770	$ 200	$ 44,819	$ 82,106	$ 101,000
Publications	Not reported	Not reported	Not reported	Not reported	12 + 1 chapter	18 + 3 chapters
Abstracts	Not reported	Not reported	Not reported	Not reported	1	5
Presentations	Not reported	Not reported	Not reported	Not reported	17	50

- **Administrative Effectiveness**
  - The College of Pharmacy has recently completed the design and implementation of the Doctor of Pharmacy curriculum as required by the accreditation organization. This required a complete revision of the curriculum, with the addition of one more year of education and clinical experience; implementation of new coursework across the curriculum; expansion of the Kalamazoo site; design and implementation of the Grand Rapids site at the MERC; the addition of clinical experiential sites across the state; and expansion of the faculty to accommodate the additional coursework and experiential sites.
  - The recent graduation of the first Doctor of Pharmacy class speaks to administrative effectiveness and desire to maintain excellence in the pharmacy program. Administration has also been responsive to student concerns and logistic issues that have occurred during the implementation process. The combination of program and enrollment expansion hiring, along with turnover of existing faculty will increase the need for teambuilding, good communication and procedures for individual faculty goal planning and assessment.
  - Administrative guidance toward the finalization of the workload document for the College of Pharmacy will help workload allocation across both departments. With an approved faculty workload it anticipated that faculty will be able to better manage their commitment to teaching, their participation in scholarly activities, and their service to the University.

COST INFORMATION:

According to the 2001-2002 report from institutional research:

Total cost per SCH

Doctorate in Pharmacy	**$424.13**

Total program cost

Doctorate in Pharmacy	**$62,347.34**

The panel comments that "in interpreting the Cost/SCH several issues need to be considered. The College of Pharmacy program runs 12 months a year, while the accounting information used by Ferris only considers the Fall and Winter semesters. In addition, when students are on clerkship rotations they spend 40 hours/week with a faculty member generating a large number of SCHE but only a few SCH. Unfortunately this is not taken into account in the Cost/SCH calculation. Lastly our students pay tuition at the profession rate, which generates income to offset the extra cost incurred by the program."

ASSESSMENT OF THE PROGRAM BY THE ACADEMIC PROGRAM REVIEW COUNCIL:

OBSERVATIONS:

- The Degree Program Cost Document for 2001-2002 published by Institutional Research and Testing lists all programs; 2 year, 4 year, graduate, and professional degrees in the same table.
- The Doctorate in Pharmacy ranks 7 /229 in programs at the University based on **total cost per student credit hour** ranked from high to low.
- The Doctorate in Pharmacy ranks 2 /229 in programs at the University based on **total program cost** ranked from high to low.
- The panel reports that there are 13 on-campus and 25.5 off-campus FTE's assigned to this program. The program has 265 Adjuncts.
- The graduate survey was from 65 graduates.
- A total of 34 employer surveys were returned.
- A Students Survey was administered to 230 students.
- A total of 25 faculty surveys were returned.
- A total of 13 responses were received from the Advisory Board, Alumni Board, and Experiential Review board.

STRENGTHS OF THE PROGRAM

- The program attracts many pre-pharmacy students to the University
- The students in the program are high quality
- The program has a high retention rate and the students do well on the national board exams
- The program is highly respected and has a reputation for providing a quality education
- The faculty is highly qualified and dedicated to working with students
- The program has well designed procedures for on going evaluation
- Areas of concern in the curriculum have been identified and addressed
- The number of surveys returned is sufficient to provide statistically significant results
- The program is developing effective distance learning capabilities
- Job prospects look good for graduates of the program

THE ACADEMIC PROGRAM REVIEW COUNCIL HAS THE FOLLOWING COUNCERNS:

- The program has encountered numerous difficulties in scheduling distance learning opportunities, particularly at the Big Rapids campus
- The off-campus faculty and students have encountered difficulties in accessing the scientific literature
- Many of the fourth year pharmacy students lack the skills necessary to write a publication quality research paper
- There are tensions between the faculty and the administration that need to be resolved
- There needs to be a resolution with respect to the creation of an equitable workload policy that applies to both basic science and clinical faculty
- The increased enrollment is creating logistical problems for the program

THE ACADEMIC PROGRAM REVIEW COUNCIL RECOMMENDS THAT THE FOLLOWING STEPS BE TAKEN TO IMPROVE THE PROGRAM:

- The program faculty and administration should continue to explore options to implement distance learning activities involving the Big Rapids campus
- The program should continue to work with the FLITE staff to resolve the problems that are encountered in accessing the scientific literature
  - The University should consider additional funding for access to databases such as OVID.
  - These databases would not only serve this program, but also faculty and students from all health related and science programs at the University
- APRC encourages the College of Pharmacy to work with Languages and Literature to resolve the problem of improving student writing skills
- The program faculty and administration should develop constructive ways of working out differences between faculty and administration
- The program faculty and administration should continue develop creative solutions to overcome the logistical and facilities related problems associated with educating 150 students in each class using modern educational approaches in a facility designed for instruction in the 1970's

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Section 1
Program Overview

History of FSU's Pharmacy Program

Pharmacy has had a presence on the campus of Ferris State University since the first pharmacy student enrolled for the purpose of preparing for the Michigan state licensing examination in 1894. Over the years the program has transitioned from a course taught by Mr. Ferris, to a five-year Bachelor of Science degree program, and finally to an a Doctor of Pharmacy (Pharm.D.) curriculum with the entering class of 2000. The conversion to the Pharm.D. curriculum was mandated by the national accreditation agency and is a requirement for any new graduate who wishes to take the North American Pharmacy Licensure Examination (NAPLEX), the only exam recognized for pharmacist licensure. The last B.S. students graduated from Ferris in May of 2003 and the first all Pharm.D. class graduated in September of 2003. From an original entering class size of 120, the Pharm.D. program has incrementally grown in enrollment each of the past two years to a current entering class size of 140 students and a projected growth to 150 students in the fall of 2005 based on an enrollment expansion model.

Overview of Pharmacy Program

In the fall of 2000 the first all Doctor of Pharmacy (Pharm.D.) class was admitted to the College of Pharmacy. The conversion from the B.S. in Pharmacy to the all Pharm.D. took the program from 3 years of undergraduate education to 4 years of professional education. The B.S. degree was primarily taught on the Big Rapids campus, with students spending the majority of the time on the Big Rapids campus. Although the college offered a smaller-scale optional Pharm.D. track since 1990, the new Pharm.D. required major resources in the form of time and money and was a monumental task to develop and implement. The faculty and administration of the College was challenged to completely overhaul the curriculum to include a significant increase in patient contact and clinical training commensurate with the expectations of the Doctor of Pharmacy degree. As a result, a split campus model was introduced. This split campus model blends didactic and clinical training close to larger metropolitan areas capable of providing a basic core of pharmacy practice settings. Upon acceptance to the Phram.D. program a student must now complete four years of professional studies. The first two years, (P-1 - first professional year, and P-2 - second professional year) are taught in Big Rapids and focus on pharmaceutical sciences course work. The third year (P-3 - third professional year) students relocate to Grand Rapids or Kalamazoo, hence the split campus model, for an additional year of course work with a focus on the clinical sciences. This relocation places the students closer to a medical center and provides for more clinically based experiences. Students also begin more intensive experiential rotation in the P-3 year. The fourth year (P-4 - fourth professional year) students rotate through a series of advanced pharmacy practice experiences (APPE) that are off-campus sites located throughout the state. Students may also take elective rotations nationally and internationally in many different locations and practice settings. This wide variety of experiential sites promotes the ability of the students to work with diverse colleagues and patients. Of special note is our exchange program with two European universities to provide international experiential clerkship rotations. Five-week rotations at the University of Bath in England or Angers University in France are available for a limited number of P-4 students. Additionally, the College of Pharmacy is in the process of approving a joint Doctor of Pharmacy/Masters of Business Administration degree for students as an optional career path. This provides training for students interested in managed care and/ or community pharmacy ownership.

A wide variety of instructional techniques support the college's mission to expose students to diverse educational and professional experiences. For example, group work and learning teams are utilized in all years of the program to stimulate student interactions. These are described in detail later under standards for curriculum. Early experiential training is required in the P-1 and P-2 years. Most of the experiential training in P-3 and P-4 years occurs at sites distant to the main campuses in Kalamazoo and Grand Rapids.

Students also choose to progress through the curriculum at a standard pace (non-accelerated) or accelerated pace. The accelerated pace allows students to take classes in the summer for two out of three summers and finish the program approximately 8 months sooner than the non-accelerated curricular choice.

To accomplish the aggressive expansion goals (25% over four years), a number of new faculty had to brought on board in both departments. Although the task of attraction quality faculty is becoming more difficult as existing schools expand and new schools open their doors, we have been successful in filling the positions created for the expansion. However, with the departure of faculty due to relocation and retirement and the addition of more new positions, it will continue to be a challenge.

The College having a teaching intensive mission is reflected in higher faculty to student ratios. The Ph.D. faculty to student ratio in the College of Pharmacy is 18.3:1 compared to a range of 6.1-33.5:1 for our peer institutions. The Pharm.D. faculty to student ratio based on reported full time equivalent positions is 10.8:1 compared to a range of 2.9-30.0:1 for our peer group.

Mission

The College of Pharmacy adopted the following Mission Statement in December 1992:

Statement of Mission (College of Pharmacy)

The College of Pharmacy at Ferris State University is the principle source of pharmacy practitioners for the state of Michigan. Its primary mission is the selection and education of qualified students to become employable, competent practitioners of pharmaceutical care. The College of Pharmacy prepares its students to be capable of professional growth with the ability to contribute to the profession and to a constantly changing global society.

College of Pharmacy goals:

1. Provide a comprehensive educational experience to carefully selected, highly motivated students that prepares them to competently deliver pharmaceutical care in the practice setting of their choice.
2. Foster the development of certificate programs that reflect contemporary pharmacy practice.
3. Utilize faculty training, knowledge, and expertise as a means of increasing the well being of other individuals and groups in our society.
4. Contribute to the body of pharmaceutical, medical, and/or education knowledge through scholarly activity and research by both faculty and students.
5. Foster the personal and professional growth of each faculty member as they meet the demands of both a dynamic curriculum and profession.
6. Gain support and acquire resources for the College by development and maintenance of relationships with industry, professional associations, alumni, and friends.

A Mission Statement Committee was formed in 2003 to revise the mission of the college. A preliminary draft was presented to the faculty at the December 2003 faculty meeting for review. Comments and suggestions from that discussion are being evaluated for incorporation into a new mission statement for the College of Pharmacy. Discussion of the revised mission statement is expected to resume at the December 2004 faculty meeting.

Statement of Mission (Pharmaceutical Sciences Department)

The Department of Pharmaceutical Sciences is the principal source of expertise within the college and university for pharmacology/toxicology, pharmaceutics, medicinal chemistry, medical biochemistry, introductory practice skills, pharmaceutical administration and pharmaceutically relevant natural products. As such the department is involved in the delivery of professional and service courses and the delivery of continuing education courses throughout the state. The department is involved in service to the students, college, university, community and the profession, as well as scholarly activities. The department has a role in developing professionalism in our students and fostering professional relations throughout the college and university.

Pharmaceutical Science Department goals:

1. Provide a comprehensive educational experience in the pharmaceutical sciences to students, preparing them to competently deliver pharmaceutical care in the practice setting of their choice.
2. Provide, upon request, a comprehensive educational experience and student involvement in the pharmaceutical sciences to students in the other health related professions.
3. Utilize faculty training, knowledge, expertise and technology as a means of increasing the well being of other individuals and groups in our society.
4. Contribute to the creation, integration, and dissemination of pharmaceutical, medical, and/or other related knowledge through scholarly activity and research by both faculty and students.
5. Expand the personal and professional growth of each faculty member.
6. Increase participation in professional associations.
7. Establish industrial relationships.
8. Active involvement in student advising.
9. Establish relationships with other appropriate departments in Colleges of Pharmacy in the state of Michigan.

Statement of Mission (Pharmacy Practice Department)

The Pharmacy Practice Department is dedicated to the education of pharmacists capable of improving healthcare through the provision of pharmaceutical care.

Pharmacy Practice primary goals:

1. To develop in each of our students an authoritative, outcomes-based understanding of pharmacotherapy and problem solving.
2. To develop in each of our students the ability to communicate their pharmacotherapy-related expertise to patients and other healthcare providers.
3. To provide students with an understanding of the roles and responsibilities of pharmacists in the multidisciplinary healthcare delivery system.
4. To reinforce the role of the pharmacist as an independent and lifelong learner.
5. To provide leadership in the advancement of the pharmacy profession and the implementation of pharmaceutical care.

6. To develop an expertise in the delivery of didactic and experiential education through the use of alternative learning strategies.
7. To create an environment conducive to personal and professional growth for all faculty within the department.
8. To contribute to the advancement of the profession through active engagement in scholarly activities.

Pharmacy Practice secondary goals:

1. To enhance problem solving skills through the implementation of problem-based learning.
2. To develop early experiential elements within the curriculum for all students.
3. To support professional development among practitioners through the provision of continuing education programming.
4. To establish a communication network to facilitate distance learning between practice sites.
5. To provide clinical opportunities for students to deliver pharmaceutical care in multidisciplinary practice settings.
6. To develop experiential opportunities in practice settings at the forefront of pharmaceutical care delivery.
7. To implement a structured faculty mentoring/development program.
8. To support faculty scholarly activities through appropriate allocation of departmental resources.
9. To establish a working collaboration with innovative pharmacy practice models.

Section 2
Graduate Survey

The first group of students from the all Pharm.D. curriculum (accelerators) graduated at the end of August 2003. Prior to graduation these students were given a survey ("senior survey"), assessing the curriculum. There were only a small number of graduates at this time (18) and an even smaller number that completed the survey (14). The survey was untested and was, therefore, piloted in this group of students. For these reasons the results from this initial survey are not reported here.

The survey was subsequently updated and administered to the remaining members (non-accelerators) of the first class of graduates in March 2004 (65) prior to graduation. While these students had not yet graduated they were students in the final months of the program and therefore were the best data we could collect on "graduates". This survey will serve as a baseline for surveying the students after graduation. It is planned that follow up surveys will be sent 1, 5 and 10 years following graduation.

In analyzing the results (see page 8 - 17) the College of Pharmacy assessment committee focused on those sections that received mean scores greater than 2.5 and/or median scores greater than 2, using the following scoring sequence: 1 = Strongly Agree, 2 = Agree, 3 = Undecided, 4 = Disagree, 5 = Strongly Disagree. They also looked at sections that received mean scores less than 1.5 and/or median scores of 1. In the "College and University Student Services" section the scoring was slightly different and, therefore, we focused on mean scores greater than 2.5 and/or median scores of 3.

In the professional curriculum there were certain areas that received less favorable responses. These courses included pharmaceutics, pharmacy management, sociopharmacy, law and ethics, and drug information/research methods. Two of these courses were redesigned, including new course instructors, after the survey respondents completed the course. The Law and Ethics, and Drug Information/Research Methods courses were the two courses that were redesigned. Continued evaluation of the other three courses is ongoing through content evaluation and future graduate surveys.

There were other areas of concern in the professional curriculum noted by students, either in the survey questions or in their comments. Many students commented that content on over-the-counter (OTC) medications was especially lacking. This perceived lack of OTC content was also reflected in the survey with the question addressing the adequateness of herbal therapy content. Most of the OTC information is presented in the therapeutics sequence, within the context of a specific disease state. An OTC module has been created in therapeutics, which include 16 lecture hours and 2 integrated lab sessions dedicated to OTC's. Also, four class hours are dedicated to herbal therapy. Students may be less aware of the content taught regarding OTC medications because it is not taught as a stand-alone course. Faculty members teaching in the therapeutics sequence are advised to highlight and discuss in detail OTC therapy of the disease they are presenting.

Other comments concerning the professional curriculum made by a number of students addressed course sequencing or course distribution. A number of students felt that therapeutics should begin earlier in the curriculum. Also a few courses were believed to have too much emphasis in the curriculum, including biochemistry, microbiology and medicinal chemistry and one course, pharmacology was believed to need more emphasis.

Many areas in the Early Pharmacy Practice Experiences(EPPE) were scored less favorable. Both the community and hospital EPPE in the P-3 year scored high. The hospital EPPE was redesigned recently to

offer a 3-week experience during the summer, instead of 1 day/week for 15 weeks. This was done to increase the number of available sites and better focus each student's experience. In addition, this change was made at the request of hospital preceptors, who felt that the once weekly experience was disjointed and actually a disincentive for students to enter hospital practice following graduation.

To improve the community EPPE in the P-3 year, community preceptors are now given only P-3 students for EPPE or P-4 students for Advanced Pharmacy Practice Experiences, but not both at the same time. This was done to avoid confusion for preceptors on the type of experience to offer the students. In addition, over 75% of the students worked in community pharmacies during the curriculum. Therefore, the P-3 EPPE in the community was less likely to further develop their drug dispensing skills.

Students did not feel adequately prepared for the clinical seminar course in the P-4 year. This is a one-credit course where they develop and prepare a formal presentation. Students then write a professional manuscript on the same topic following the oral presentation. Changes in the curriculum in the P-3 year were implemented after this class to address issues related to preparation for the clinical seminar. First, greater emphasis has been put on clinical seminar in the Clinical Communications course in the P-3 year. In addition, topic selection and research has been incorporated into Drug Literature Evaluation and Research Methods (P-3 year). This will help students get an earlier start on the seminar.

Throughout the curriculum students were highly satisfied with their access to computers, both on and off campus. The area of student services that scored less favorably was off-campus counseling services. However, a large percentage of students did not require any of these counseling services and therefore did not answer the question. Also, off-campus counseling services have greatly improved with the recent addition of a Director of Off-Campus Student Services.

At this point the assessment committee is planning to survey the Pharm.D, class that will graduate in August 2004 and continue future surveys of graduates 1, 5 and 10 years after graduation. These surveys will allow us to assess whether our curriculum is meeting the expected outcomes and whether our graduates are adequately prepared for the pharmacy positions where they are employed.

Ferris State University
COLLEGE OF PHARMACY
GRADUATE QUESTIONNAIRE

As a part of a plan for ongoing improvement, we are interested in your perception of the quality of education you received and suggestions for improvement. We appreciate your taking a few minutes to complete the following questionnaire. Mark your answers on the bubble sheet. If anything about this survey is confusing or ambiguous, please write your concerns directly on this questionnaire. THANK YOU FOR YOUR TIME!

1. Please indicate where you completed your P-3 year.

Grand Rapids	63.1%
Kalamazoo	36.9%

2. Please indicate which geographic area you completed the majority of your clerkships P-4.

Grand Rapids	44.6%
Kalamazoo	30.8%
Lansing/Flint/Saginaw/Bay City	20%
Marquette	

3. Years pharmacy experience before entering pharmacy school:

None	24.6%
Less than a year	16.9%
One to two years	36.9%
Three to five years	16.9%
Greater than five years	4.6%

4. Pharmacy experience before entering pharmacy school:

Not Applicable	24.6%
Predominantly hospital	9.2%
Predominantly community	66.2%

5. Pharmacy experience, by working outside that required in the curriculum, obtained during pharmacy school:

Not Applicable	6.2%
Predominantly hospital	18.5%
Predominantly community	75.4%

6. The majority of my pre-pharmacy credits were completed at:

Ferris State University	36.9%
Another four-year in-state university	26.2%
A two-year in-state college	29.2%
A four-year out-of-state university	4.6%
A two-year out-of-state college	1.5%

7. Years of college prior to entering Ferris' College of Pharmacy:

Two years	47.7%
Three years	24.6%
Four years	12.3%
Greater than four years	12.3%

8. Prior to entering FSU's College of Pharmacy I had:

No degree	38.5%
Associates Degree	46.2%
Bachelors Degree	10.8%
Masters Degree	0
Doctoral Degree	0

Comments: addressed in the text of the document

Where appropriate, please indicate the number which best describes your answer, using the following code:

1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree

Pre-pharmacy curriculum

9. The pre-pharmacy science requirements adequately prepared me for the pharmacy curriculum (e.g. Biology, Microbiology, Chemistry, Organic Chemistry, and Statistics).	Median = 2 Mean = 2.10

Professional curriculum

10. The anatomy and physiology courses provided an adequate foundation for subsequent pharmacy courses.	Median = 2 Mean = 2.03
11. The Clinical Microbiology and Immunology course provided an adequate foundation for subsequent pharmacy courses.	Median = 2 Mean = 2.24
12. The Medical Biochemistry course provided an adequate foundation for subsequent pharmacy courses.	Median = 2 Mean = 2.31
13. The Introduction to Drug Action/Diagnostics course provided an adequate foundation for subsequent pharmacy courses.	Median = 2 Mean = 2.21
14. The pharmaceutics courses provided an adequate foundation in physiochemical characteristics and behavior of drugs, pharmaceutical dosage forms and drug delivery.	Median = 2 Mean = 2.63
15. The pharmacokinetics course provided an adequate foundation for subsequent pharmacy courses.	Median = 2 Mean = 1.98
16. The pharmacology courses provided an adequate foundation for subsequent pharmacy courses and clerkships.	Median = 2 Mean = 1.87
17. The medicinal chemistry courses provided an adequate foundation for subsequent pharmacy courses.	Median = 2 Mean = 2.27
18. The pharmacy management courses provided me with an adequate understanding of the necessary managerial functions to support the delivery of patient services in a variety of healthcare environments.	Median = 4 Mean = 3.77
19. The Pharmacy Law and Ethics course provided an adequate understanding of state and federal and related ethical principles.	Median = 5 Mean = 4.19
20. The Sociopharmacy course provided me with an understanding of human behavior on the delivery of pharmaceutical and related health care services.	Median = 4 Mean = 3.98
21. The pharmacoeconomics course provided me with an understanding of economic tools useful in drug product selection for formularies; and as a matter of public policy.	Median = 2 Mean = 1.69
22. The integrated lab courses helped refine my practice skills and complemented concurrent coursework.	Median = 2 Mean = 2.06
23. The Drug Information/Research Methods course provided an adequate foundation in medical literature review, statistics and drug information for clinical seminar and subsequent P-4 rotations.	Median = 3 Mean = 3.18
24. My pharmacotherapeutic courses provided adequate content for subsequent clerkships.	Median = 1 Mean = 1.54
25. The required courses in the pharmacy curriculum provided an	Median = 4

adequate understanding of natural and herbal products.	Mean = 3.73
26. I was able to enroll in the electives I was most interested in.	Median = 2 Mean = 2.52
27. The electives I was able to enroll in were compatible with my career choice.	Median = 2 Mean = 2.47

Comments: addressed in the text of the document

Experiential (P-1 - P-4) component

28. The Early Pharmacy Practice Experience (EPPE) in the community, hospital, or Specialty practice setting during the first professional ( ) year broadened my perspective of what pharmacy practice can be like in a different setting other than what I've already experienced as an intern.	Median = 2 Mean = 2.68
29. The EPPE questions I was required to ask of the site preceptor on my P-1 site visit were appropriate enough to give me a reasonable understanding of what types of pharmacy services are provided at the particular practice site (community, hospital, specialty practice) I visited.	Median = 3 Mean = 2.63
30. The EPPE nursing home visits in the second professional (P-2) year began to help me relate drug therapy to the disease it was intended to manage.	Median = 2 Mean = 2.68
31. The required case presentations of nursing home patients in the P-2 year were helpful in teaching me the appropriate patient case presentation style or format.	Median = 2 Mean = 2.44
32. The EPPE nursing home visits in the P-2 year were useful in acquainting me with patient charts and pertinent patient data gathering from those charts.	Median = 2 Mean = 2.29
33. The third professional year (P-3) EPPE in the community setting helped further develop my prescription processing abilities (e.g. taking prescriptions over the phone, order entry, dispensing, compound, third part billing, pharmacy management, trouble shooting).	Median = 4 Mean = 3.1
34. The P-3 year EPPE in community practice helped further develop my patient communication and counseling skills (e.g. provide drug information and patient specific counseling on both prescription and over-the-counter medications).	Median = 2.5 Mean = 2.95
35. The P-3 year EPPE in hospital practice introduced me to the drug distribution process in the hospital setting (e.g. order entry, unit dose, IV solutions, chemotherapy, nutrition support, how doses are delivered).	Median = 3 Mean = 2.77
36. The P-3 year EPPE in hospital practice introduced me to providing patient focused pharmacist care in the hospital setting (e.g. pharmacokinetics, exposure to DUE and P&T, other administrative processes, providing drug information).	Median = 2.5 Mean = 2.76
37. Of the Advanced Pharmacy Practice Experiences (APPE) offered in the fourth professional (P-4) year, I was able to enroll in most experiences that met my interests.	Median = 2 Mean = 2.23
38. I am able to conduct a thorough patient medication history in both a hospitalized and ambulatory (community pharmacy/clinic-based) patient.	Median = 2 Mean = 1.67
39. I am competent in both oral and written communications.	Median = 2 Mean = 1.77
40. I have a good knowledge base of pathophysiology and pharmacotherapeutics of common diseases of adults.	Median = 2 Mean = 1.90
41. I have a good knowledge base of pathophysiology and pharmacotherapeutics of common diseases of pediatric patients.	Median = 3 Mean = 3.13

42. I am competent in obtaining adequate drug information to answer therapy related questions and can provide appropriate documentation for that answer.	Median = 2 Mean = 1.69
43. I am competent in evaluating the medical literature and can interpret basic statistical analysis performed in a study.	Median = 2 Mean = 2.24
44. After completing the required P-4 APPEs, I am proficient in monitoring and assessing patient therapy by utilizing a problem-oriented approach.	Median = 2 Mean = 1.95
45. After completing the required P-4 APPEs, I am able to influence and optimize drug therapy for individual patients.	Median = 2 Mean = 1.89

Comments: addressed in the text of the document

Professional Interactions

46. From my pharmacy education, I am able to conduct a medication history.	Median = 2 Mean = 1.64
47. From my pharmacy education, I am able to counsel patients regarding their prescription medications.	Median = 2 Mean = 1.71
48. From my pharmacy education, I am able to consult with patients regarding their selection and use of OTC medication.	Median = 2 Mean = 2.41
49. The pharmacy curriculum prepared me to communicate effectively with pharmacists.	Median = 2 Mean = 1.98
50. The pharmacy curriculum prepared me to communicate effectively with health care professionals.	Median = 2 Mean = 2.07
51. The pharmacy curriculum provided the background and experience necessary for me to prepare and present a seminar.	Median = 2 Mean = 2.64
52. The pharmacy curriculum provided the background and experience necessary for me to communicate written medical information to other health care professionals.	Median = 2 Mean = 2.03

Comments: addressed in the text of the document

Professionalism and Ethics

53. Involvement in professional organizations was encouraged during my pharmacy training.	Median = 2 Mean = 2.28
54. I gained an understanding of a number of alternative practice options during pharmacy school.	Median = 2 Mean = 2.36
55. The pharmacy program gave me an appreciation for an ethical code of conduct in pharmacy practice.	Median = 2 Mean = 1.97

Comments: addressed in the text of the document

I was involved in the following organizations during pharmacy school.

Organization	% involvement
AMCP	1.5
ASHP	30.8
ASP	46.2
Kappa Psi	0
Lambda Kappa Sigma	21.5
NCPA	9.2
Phi Delta Chi	0
Phi Lambda Sigma	21.5
Rho Chi	18.5

Where appropriate, please indicate the letter which best describes your answer, using the following code.

1 = Agree 2 = Undecided 3 = Disagree 4 = Does Not Apply

College and University Student Service :P-1 and P-2 years only - Big Rapids

65. An adequate array of counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) were available	Median = 2 Mean = 2.28 Does not apply = 27.7%
66. The counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) I used met my needs.	Median = 2 Mean = 2.00 Does not apply = 69.2%
67. The academic advising (eg. advise on selection of electives, site selection, progression rules, acceleration) I received met my needs.	Median = 2 Mean = 2.19 Does not apply = 27.7%
68. The financial aid guidance met my needs.	Median = 2 Mean = 1.85 Does not apply = 30.8%
69. The housing guidance met my needs.	Median = 2 Mean = 1.97 Does not apply = 35.4%
70. The access to computers/software (e.g. enough terminals, appropriate software) in the college met my needs.	Median = 1 Mean = 1.37 Does not apply = 3.1%
71. The access to computers/software (e.g. enough terminals, appropriate software) in the FLITE met my needs.	Median = 1 Mean = 1.15 Does not apply = 10.8%
72. The Big Rapids campus library/literature retrieval services met my needs.	Median = 1 Mean = 1.48 Does not apply = 24.6%
73. Student health services met my needs.	Median = 1 Mean = 1.37 Does not apply = 36.9%

Comments: addressed in the text of the document

College and University Student Service :P-3 year only

74. An adequate array of counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) was available.	Median = 3 Mean = 2.79 Does not apply = 50.8%
75. The counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) I used met my needs.	Median = 3 Mean = 2.57 Does not apply = 83.1%
76. The career counseling I received met my needs.	Median = 3 Mean = 2.54 Does not apply = 50.8%
77. The academic advising I received met my needs.	Median = 2 Mean = 2.34 Does not apply = 47.7%
78. The financial aid guidance and support met my needs.	Median = 2 Mean = 1.84 Does not apply = 44.6%
79. The housing guidance met my needs.	Median = 3 Mean = 2.47 Does not apply = 46.2%
80. The access to computers/software (e.g. enough terminals, appropriate software) met my needs.	Median = 1 Mean = 1.43 Does not apply = 6.2%
81. The library/literature retrieval services met my needs.	Median = 2 Mean = 2.06 Does not apply = 15.4%
82. Student health services met my needs.	Median = 3 Mean = 2.35 Does not apply = 53.8%

Comments: addressed in the text of the document

College and University Student Service :P-4 year only

83. An adequate array of counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) were available.	Median = 3 Mean = 2.67 Does not apply = 52.3%
84. The counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) I used met my needs.	Median = 2 Mean = 2.30 Does not apply = 78.5%
85. The career counseling I received met my needs.	Median = 3 Mean = 2.37 Does not apply = 49.2%
86. The academic advising I received met my needs.	Median = 2 Mean = 2.00 Does not apply = 43.1%
87. The financial aid guidance and support met my needs.	Median = 2 Mean = 1.90 Does not apply = 49.2%
88. The housing guidance met my needs.	Median = 3 Mean = 2.50 Does not apply = 55.4%
89. The access to computers/software (e.g. enough terminals, appropriate software) met my needs.	Median = 1 Mean = 1.50 Does not apply = 12.3%
90. The library/literature retrieval services met my needs.	Median = 1 Mean = 1.75 Does not apply = 12.3%
91. Student health services met my needs.	Median = 3 Mean = 2.33 Does not apply = 66.2%

Comments: addressed in the text of the document

Post Graduation Plans

92. Is your home state Michigan?	Yes = 76.9% No = 15.4%
93. Do you plan to practice in Michigan?	Yes = 63.1% No = 12.3% Unknown = 18.5%
94. I have accepted a permanent position upon graduation.	Yes = 47.7% No = 46.2%
95. Upon graduation my first choice for practice will be:	
Chain drug store	44.6%
Consulting pharmacy practice	4.6%
Government	1.5%
Hospital or institutional pharmacy	16.9%
Independent community pharmacy	12.3%
Managed care pharmacy	1.5%
Pharmaceutical industry	0
Practice residency/fellowship	12.3%
Other: _____ (please specify)	3.1%
96. I have immediate or future plans for additional formal education?	Yes = 10.8% No = 81.5%
97. If yes, check which of the following apply:	
MS/MBA	N = 1
PhD	N = 4
MD	N = 1
JD	N = 1
Other_____	N = 2 (Residencies)

Comments:

Section 3
Employer Survey

A survey was developed that asked employers to rate the importance of each of our curricular outcomes. This survey was given to employers participating in a College-based job fair and was posted on the College's web site for employers throughout the state to complete. It is important to note that this survey was done of employers who employed graduates from the college's B.S. in Pharmacy program, at the time this survey was performed few students had graduated from the new Pharm.D. program.

Thirty-four employers throughout Michigan completed the survey. Results of this survey begin on page 19. The survey respondents represented a broad range of pharmacy practice and a wide geographical area. The pharmacy practice skills outcomes were all viewed as important to the employers, however, physical assessment skills were not rated as high as other skills. Choosing appropriate drug therapy and potential alternatives were the highest rated distribution skills, especially as they relate to non-prescription medications. Also assuring the accuracy of the dispensing process and detecting drug-related problems were rated as very important skills. Other skills were considered important for a few, but not necessarily all, pharmacists.

Most survey respondents cited the importance of analyzing medication errors and adverse drug reactions, however other medication use management skills, such as drug use evaluations were not considered necessary for all pharmacists. The importance of promoting public health as pharmacists was rated high for almost every category. This is an area where employers see their pharmacists playing a significant role. Within the management category the highest rated outcomes were those that assessed managing personnel. This was considered such a necessary skill for pharmacists that one respondent requested the addition of another outcome. Non-personnel management skills were rated much lower, not necessarily important for all pharmacists.

Interestingly the highest rated of all of the outcomes were those in the miscellaneous section. These are outcomes that are not directly associated with attainment of scientific knowledge. These skills reflect the importance, in the minds of the survey respondents, of professional behavior such as motivation and self-assessment. The employers also stressed the importance of effectively working in groups and taking on positions of leadership. Finally, communication in various forms was rated extremely important.

The results from the employer survey were interesting but not unexpected. Many employers are still uninterested in their pharmacists possessing advanced pharmacy practice skills. The highest rated skills, those in the miscellaneous section reflecting professional behavior, are sometimes overlooked in an overly scientific curriculum. These are areas, however, that employers are focusing on, and which our curriculum needs to emphasize.

Ferris State University
COLLEGE OF PHARMACY
EMPLOYER QUESTIONNAIRE
RESULTS (N=34)

1. Please describe your pharmacy practice site.

Pharmacy Practice Site		Number responding
A.	Community pharmacy, Chain	8
B.	Community pharmacy, Independent	13
C.	Consulting pharmacy practice	-
D.	Government	1
E.	Hospital or institutional pharmacy	8
F.	Managed Care Pharmacy	-
G.	Pharmaceutical industry	-
H.	Practice Residency/Fellowship	1
I.	Other	1 – Mental health clinic 1 – Long term care 1 – Hospital ambulatory

2. Please indicate the geographic area of your pharmacy practice site (circle all that apply).

Geographic Area	Number responding
A. Grand Rapids area west to Lake Michigan	7
B. Kalamazoo area west to Lake Michigan	6
C. Mid-Michigan (Lansing, Jackson, Mt. Pleasant, etc.)	11
D. Southeast Michigan (Detroit, Ann Arbor)	9
E. Central Michigan (Flint, Midland, Saginaw)	7
F. Northern Lower Peninsula (north of Mt. Pleasant and Saginaw)	3
G. Upper Peninsula	1
H. Outside Michigan	7

For the following questions please choose the letter that best describes the importance of each of these skills in your work setting using the following code:

1 = Necessary skill for all pharmacists
2 = Necessary skill for most pharmacists
3 = Important skill but only necessary for a few pharmacists
4 = Important skill but not necessary
5 = Unnecessary

Pharmacy Practice Skills

1. Apply knowledge of the pharmaceutical sciences, pathophysiology, and pharmacotherapy to individual patients.	Median = 1 Mean = 1.35
2. Integrate physical assessment into pharmaceutical care.	Median = 2 Mean = 2.24
3. Assess patients and make appropriate recommendations on non-prescription (OTC) therapy.	Median = 1 Mean = 1.21
4. Apply pharmacokinetic principles to patient-specific situations.	Median = 2 Mean = 2.09
5. Assure accuracy of the dispensing process.	Median = 1 Mean = 1.03
6. Implement the pharmaceutical care plan (including monitoring for achievement of pharmacotherapeutic goals).	Median = 2 Mean = 1.94
7. Predict and prevent drug-related problems.	Median = 1 Mean = 1.12
8. Document pharmaceutical care activities.	Median = 1 Mean = 1.58
9. Apply legal principles to patient-specific situations.	Median = 1 Mean = 1.38
10. Effectively communicate the therapeutic plan to other health-care professionals and to the patient and/or caregiver.	Median = 1 Mean = 1.41
11. Assume responsibility for drug-related patient outcomes.	Median = 1 Mean = 1.68
12. Use various methods to enhance patient compliance.	Median = 1 Mean = 1.47
13. Convince other professionals and the lay public of the importance of quality pharmaceutical care.	Median = 1 Mean = 1.29

Comments:

1. Pharm.D. aren't any better than B.S. degree pharmacists. Give me a pharmacist with people skills, common sense, and a C average anytime over the RhoChi all A Pharm D.
2. Even a pharmacist in a hospital setting needs to be able to explain to a patient/caregiver the importance of the medication, side effects and how it fits together with everything that is going on with that patient.
3. If ever pharmacy is to be viewed as a healthcare provider ...
4. Pharmacists must be willing to make patient care ...
5. Where I answered important but only necessary for a few pharmacists, the word "few" should be replaced with "some." (Depends on practice setting)
6. Good research, writing and verbal skills are a must in this area.
7. Compassion, caring, and empathy are just as important in a community, hospital, or clinical setting as knowing everything about drugs. Drug information can be looked up in a book or built into a computer system (how do you think we learn it in the first place).
8. All our pharmacists must be skilled in both clinical and operational functions.

Distribution Skills

14. Choose the most appropriate drug delivery system for the patient based on pharmacotherapy, bioequivalence, route of administration, stability, incompatibility, and cost.	Median = 1 Mean = 1.62
15. Evaluate quality control data to determine if a product meets the USP standards.	Median = 3 Mean = 2.85
16. Evaluate in vivo data obtained from bioequivalence studies.	Median = 3 Mean = 2.82
17. Choose the appropriate durable medical equipment for a patient (e.g. fit the crutches).	Median = 3 Mean = 2.68
18. Choose the appropriate medical supplies for a patient (e.g. ostomy supplies).	Median = 3 Mean = 2.85
19. Calculate equivalent dosages for drug products that vary according to their manufacturer, delivery system, route of administration and/or salt form.	Median = 2 Mean = 1.79
20. Evaluate patient specific insurance coverage and make recommendations for alternative drug therapy when necessary (ie. lack of coverage).	Median = 2 Mean =1.88
21. Design an investigational drug service for both an inpatient and outpatient setting.	Median = 3 Mean = 3.24
22. Administer medications by various routes (including intramuscular and subcutaneous).	Median = 3 Mean = 2.94

Comments:

1. Respond to Code Blue.
2. Necessary skills for a basic understanding of the ...
3. In the perfect pharmacy school curriculum, students would spend the first few years learning all of the most commonly used information and skills. Particularly those that deal with community and hospital practice. In their final year they would specialize.

Manage Medication Use Skills

23. Analyze medication errors and ADRs and take action to reduce their occurrence.	Median = 1 Mean = 1.47
24. Develop criteria for a drug utilization evaluation (DUE).	Median = 2 Mean = 2.29
25. Analyze data from a DUE and identify possible causes for non-compliance.	Median = 2 Mean = 2.15
26. Present findings of a conducted DUE in an organized manner to other health care professionals.	Median = 3 Mean = 2.44
27. Evaluate an existing or proposed formulary agent and develop and implement a formulary recommendation.	Median = 3 Mean = 2.38

Comments:

1. Although these areas are an important part of my clinical practice …
2. This is specialized hospital/clinical knowledge that would be touched upon in regular classes, but studied in-depth in the "specialty" classes proposed earlier.

Promote Public Health Skills

28. Describe the basic concepts of disease prevention to the general public and other health care professionals.	Median = 2 Mean = 1.91
29. Recognize those patient problems, based on signs, symptoms, and a patient history, that require referral to another health care provider (ie. good triage skills).	Median = 1 Mean = 1.47
30. Identify potential and actual substance abuse in patients and colleagues.	Median = 1 Mean = 1.50
31. Discuss ethical and legal issues, as they relate to public health, with the general public and other health care professionals.	Median = 2 Mean = 1.79
32. Exhibit the ability to provide emergency medical care in patients that are suffering from a drug overdose or other poisoning.	Median = 2 Mean = 2.18
33. Design (and possibly implement) a prevention or detection program in a target population.	Median = 3 Mean = 2.94
34. Conduct or participate in programs designed to provide public education and/or promote public awareness of disease prevention and health.	Median = 2 Mean = 2.00
35. Perform services designed to screen, prevent, and/or detect various disease or pathologic conditions.	Median = 3 Mean = 2.59
36. Demonstrate the ability to provide emergency first aid, including CPR.	Median = 1 Mean = 1.82
37. Obtain instruction in Basic Life Support (BLS).	Median = 2 Mean = 2.06
38. Obtain instruction in Advanced Cardiac Life Support (ACLS).	Median = 3 Mean = 2.85

Comments:

1. BLS and ACLS will help with CEUs needed.
2. This is critical to have pharmacy viewed as a provider of health care ...
3. As a current instructor for ACLS it should be a good ...
4. A lot of these are great ideas and areas that pharmacists would excel at, but in the community setting there is hardly the time to fill prescriptions and counsel patients as it is. When would they find the time to design, screen, research and implement ...

Section 4
Student Evaluation

For the first time, the College of Pharmacy had students in each of the four years of the all Pharm.D. curriculum during the 2003-2004 academic year. As previously discussed, the fourth year (P-4) students were given a survey ("senior survey") to complete, assessing the curriculum in March 2004. This was our first opportunity to assess all of the students' experiences during the entire curriculum.

During the four years that the graduating class of 2004 was in the College of Pharmacy, many changes occurred in the curriculum. Many of the classes and delivery sites (e.g. Grand Rapids - MERC) for the new all-Pharm.D. curriculum were untested and this group of students became, in essence, the testing group. Therefore students that followed this inaugural group benefited from the changes that occurred after initial experiences with each aspect of the curriculum. Because of this, a survey was completed by each of the subsequent classes in the College of Pharmacy in order to ascertain their experiences with the program, and whether changes made based on the initial class of students improved the program. Because each class has its own "personality," this survey also allowed the College to assess whether problems identified by one class continued to be identified by other classes.

The survey was administered to students during a didactic class to each year and location of the program, each professional year was given a survey appropriate to the year they were in the program. One hundred P-1 students in Big Rapids, fifty one P-2 students in Big Rapids, forty seven P-3 students in Kalamazoo, and thirty eight P-3 students in Grand Rapids responded to the survey.

In analyzing the results the College of Pharmacy focused on those sections that received mean scores greater than 2.5 and/or mode scores greater than 2. Sections that received mean scores less than 1.5 and/or mode scores of 1 were also looked at. In the "College and University Student Services" section the scoring was slightly different and, therefore, we focused on mean scores greater than 2.5 and/or mode scores of 3.

In the professional curriculum there were certain areas that scored less favorable responses. These courses included pharmacy management, sociopharmacy, and overall information on natural or herbal products. Continued evaluation of these courses and material is ongoing through content evaluation and the graduate survey. Interestingly, some other problems that were apparent from the inaugural graduating class survey were not identified as problems on this survey, possibly due to recent changes made in the curriculum.

Other comments concerning the professional curriculum made by a number of students addressed course sequencing or course distribution. Although the anatomy and physiology course in the pharmacy curriculum at Ferris State is well accepted and well taught, many students commented that there should be some anatomy in the pre-pharmacy curriculum. Also, some students addressed the issue that the team taught courses in the College could be better coordinated to reduce overlapping material. This issue is currently being addressed in the Pharmacotherapeutics courses by assigning module coordinators for each major disease group.

Many areas in the Early Pharmacy Practice Experiences (EPPE) were scored less favorable. Both the community and hospital EPPE in the P-3 year scored high. The hospital EPPE was redesigned recently to offer a 3-week experience during the summer. This was done to increase the number of available sites and better focus each student's experience. In addition, this change was made at the request of hospital

preceptors, who felt that the once weekly experience was disjointed and actually a disincentive for students to enter hospital practice following graduation. Even with these changes, many students do not see the importance of this experience on top of their advanced experiences in the P-4 year. To put these comments in context, however, it is important to realize that each experience (P-1 to P-4) is intended to introduce the student to the next. Student do short pharmacy visits in the P-1 year, short patient visits in the P-2 year, extended pharmacy visits in the P-3 year, and advanced patient and site visits in the 4th year. It would be expected that P-4 students will look back on P-1 experiences as very rudimentary.

To improve the community EPPE in the P-3 year, community preceptors are now given only P-3 students for EPPE or P-4 students for Advanced Pharmacy Practice Experiences, but not both. This was done to avoid confusion for preceptors on the type of experience to offer the students. In addition, over 75% of the students worked in community pharmacies during the curriculum. Therefore, the P-3 EPPE in the community was less likely to further develop their drug dispensing skills.

Many of the student services, such as counseling, housing guidance and health services scored less favorably. This was probably due to the testing methodology (ie. the option to answer "does not apply"), rather than poor services. The College is aware of the difficulties students encounter when obtaining services at all of the diverse academic locations throughout the program. This is something the College continues to work on improving. Off-campus counseling services have greatly improved with the recent addition of Margaret Lyons in both Kalamazoo and Grand Rapids.

At this point the assessment committee is surveying the Pharm.D students that will graduate in August 2004 and plans to continue future surveys of graduates 1, 5 and 10 years after graduation. These surveys will assess whether the curriculum is meeting the expected outcomes and whether the graduates are adequately prepared for the pharmacy positions where they are employed.

Student Survey

Description of headings:

P-1 and P-2 years only - Big Rapids Campus, first and second professional year
P-3GR - Grand Rapids Campus, third professional year
P-3KZ - Kalamazoo Campus, third professional year

1. Pharmacy experience before entering pharmacy school:

Professional Year	P-1	P-2	P-3GR	P-3KZ
Not Applicable	36.4%	30.6%	18.4%	31.9%
Predominantly hospital	9.1%	8.2%	15.8%	6.4%
Predominantly community	54.5%	61.2%	65.8%	61.7%

2. Pharmacy experience, by working outside that required in the curriculum, obtained during pharmacy school:

Professional Year	P-1	P-2	P-3GR	P-3KZ
Not Applicable	48.5%	18.4%	13.2%	13%
Predominantly hospital	10.1%	12.2%	7.9%	6.5%
Predominantly community	41.4%	69.4%	78.9%	80.4%

3. The majority of my pre-pharmacy credits were completed at:

Professional Year	P-1	P-2	P-3GR	P-3KZ
Ferris State University	53%	40%	31.6%	41.3%
Another four-year in-state university	20%	26%	31.6%	32.6%
A two-year in-state college	12%	30%	26.3%	15.2%
A four-year out-of-state university	15%	4%	2.6%	4.3%
A two-year out-of-state college	0%	0%	7.9%	6.5%

4. Years of college prior to entering Ferris' College of Pharmacy:

Professional Year	P-1	P-2	P-3GR	P-3KZ
Two years	53%	44%	34.2%	42.6%
Three years	20%	24%	15.8%	25.5%
Four years	12%	20%	31.6%	21.3%
Greater than four years	15%	12%	18.4%	10.6%

8. Prior to entering FSU's College of Pharmacy I had:

Professional Year	P-1	P-2	P-3GR	P-3KZ
No degree	50.5%	54%	28.9%	55.3%
Associates Degree	30.3%	26%	42.1%	19.1%
Bachelors Degree	19.2%	20%	28.9%	25.5%
Masters Degree	0%	0%	0%	0%
Doctoral Degree	0%	0%	0%	0%

Pre-pharmacy curriculum: Mode and (Mean)

1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree

Professional Year	P-1	P-2	P-3GR	P-3KZ
The pre-pharmacy science requirements adequately prepared me for the pharmacy curriculum (e.g. Biology, Microbiology, Chemistry, Organic Chemistry, and Statistics).	1 (1.6)	1 (1.8)	1 (1.9)	1 (2.0)

Professional curriculum

1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree

Professional Year	P-1	P-2	P-3GR	P-3KZ
Teaching methods used met my needs	2 (2.0)	1 (1.9)	2 (2.3)	2 (2.2)
Courses in the curriculum proceed in an order that was logical	2 (1.7)	1 (1.7)	2 (1.8)	2 (1.9)
The quality of instruction is adequate	2 (1.9)	1 (1.8)	2 (2.1)	2 (2.0)
The anatomy and physiology courses provided an adequate foundation for subsequent pharmacy courses.	1 (1.4)	1 (1.4)	1 (1.5)	1 (2.0)
The Medical Biochemistry course provided an adequate foundation for subsequent pharmacy courses.	1 (1.4)	1 (1.7)	2 (2.3)	2 (2.3)
The pharmaceutics courses provided an adequate foundation in physiochemical characteristics and behavior of drugs, pharmaceutical dosage forms and drug delivery.	2 (1.6)	1 (1.9)	4 (2.9)	2 (2.2)
The Introduction to Drug Action/Diagnostics course provided an adequate foundation for subsequent pharmacy courses.		1 (1.9)	2 (2.2)	2 (2.0)
The Clinical Microbiology and Immunology course provided an adequate foundation for subsequent pharmacy courses.		1 (1.8)	1 (1.8)	1 (1.8)
The pharmacokinetics course provided an adequate foundation for subsequent pharmacy courses.		1 (1.5)	2 (2.0)	2 (1.6)
The pharmacology courses provided an adequate foundation for subsequent pharmacy courses and clerkships.		1 (1.4)	1,2 (1.7)	2 (1.7)
The medicinal chemistry courses provided an adequate foundation for subsequent pharmacy courses.		1 (1.6)	2 (2.6)	2 (2.1)
The pharmacy management courses provided me with an adequate understanding of the necessary managerial functions to support the delivery of patient services in a variety of healthcare environments.		2 (3.0)	4 (3.5)	2,4 (3.0)
The Pharmacy Law and Ethics course provided an adequate understanding of state and federal and related ethical principles.				
The Sociopharmacy course provided me with an understanding of human behavior on the delivery of pharmaceutical and related health care services.			3 (3.4)	3 (3.2)
The pharmacoeconomics course provided me with an understanding of economic tools useful in drug product selection for formularies; and as a matter of public policy.			1 (1.4)	1 (1.7)

The integrated lab courses helped refine my practice skills and complemented concurrent coursework.		1 (1.7)	1,2 (1.8)	2 (1.7)
The Drug Information/Research Methods course provided an adequate foundation in medical literature review, statistics and drug information for clinical seminar and subsequent P-4 rotations.			1 (1.9)	3 (2.2)
The required courses in the pharmacy curriculum provided an adequate understanding of natural and herbal products.			3 (1.9)	4 (3.2)
I was able to enroll in the electives I was most interested in.		1 (2.2)	2 (1.7)	2 (2.1)
The electives I was able to enroll in were compatible with my career choice				

Comments: addressed in the text of the document

Experiential (P-1 - P-4) component: Mode and Mean

1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree

Professional Year	P-1	P-2	P-3GR	P-3KZ
The P-1 early practice experience (retail, hospital visitations) broadened my perspective on the practice of pharmacy during the P-1 year.	2 (1.9)	1 (2.0)	2 (2.4)	2 (2.4)
The Early Pharmacy Practice Experience (EPPE) in the community, hospital, or Specialty practice setting during the first professional (P-1) year broadened my perspective of what pharmacy practice can be like in a different setting other than what I've already experienced as an intern	2 (1.9)	2 (2.0)	2 (2.4)	2 (2.3)
The EPPE questions I was required to ask of the site preceptor on my P-1 site visit were appropriate enough to give me a reasonable understanding of what types of pharmacy services are provided at the particular practice site (community, hospital, specialty practice) I visited.	2 (1.9)	2 (1.9)	2 (2.1)	2 (2.3)
The P-2 early practice experience visits to the nursing home broadened my perspective on the practice of pharmacy during the P-2 year.		2 (1.7)	2 (2.0)	2 (2.0)
The EPPE nursing home visits in the second professional (P-2) year began to help me relate drug therapy to the disease it was intended to manage.		1 (1.7)	2 (1.9)	2 (2.0)
The required case presentations of nursing home patients in the P-2 year were helpful in teaching me the appropriate patient case presentation style or format.		1 (1.9)	2 (2.1)	2 (1.8)
The EPPE nursing home visits in the P-2 year were useful in acquainting me with patient charts and pertinent patient data gathering from those charts.		1 (1.7)	2 (2.4)	2 (2.0)
The EPPE in the third professional (P-3) year in the community setting helped further develop my prescription processing abilities (e.g. taking prescriptions over the phone, order entry, dispensing, compound, third part billing, pharmacy management, trouble shooting).			2 (2.4)	2 (2.6)
The EPPE in the P-3 year in the community setting helped further develop my patient communication and counseling skills (e.g. provide drug information and patient specific counseling on both prescription and over-the-counter medications).			3 (2.4)	2 (2.4)
The EPPE in the P-3 year in the hospital setting introduced me to the drug distribution process in the hospital setting (e.g. order entry, unit dose, IV solutions, chemotherapy, nutrition support, how doses are delivered).			3 (2.8)	3 (2.7)
The EPPE in the P-3 year in the hospital setting introduced me to providing patient focused pharmacist care in the hospital setting (e.g. pharmacokinetics, exposure to DUE and P&T, other administrative processes, providing drug information).			3 (2.8)	3 (2.7)

Comments: addressed in the text of the document

College and University Student Service : Big Rapids campus only P-1 and P-2 years: Mode, Mean and (Percent Does Not Apply)

1 = Agree **2 = Undecided** **3 = Disagree** **4 = Does Not Apply**

Professional Year	P-1	P-2	P-3GR	P-3KZ
An adequate array of counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) were available	2 2.4 (30.9%)	1 2.3 (26%)	2 2.2 (13.9%)	4 2.8 (38.1%)
The counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) I used met my needs.	4 3.3 (70.4%)	4 3.1 (61.5%)	4 3.4 (65%)	4 3.6 (76.7%)
The academic advising (eg. advise on selection of electives, site selection, progression rules, acceleration) I received met my needs.	1 1.8 (15.5%)	1 2.1 (16%)	3 2.4 (14.3%)	3 2.6 (22%)
The financial aid guidance met my needs.	1 1.9 (13.1%)	1 1.8 (12%)	1 2.2 (11.4%)	1 1.8 (4.9%)
The housing guidance met my needs.	4 2.7 (43.7%)	1 2.2 (28%)	1, 4 2.6 (30.6%)	4 2.5 (34.1%)
The access to computers/software (e.g. enough terminals, appropriate software) in the College of Pharmacy met my needs.	1 1.4 (3%)	1 1.5 (0%)	1 1.6 (2.9%)	1 1.4 (2.4%)
The access to computers/software (e.g. enough terminals, appropriate software) in the FLITE met my needs.	1 1.6 (10.1%)	1 1.4 (2%)	1 1.5 (5.7%)	1 1.4 (9.8%)
The reference materials in FLITE met my needs.	1 1.5 (15.3%)	1 1.4 (6%)	1 1.3 (0%)	1 1.5 (14.6%)
The access to FLITE to study met my needs.	1 1.5 (13%)	1 1.4 (2%)	1 1.3 (2.9%)	1 1.4 (9.8%)
Student health services met my needs.	1 2.2 (28.9%)	1 1.5 (8%)	1 1.7 (17/1%)	1 1.3 (2.4%)
The classrooms used for instruction in the College of Pharmacy met my needs.	1 1.3 (1%)	1 1.6 (0%)	1 1.6 (0%)	1 1.6 (0%)
The overall condition of the building used to house the College of Pharmacy met my needs (e.g. bathrooms, lobby, classrooms student lounge).	1 1.4 (1%)	1 1.5 (0%)	1 1.5 (0%)	1 1.5 (0%)
The staff in the Deans office is knowledgeable and friendly.	1 1.1 (1%)	1 1.1 (0%)	1 1.4 (5.7%)	1 1.1 (0%)
The progression policies of the college are clear and understandable.	1 1.2 (2%)	1 1.6 (0%)	1 1.9 (2.9%)	1, 2 1.8 (0%)

I received adequate preadmission advising from the College of Pharmacy	1 1.7 (5%)	1 1.9 (6%)	1 2.0 (2.9%)	1 2.1 (14.6%)
Instructional support services are available to meet your needs.	1 1.7 (13.3%)	1 1.8 (14%)	1 1.7 (8.6%)	1 1.9 (9.8%)

Comments: addressed in the text of the document

College and University Student Service P-3 Year Only: Mode, Mean and (Percent Does Not Apply)

1 = Agree 2 = Undecided 3 = Disagree 4 = Does Not Apply

Professional Year	P-3GR	P-3KZ
An adequate array of counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) was available.	3 2.7 (24.3%)	4 3.1 (45.7%)
The counseling services (e.g. stress, anxiety/depression, time management, test taking skills, substance abuse) I used met my needs. (If didn't use counseling services don't answer.)	4 3.3 (52.4%)	4 3.4 (66.7%)
The academic advising I received met my needs	3, 4 2.6 (27.8%)	1 2.3 (22.7%)
The financial aid guidance and support met my needs	1 2.5 (25.7%)	2 2.2 (15.9%)
The career counseling I received met my needs.	2 2.3 (14.3%)	4 2.7 (34.1%)
The housing guidance and support met my needs.	4 2.7 (31.4%)	4 3.1 (47.7%)
The access to computers/software (e.g. enough terminals, appropriate software) met my needs.	1 1.2 (2.9%)	1 1.2 (4.5%)
The library/literature retrieval services met my needs.	1 2.2 (20%)	1 2.1 (24.4%)
Student health services met my needs.	4 2.9 (42.9%)	1, 4 2.4 (42.2%)
The overall condition of the building used to house the College of Pharmacy in Grand Rapids or Kalamazoo met my needs (e.g. bathrooms, lobby, classrooms student lounge).	1 1.2 (0%)	1 1.2 (0%)
The classrooms used for instruction by the College of Pharmacy in Grand Rapids or Kalamazoo met my needs.	1 1.3 (0%)	1 1.1 (0%)

Comments: addressed in the text of the document

Section 5
Faculty Perceptions

A survey was developed by a committee established to assess the perceptions of the faculty regarding the College of Pharmacy and its administration, students, and curriculum. Questions were organized into three general categories: 1) general issues, 2) campus specific items(i.e., Big Rapids, Grand Rapids, and Kalamazoo), and 3) instructional facilities/clerkship locations. This survey was distributed along with a cover letter at a College-wide faculty meeting. Faculty not in attendance at this meeting received the survey by mail. Twenty five faculty responded to the general issues category, an average of ten faculty to the Big Rapids Campus, twelve faculty to the Grand Rapids Campus, an average of thirteen faculty to the Kalamazoo Campus, and sixteen to the instruction facilities/clerkship locations category. Since some faculty teach in multiple location they were asked to answer only the appropriate questions for each geographical location. Because of this the Big Rapids Campus and Kalamazoo campus there were a variable number of respondents to each question. On the Big Rapids Campus section no question was answered by less than 9 or more than 12 faculty members and on the Kalamazoo location no question was answered by less than 7 or more than 15 faculty.

The transition to the all Pharm.D. required many changes in the program and the hiring of several new pharmacy practice faculty. While any transition, especially one of this magnitude, is stressful for a program the overall faculty perceptions regarding the College are positive. They believe that curriculum is appropriate for training students to become pharmacy practitioners. Additionally, the majority of faculty strongly agree that teaching is the most important aspect of their job. Most faculty members agree that the technology and physical resources available are appropriate for the current level of enrollment.

Several areas of concern (indicated by a mode scoring of > 3 = undecided) were identified by faculty members. There is a feeling that adequate provisions are not made for release time that would allow faculty to undergo professional development. The faculty are undecided as to the Dean's sensitivity to their needs and his ability to provide leadership for the College. These sentiments are clearly reiterated in comment section. Despite these criticisms, the faculty believe that the Dean is sensitive to the needs of students. In testament to his attentiveness to student concerns, the Dean regularly meets with an advisory board to discuss items of student concern.

The faculty are also very concerned by the enrollment expansion undertaken by the College (question 19). Most faculty have indicated that program expansion was done irresponsibly. The College had not even graduated its first entry-level class of all Pharm.D.s before plans for expansion were made. It is widely accepted among the faculty that initial estimations regarding faculty requirements for maintenance of clerkships were erroneous. The magnitude of this problem is evident by responses to questions 19 and 69. Additionally, many comments were received regarding the high student to faculty ratio and faculty workload. This understaffing has placed a strain on faculty which will only worsen under the current expansion plan.

The area receiving the lowest rating on the faculty perception survey deals with the relationship that exists between the faculty in the Department of Pharmaceutical Sciences and their department head. Scores from questions 31-33 and the comments that follow this section reveal the existence of an unhealthy work environment. Immediate attention must be given to this situation and efforts to remedy situation must be made with haste.

Despite concerns raised in a few key areas, the faculty hold a generally positive perception regarding the College of Pharmacy.

Faculty Perceptions of the Program

Where appropriate, please indicate the letter which best describes your answer, using the following code, leave blank any question that does not apply.

1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree

General Issues

1.	The professional outcomes of the curriculum meet the needs of the profession.	Mode = 2 Mean = 1.8
2.	Instructional methods used by faculty meet the needs of the students.	Mode = 2 Mean = 2.2
3.	The curriculum allows adequate choices of specialization.	Mode = 2 Mean = 2.6
4.	Courses in the curriculum are coordinated to maximize relevancy.	Mode = 2 Mean = 2.5
5.	The curriculum meets accreditation standards.	Mode = 2 Mean = 1.8
6.	Provisions are made for release time to faculty for course/professional development.	Mode = 4 Mean = 3.5
7.	There is opportunity for faculty development.	Mode = 2 Mean = 2.5
8.	The appropriate faculty members are assigned to appropriate courses.	Mode = 2 Mean = 2.2
9.	The Dean is effective in planning for the program.	Mode = 2 Mean = 3.3
10.	The Dean is sensitive to the needs of the faculty.	Mode = 3 Mean = 3.6
11.	The Dean is sensitive to the needs of the students.	Mode = 2 Mean = 2.6
12.	The Dean provides leadership to the College of Pharmacy.	Mode = 3 Mean = 3.6
13.	Faculty members are current in their field.	Mode = 2 Mean = 2.0
14.	Faculty members are concerned about student needs.	Mode = 2 Mean = 1.8
15.	Faculty members are available for advising.	Mode = 2 Mean = 2.1
16.	The advisory council is supportive of the program.	Mode = 2,3 Mean = 2.6
17.	The program adequately utilizes the advisory council.	Mode = 3 Mean = 3.0
18.	The advisory council consists of the appropriate mix of people.	Mode = 2.6 Mean = 3.0
19.	Enrollment in the program is appropriate.	Mode = 4 Mean = 3.8
20.	Admission requirements for the program are appropriate.	Mode = 2 Mean = 2.7
21.	Students admitted have the skills to succeed in the program.	Mode = 2 Mean = 2.2

Comments: Addressed in the text of the document

Big Rapids Campus

22. Instructional facilities meet the students needs (e.g. crowding, flexible, safe).	Mode = 2 Mean = 2.8
23. Technology, in the classroom/lab, meets the instructors needs (e.g. computers, projectors, microphones, overhead, etc.).	Mode = 2 Mean = 2.8
24. Technology in the classroom/lab maintained.	Mode = 2 Mean = 2.5
25. Instructional materials, references, and supplies are available.	Mode = 2 Mean = 2.8
26. Classes are scheduled in an appropriate fashion.	Mode = 2 Mean = 2.7
27. Adequate secretarial support is provided.	Mode = 2 Mean = 2.3
28. Teaching is the most important aspect of my job.	Mode = 1 Mean = 1.4
29. Adequate computer technical support is provided.	Mode = 2 Mean = 2.3
30. Class size is appropriate for the facilities.	Mode = 2 Mean = 3.4
31. The faculty have a good working relationship with the pharmaceutical sciences department head.	Mode = 5 Mean = 4.3
32. The pharmaceutical sciences department head is supportive of the department faculty.	Mode = 5 Mean = 4.2
33. The pharmaceutical department head provides leadership for the department.	Mode = 5 Mean = 4.1
34. FLITE provides adequate access to reference materials.	Mode = 2 Mean = 2.4

Comments: addressed in the text of the document

Grand Rapids Campus

35. Instructional facilities meet the students needs (e.g. crowding, flexible, safe)	Mode = 2 Mean = 2.2
36. Technology, in the classroom/lab, meets the instructors needs (e.g. computers, projectors, microphones, overhead, etc.)	Mode = 2 Mean = 2.3
37. Computer technology in the classroom/lab maintained.	Mode = 2 Mean = 1.8
38. Adequate computer technical support is provided.	Mode = 2 Mean = 2.3
39. Instructional materials, references, and supplies are available.	Mode = 2 Mean = 2.5
40. Classes are scheduled in an appropriate fashion.	Mode = 2 Mean = 1.8
41. Adequate secretarial support is provided.	Mode = 2 Mean = 1.8
42. Teaching is the most important aspect of my job.	Mode = 1 Mean = 1.3
43. Technical support is provided	Mode = 2 Mean = 2.1
44. Class size is appropriate for the facilities	Mode = 2 Mean = 2.5
45. The faculty has a good working relationship with the pharmacy practice department head.	Mode = 1 Mean = 1.1
46. The pharmacy practice department head is supportive of the department faculty.	Mode = 1 Mean = 1.1
47. The pharmacy practice department head provides leadership for the department.	Mode = 1 Mean = 1.3
48. I have adequate access to the necessary literature sources.	Mode = 2 Mean = 2.8
49. I have the ability to access literature sources in a timely manner.	Mode = 2 Mean = 2.8

Comments: addressed in the text of the document

Kalamazoo Campus

50. Instructional facilities meet the students needs (e.g. crowding, flexible, safe)	Mode = 2 Mean = 1.9
51. Technology, in the classroom/lab, meets the instructors needs (e.g. computers, projectors, microphones, overhead, etc.)	Mode = 2 Mean = 2.3
52. Computer technology in the classroom/lab maintained.	Mode = 2 Mean = 2.1
53. Adequate computer technical support is provided.	Mode = 2 Mean = 2.3
54. Instructional materials, references, and supplies are available.	Mode = 2 Mean = 2.7
55. Classes are scheduled in an appropriate fashion.	Mode = 2 Mean = 1.9
56. Adequate secretarial support is provided.	Mode = 1 Mean = 1.5
57. Teaching is the most important aspect of my job.	Mode = 1 Mean = 1.5
58. Technical support is provided	Mode = 2 Mean = 2.0
59. Class size is appropriate for the facilities	Mode = 2 Mean = 2.7
60. The faculty has a good working relationship with the pharmacy practice department head.	Mode = 1 Mean = 1.4
61. The pharmacy practice department head is supportive of the department faculty.	Mode = 1 Mean = 1.0
62. The pharmacy practice department head provides leadership for the department.	Mode = 1 Mean = 1.0
63. I have adequate access to the necessary literature sources.	Mode = 2 Mean = 3.1

Comments: addressed in the text of the document

Adequacy of Instructional Facilities - Clerkship Locations

64. Instructional facilities meet the students needs (e.g. crowding, flexible, safe).	Mode = 2 Mean = 2.8
65. Appropriate technology (e.g. computers, projectors, microphones, overhead, internet connectivity etc.) is available at the site.	Mode = 2 Mean = 2.6
66. Technology (e.g. computers, projectors, microphones, overhead, internet connectivity etc.) at the site is maintained.	Mode = 2 Mean = 2.8
67. Instructional materials, references, and supplies are available.	Mode = 2 Mean = 2.0
68. Secretarial support is provided.	Mode = 2 Mean = 3.3
69. The number of students assigned to sites is appropriate for the facilities.	Mode = 5 Mean = 3.8
70. I have adequate access to the necessary literature sources.	Mode = 2 Mean = 2.8
71. I have the ability to access literature sources in a timely manner.	Mode = 2 Mean = 3.0

Comments: addressed in the text of the document

Overall comments for the entire program:

What are the major strengths of the pharmacy program?

- Faculty focus on teaching.
- Dedication of the faculty and their credentials (most of them).
- Many variety of clerkship sites creates diversity.
- Variety of clerkships available at different locations.
- Clinical faculty provide up to date lectures b/c they also practice pharmacy.
- Wide opportunity for student experiences.
- Newly developed faulty development "program" (pharmacy practice).
- Diversity of practice sites and faculty.
- Pharmaceutical Science Faculty dedication to the individual student need, even in large classroom setting.
- Teaching focus at FSU.
- Supportive department head.
- The faculty and their desire to help students.
- Strong focus on teaching.
- Recent increased use of technology/WebCT.
- Faculty development opportunities.
- Support from fellow faculty.
- Focus on teaching.
- Good core group of faculty.
- Clerkship sites - diversity and strength of faculty.
- Diversity of teaching sites.
- Faculty time spent with students.
- Focus on teaching.
- Level of technology available

What are the major areas for improvement in the pharmacy program?

- Balancing workload issues. The current number of clerkship students is not sustainable, particularly in the face of the rising emphasis on scholarly activities.
- The technical issues at the Kazoo and GR sites must be fixed.
- Making sure every single graduate is qualified to be a pharmacist. None slipping through the cracks.
- Improve communication/interaction between campuses for students and faculty.
- Lower enrollment, upgrade equipment,
- The faculty to student ratio on clerkship is too high. Four students per faculty is too much in addition to the other responsibilities.
- Faculty and students are not happy with 4:1 student/faculty ratio.
- Teaching communication skills
- Workload for clinical faculty (very heavy)
- Workload - pharmacy practice overload
- Lack of a workload document (pharmaceutical science) prevents faculty from asking for overload and from being treated equitably (some faculty teach a lot..... others teach very little)
- Equity of pay: women vs men in the same specialty group, years of service and rank, also compared to other Colleges of Pharmacy that emphasize teaching.
- Access to technology and resources and literature off-site.
- Coordination between courses.
- Computer support for off campus faculty.
- Utilize more innovative teaching methods - esp. with distant learning, problem-based and case -based learning throughout curriculum.
- Continue to increase technology/WebCT use.
- Increased use of active learning techniques across the curriculum.
- Library resources access from off campus.
- Student load on Advanced Practice Rotations.
- Access to primary resources.
- More time needed for scholarly activities.
- Need better access to primary literature.
- Need more resources (e.g. infrastructure, labs, software) for scholarly activity.
- Clinical sites are too full - host sites are tired of so many students.
- Distance learning for the integrated Therapeutics course (probably the most important course), difficulty engaging students in learning via this method.
- Better assessment of students - to see if they achieve the outcomes
- Lower student:faculty ratio on clerkships.
- More active learning techniques used in the classroom.
- Decrease faculty work load, i.e. lecture hours and student load

Please feel free to make any additional comments in the space below.

- Minimize clinical faculty time away from their sites
- Would also like to see more fostering of "professionalism" in students and more faculty development opportunities.
- Also, more appropriate assessment measures of students (e.g. "counseling" exams, essays) vs. multiple choice testing - assessment of problem solving skills.
- I used C as neutral
- We need to find a more equitable way to account for Clinical Faculty Workload. (currently we do not get credit for clerkship students or clinical seminar)

Section 6
Advisory Council Perceptions

The College of Pharmacy relies on input received from three advisory councils for support, review and modification of its curricular offerings. The councils and their functions are outlined below:

- The College of Pharmacy Alumni Board. This group, the oldest standing advisory council within the College, is composed of twelve alumni representing a broad range of practice interests. The group meets three times annually to review College activities, offer suggestions for College operations and develop strategies for extramural support of the College's operations. The Alumni Board has been successful, in collaboration with the Dean, is securing substantial support from corporate and alumni donors which has played a critical role in the development of the College's off-campus instructional sites and renovations of the on-campus facility. In addition, Alumni generated funding is relied upon to support a variety of students functions including stipends for travel to national meetings and academic/needs-based scholarships for several students in the program.
- The National Advisory Board. The Advisory Board is composed of twelve thought leaders within the pharmacy profession and includes several alumni. Formed approximately eight years ago, the Advisory Board meets annually to explore, in-depth, the College's curricular offerings, providing suggestions to position the College strategically based on their collective view of the Pharmacy Profession's future. The Advisory Board has played a key role in the development of the College's "three-campus" implementation plan and the recently developed international clerkship options.
- The Experiential Review Committee. This group of twelve Adjunct Faculty members is responsible for review of the breadth and quality of experiential offerings within the curriculum, particularly the Advanced Pharmacy Practice Experiences in the fourth year of the program. The Committee meets twice annually and reviews student evaluations of both adjunct- and faculty-precepted clerkships. Through their clinical expertise, they provide valuable insight regarding experiential requirements and changing trends in practice.

Comments were solicited collectively from all three advisory councils with approximately half of the Alumni Board and Advisory Board responding while a far fewer number of Experiential Review Committee members responded. This level of participation is not disappointing in light of the timeline for completion of the survey and compilation of results. It is obvious from the evaluation and comments, that all members of the advisory councils have opinions regarding the curriculum and its content as well as College operations. Generally, the comments were viewed as favorable, supporting the College's mission, faculty and administration. The question receiving the least positive response related to the College's utilization of the advisory boards for development and refinement of programming. There are several reasons for this less favorable rating. Most importantly, suggestions made by the advisory councils often take several semesters, sometimes years, to be implemented. Often suggestions require several additional modifications within the curriculum and cannot be made promptly. Additionally, several constituencies may be involved in any modification, requiring substantial discussion and reconsideration. Secondly, suggestions, despite their perceived value, may not be consistent with accreditation requirements. For example, suggestions of professional tracks (specialization) within the curriculum is often suggested and included in the comments below, yet accreditation standards are clear, mandating that the Doctor of Pharmacy curriculum prepare a graduate for general practice. Third, suggestions may simply not fit in the constraints of the curriculum. The Experiential Review Council has suggested that a ninth clerkship be added to the fourth year requirements, however, although supported by

many, this would require extension of the fourth year well beyond what is normally considered an academic year.

The College is conscious of the perceptions voiced by council members and will continue to ensure that the advisory councils provide input regarding all facets of the College's operations and curriculum. Further, it is important that the councils be advised of constraints which exist that prevent or limit implementation and that appropriate explanations must be provided to the councils in a timely manner. Recognizing the significant refinements and developments that must occur within the College's operations over the coming years, it will be imperative that all advisory boards continue to provide comment and assessment with appropriate response from the College. The addition of several new members to each of the advisory councils will provide an enhanced and renewed level of interest among members, increasing input regarding College issues. Most importantly, it must be recognized that in their overall evaluation of the College's structure and utilization of the advisory board structure, members were very positive in their comments, reflecting the College's focus on providing a program that is well grounded in pharmacy practice and contemporary in its focus.

Academic Program Review - Advisory/Alumni/ Experiential Review Board Survey Results : Mean and (Median)

1. Which board do you serve on?

   A. Advisory Board - 5 responded
   B. Alumni Board - 6 responded
   C. Experiential Review Board - 2 responded

A total of 13 responded

Using the following scale answer questions 2 - 14 by entering the number in the column at the left.

1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly Disagree

2.	The Doctor of Pharmacy Curriculum is effective.	2.23 (2)
3.	The Faculty in the College of Pharmacy is effective.	1.85 (2)
4.	The Administration in the College of Pharmacy is effective.	1.75 (1.5)
5.	The on-campus (Big Rapids) facilities meet the programs needs.	2.38 (2)
6.	The off-campus (Grand Rapids, Kalamazoo, etc.) facilities meet the programs needs.	1.92 (2)
7.	The overall abilities of the College of Pharmacy graduates to practice pharmacy are appropriate.	1.58 (1.5)
8.	The University's academic programs are effective.	1.85 (2)
9.	The University's faculty is effective.	2.25 (2)
10.	The Advisory/Alumni/Experiential Review Board meets often enough to ensure effectiveness.	2.00 (2)
11.	The Advisory/Alumni/Experiential Review Board members are adequately utilized by the College of Pharmacy in the development and refinement of programming.	2.33 (2.5)
12.	Organization of the Advisory/Alumni/Experiential Review Board contributes to its effectiveness in providing input to the College.	2.17 (2)
13.	Suggestions from the Advisory/Alumni/Experiential Review Board members are encouraged and welcomed by the College.	1.75 (1.5)
14.	Advisory/Alumni/Experiential Review Board is of value to the Doctor of Pharmacy program.	2.17 (2)

Answer questions 15 - 20 in the space provided. Please use the back of the page if more space is needed.

15. What are the strengths of the College's Doctor of Pharmacy program?

- It is very practice oriented and has a strong patient focus including community pharmacy. The lack of a community pharmacy focus is a major weakness of many college programs (U of M for Example)
- Allows graduates to be competitive with other Pharm D graduates within the state of Michigan and from other states and therefore allows excellent job placement today and for the next 10-20 years.
- Produces the product needed by employers, practicing pharmacists
- The tradition and reputation of the program as well as the leadership of the college of pharmacy are definite strengths of the Doctor of Pharmacy program.
- More depth of knowledge of disease states, and pharmacotherapy when the students graduate
- Diversity
- Students are well prepared for a role in retail pharmacy as well as other areas where a Doctor of Pharmacy may be more appropriate.
- Good exposure of the student to a many different disciplines during their clerkship, which gives them much time to identify areas of interest and opportunities for future careers.
- As an Alumni Board member I don't feel that we get a lot of information regarding specific programs. I feel even less

16. What are the weaknesses of the College's Doctor of Pharmacy program?

- It should probably be totally moved out of Big Rapids
- FSU is not known as a strong academic university and therefore the image of the Doctor of Pharmacy program gets a little tainted as potentially not being academically one of the best programs in the Midwest.
- Lack of practical business training. Lack of clinical retail emphasis.
- Tuition cost for the target student market
- Unfortunately the distance between campuses and the various clerkship sites creates a hardship on students as well as faculty. Additionally, certain clerkship sites do not practice in the clinical manner which is being taught and thus sends a mixed message
- Most students end up practicing in a retail setting and there frankly is just not enough business taught.
- Will the practitioner be able to use the knowledge when he/she is practicing? Will there be enough students who will be planning on going to work in the retail/store setting?
- I believe any Doctor of Pharmacy program is a waste of an additional academic year.
- An ineffective instructor should have been dealt with greater expediency - before damage to the students' futures occurred

Section 13
Recommendations

Panel Recommendations

1. Recommend the finalization of departmental workload policies.

Currently neither department is working under an approved workload policy. The Dean has requested that the department heads work together to make the language in each of the departments workload policy more uniform. This process is currently progressing but a prompt final approval is needed.

2. Recommend a collaborative reevaluation of the enrollment expansion model.

Faculty are concerned that the existing facilities for advanced pharmacy practice experiences (APPE) cannot accommodate the additional students added in the enrollment expansion model. Also, there is concern that new faculty added in this model must be placed at institutions currently not affiliated with Ferris. The number of potential new facilities, outside of southeast Michigan, who are willing to take students, is extremely limited.

There also exists among practicing pharmacists in the state a concern that Michigan's pharmacy work force environment is undergoing rapid change, which is not reflected in the national studies of future needs for pharmacists. Recently, due to the high cost of prescription drugs, many health insurance companies are shifting to mail order pharmacy. This "assembly line" type of pharmacy services has significantly decreased the number of prescriptions filled within the state of Michigan at traditional pharmacies. Also, the number of colleges of pharmacy nationally has increased by 5 over the past few years, with plans for at least 10 more nationwide in the next 5-10 years. In Michigan today, the perception is that the pharmacist shortage is over. For these reasons the faculty are concerned about unnecessarily taxing an excellent program with enrollment expansion, possibly diminishing quality, as well as student and faculty satisfaction. The college is forming a committee to discuss these issues but feels a need to involve the university community in the decision making process.

3. Recommend funding for continued renovation of the pharmacy practice lab to accommodate aseptic compounding training and capabilities for a Big Rapids-based pharmacotherapy clinic.

Renovation plans have targeted improvement in the pharmacy practice lab and classroom space for enrollment expansion. The next phase of renovation for the pharmacy practice lab should involve a mock clean room for training in aseptic compounding (parenteral medications); and a feasibility study of the potential for a Big Rapids-based pharmacotherapy clinic using the existing mock pharmacy.

4. Recommend that the college explore opportunities for additional space for faculty in off campus sites, including the experiential sites.

While the instrument used to survey faculty did not include questions pertaining to office space or conference room space it is clear from the discussions regarding this document that there is a significant need to explore opportunities for additional space for faculty and students at off campus sites. In some

sites there is inadequate space for a pharmacy practice faculty member to hold discussions with APPE students and inadequate space for students to work and store personal belongings. Also, faculty offices are frequently small and/or shared with other faculty members, impeding teaching and other student interactions. This is one reason that new pharmacy practice faculty must be placed at institutions without a current affiliation with Ferris State University. Also, the College of Pharmacy must continue to work with affiliated institutions to maintain or increase office and meeting space necessary to adequately educate its students.

5. Recommend continued funding and development of off-campus library services.

Off-campus faculty, and especially, students are greatly underserved by FLITE. This is primarily due to the lack of full-text, online journal subscriptions. Also the mechanism for accessing the journals that FLITE subscribes to online is difficult, cumbersome, and/or impossible. For this reason students frequently utilize less reputable online resources during their pharmacy practice experiences. Online library services must be strengthened with an emphasis on full text medical journal subscriptions. If this proves too costly then collaboration with other institutions that provide extensive online medical journal access (ie. MSU) should be investigated. Significant efforts to correct the deficiencies off-campus students and faculty are experiencing are underway.

6. Recommend that the College of Pharmacy work with the College of Arts and Sciences to develop/find a course that better suits the writing needs of the students in the College of Pharmacy.

There currently are scattered opportunities within the pharmacy curriculum for the students to develop their writing skills. This needs to be more standardized as the students are required to write a formal manuscript and do an oral presentation based on that manuscript as requirements for the Clinical Seminar course, a capstone course required for graduation. Many students feel overwhelmed and unprepared to write a high-quality, scientific paper, given their lack of training in written communication and medical writing in particular. Coming into the College of Pharmacy, students have limited writing experience and no training in the area of technical or medical writing. Most of their writing experience is limited to creative or story writing, which is a very different style than that required and expected in the medical literature. The ideal situation would be for students to take a course in medical writing as their required, upper-level English course, taught by the College of Arts and Sciences during their P1 year. This course would then form a foundation from which they can expand their medical writing skills throughout the pharmacy curriculum. The College also needs to review where writing is taught throughout the curriculum and include a variety of experiences so students reach their P4 year equipped to write their capstone, Clinical Seminar manuscript.

7. Recommend continual evaluation of the course content in the curriculum.

Using the existing summative assessment tools developed by the assessment committee, determine the effectiveness of changes made in the curriculum in response to previous student surveys. These evaluations should include, but not be limited to the problem areas of OTC medications, law and ethics, drug information, pharmaceutics and natural and herbal remedies. Methods of formative assessment must also be developed for an enhance ability to effect positive change in a shorter period of time.

8. Recommend that faculty become more involved with Dean's Advisory Board, the College's Advisory Council, and the Alumni Board.

The Dean's Advisory Board, the College's Advisory Council, and the Alumni board have significant involvement on planning and policy in the College of Pharmacy. However the faculty survey revealed that some faculty are unaware of the Advisory Council. While this council is very active it was clear that somewhere a breakdown in communication has occurred. This council was developed when the College was converting to the all-Pharm.D. degree. At that time many faculty met with the Advisory Council and agendas and subsequent council discussions/recommendations were communicated to the entire faculty. Over the past few years, however, primarily administrators have met with the council and these meetings and their content and/or recommendations have not been communicated to the entire College. Given the large number of new faculty hired over the past few years it is not surprising that many of them have never heard of the Advisory Council. The Dean's Advisory Board, Alumni Board and Experiential Board also have limited faculty involvement and their actions and recommendations are rarely communicated to the faculty at large. As such it is appropriate that each have faculty appointed to them from each of the departments to provide feedback and direction from the faculty who execute the curriculum and once a year at the college wide faculty meetings, a report of their activities and recommendations should be presented to the faculty.

Table 4. Adjunct Advanced Pharmacy Practice Experience Locations

Location	Practice Site	Adjunct Faculty Member	Practice Areas/Specialties	Utilization/ Comments
Muskegon	Muskegon Mercy General Hosptial	Ken Uganski, R.Ph.	Internal Medicine – Inpatient Ambulatory Medicne	0.5 FTE clerkship assignment
Traverse City	Munson Medical Center	Mike Tiberg, Pharm.D.	Internal Medicine – Inpatient Ambulatory Medicine Pain Management Infectious Disease	1.0 FTE clerkship assignment
Lansing	Pharmacy Group Practice Associates	Sue Arens, Pharm.D	Hospice Care	0.25 FTE clerkship assigment
Midlant	MidMichigan Regional Medical Center-Midland	Joan Herbert, Pharm.D. Jim Lile, Pharm.D.	Internal Medicine – Inpatient Ambulatory Medicine	0.5 FTE clerkship assignment

Plainwell	**Walgreens Pharmacy #7484** Low-to-moderate volume retail community pharmacy in a rural setting.	Claudine Damaske, R.Ph. Molly Ritsema, R.Ph.	Students have ample opportunity and time to counsel and interact on all levels with patients and medical professionals. Innovative computer system.
Portage	**Meijer Pharmacy #196** Moderate volume community pharmacy with a strong focus on patient counseling/consultations	Arun Tandon, R.Ph. Barbara Diebart, R.Ph. Bruce Patrick, R.Ph.	Offer cholesterol screenings, blood glucose screenings and blood pressure screenings on a regular basis. Students have access to Microsoft applications, CP2000, internet and several reference books.
	Portage Pharmacy Portage Pharmacy "As Specialized As Your Needs" is an independent community pharmacy with a moderate volume of traditional prescriptions and a high volume of compounds.	Eric Graham, R.Ph.	Some of the services offered include the following: Foreign Travel Clinic, Flu Clinic, Hospice Division, Compounding Lab, Private Consultation Rooms, Bioequivalent Hormone Replacement Therapy Consultations and Pain Management Consultations. Students have access to Microsoft Programs, DSL Internet, and numerous reference books.
Three Rivers	**Fred's Pharmacy** Indpendent community pharmacy located in grocery store in a rural setting.	Sheroyl Kirby, R.Ph.	Monthly community outreach to senior center including blood pressure checks/counseling and disease state presentations.
Traverse City	**The Prescription Shop** Independent pharmacy	Grant Mayer, R.Ph. James Bock, R.Ph.	Extensive compounding practice, DME supply.

Marquette	**Peninsula Pharmacy.** Peninsula Pharmacy is a moderate volume, independent community retail pharmacy, JCAHO accredited Home Infusion Therapy pharmacy and specialty/compounding pharmacy. We have 4 preceptor pharmacists and thus offer students learning experiences in many areas of pharmacy practice under one roof.	Kent Jenema, R.Ph. Cheri Johnson, R.Ph	We provide diabetic supplies, ostomy/urostomy supplies, Home IV Infusion services, Hospice med boxes, enteral nutrition, wound care, specialty compounding and retail prescriptions. Students have the opportunity to provide private patient counseling in our counseling room, participate in kinetic dosing , monitoring and coordination of various IV therapies (TPN, chemotherapy, aminoglycosides,PCA pain management) and compounding of specialty medications (veterinary meds, ob meds, urology, etc). The student can sharpen their aseptic compounding techique (IV preparation), and improve their communication skills with other health care professionals (dietician consults, Home Nursing, hospital discharge planners) coordinating home infusion patient referrals. The student can also learn about the JCAHO accreditation process, patient saftey processes and quality assurance programs. We offer access to the internet, Microsoft programs, QS/1 and CPR+ software, a Class 5 verticle flow biosaftey IV hood, PCCA compounding standards, many reference books and magazine publications.
Muskegon	**Watkins Pharmacy** Founded in 1917, independent, apothecary style pharmacy, regularly fills 25 compounds per day.	Steve Leafers, R.Ph.	Watkin's is known regionally for compounds, many for pediatric patients. Watkin's is also a hospice pharmacy, working with many challenging patient cases as well as regular IDT meetings. Other services include physician supply and DME.
Okemos	**Pharmacy Group Practice Associates- PGPA Pharmacy** Low to moderate volume independent pharmacy.	Claire Liepman, Pharm.D. Brooke Taylor, Pharm.D.	PGPA offers prescription delivery and anticoagulation management to an assisted living facility in Lansing. Also involved with Hospice. Services offered include cholesterol screening and pharmacist-administered influenza, pneumonia and Hepatitis B vaccinations. Pharmacy has separate "Care Center" area for private consultations.

Grandville	**Meijer Pharmacy #221** Moderate volume Retail-grocery community pharmacy	David Kirkwood, R.Ph. Holly Vanlente, R.Ph.	Pharmacy Practice Resicency (Community Practice) site. Offers monthly cholesterol screening programs, lipid management program. Student has access to computers with Microsoft applications, CP2000 access and internet. Site also has several reference books available.
Lansing	**MSU Clinical Center Pharmacy** Community pharmacy located in a medical-professional building.	Dana Beaman, R.Ph.	High volume of drug information requests from physicians and pharmacists. Location inside professional building allows for direct interaction with other health care providers.
	Sparrow Pharmacy Plus 2 retail pharmacies; one in Sparrow Professional Building, and one in the community of Grand Ledge	Marilena Muto, R. Ph. Kaci Chamberlin, R.Ph. Jim Waun, M.D., R.Ph	Stores specialize in compounding, hospice, diabetes, fertility and pain management. Sponsor several health screening and education projects including Diabetes Day, senior center presentations and osteoporosis screening. Also participate in Sparrow Health Fairs and the Lansing Area Women's Expo. Each student will be involved in a patient outcome study that Pharmacy Plus has developed in cooperation with Pfizer Pharmaceuticals.
Lowell	**Meijer Pharmacy #205** Retail-grocery community pharmacy	Jon Monroe, R.Ph. Dave Vanfleet, R.Ph.	Computer access with Microsoft applications, CP2000 and internet access.

	Village Pharmacy Moderate volume, independent retail community pharmacy. Excellent staffing to ensure patient counseling throughout the day (including private consultation area). Site offers both community retail pharmacy and pharmacy management courses.	Deb Gormley, R.Ph. Jim Byington, R.Ph.	Services offered include Wellness Screenings (cholesterol, bone density, spirometry [lung function], resting metabolic rate, body composition, facial skin damage analysis, arterial elasticity [cardiac risk], diabetes and blood pressure. A fully equipped Wellness Center (with patient ed. materials, computer, OTC related products) allows for daily screenings of patients at pharmacy. Screenings may also occur at doctor's offices, senior complexes, churches, business locations, or other pharmacies. Students may have opportunity to observe screenings at public events. Students have access to Internet, CP2000, Microsoft (Word, Office, Excel, PowerPoint and Publisher), and other references. Specialty items include Jobst™ Compression Stockings, Durable Medical Equipment, Asthma and Diabetes sections.
	Walgreens Pharmacy #7140 Moderate-to-high volume retail pharmacy.	Scott McDowell, R.Ph. Bryan Korytkowski, R.Ph.	

Table 3. Advanced Community Practice Site Listing

Location	Practice Site-Description	Adjunct Faculty Member	Patient Care Services/ Specialty Practice
Bay City	**Meijer Pharmacy #048** Moderate volume, retail-grocery community pharmacy. Staffing model ensures consistent patient counseling throughout the day.	Daryl Steward, R.Ph.	Services offered include cholesterol screening, blood pressure checks and blood glucose screenings. Pharmacist-administered influenza and pneumonia vaccines are also offered. Poison prevention talks are offered to local elementary schools in March. Students have access to Microsoft programs, internet, CP2000, and several reference books. Private Patient Consultation office is available for student use.
Big Rapids	**Kmart Pharmacy #3805** Retail-community pharmacy.	Bonita Jacque, R.Ph.	Patient counseling offered.
Flint	**Diplomat Pharmacy** Diplomat is a high volume independent community pharmacy. Staff includes 7 full-time pharmacist which provides time for patient counseling and education services.	Jeff Rowe, R.Ph. Phil Hagerman, R.Ph.	Services offered include compounding, specialty pharmacy(dialysis, oncology, HIV, HepC, fertility, transplant and others). Our Wellness center provides bone density, HbA1c, blood pressure, full lipid profiles and blood glucose on an appointment basis. Pharmacist give regular talks on women's health, diabetes and asthma in our education center. Students have access to Microsoft programs, internet, extensive reference books and private consultation areas.
Grand Rapids	**East Paris Pharmacy** Apothecary-style independent community pharmacy located in a professional medical building (houses 40 physicians).	Patti Smeelink, R.Ph.	Delivery, frequent community presentations to assisted living/ low-income housing facilities. Frequent blood pressure screenings, blood glucose screenings. Pharmacist-administered immunizations in the Fall months. DME, diabetic shoe supply and Medicare billing.
	Fulton Pharmacy Professional, independent pharmacy in an urban setting. Located in the neighborhood for over 60 years.	Sue Lake, R.Ph. Suzie Anthony, R.Ph.	Patient-oriented counseling, offering OTC consultations as well as private consultations with customers on their prescription medications. Additional opportunities available to expose student to good business practices as well as management issues pertaining to pharmacy ownership and management.

Bay City	Bay Medical Center	Marc Nienhuis, Pharm.D.	Internal Medicine – Inpatient
			Infectious Disease
			Nutrition
Marquette	Marquette General Hospital	Renee Koski, Pharm.D.	Internal Medicine – Inpatient
			Ambulatory Medicine

Grand Rapids	Spectrum Health	Margaret de Voest, Pharm.D/ Kim Long, Pharm.D..	Critical Care
			Internal Medicine – Inpatient
		Kimberly Daugherty, Pharm.D.	Ambulatory Medicine
		Natalie Vazzana, Pharm.D.	Internal Medicine
	St. Mary's Mercy Medical Center	John Jameson, Pharm.D	Ambulatory Medicine
		Dana Staat, Pharm.D.	Internal Medicine – Inpatient
		Joan Rider, Pharm.D.	Ambulatory Medicine – Diabetes Clinic – Wege Center
	Cherry Street Clinic – Sheldon Clinic	Cambria deHoag, Pharm.D.	Ambulatory Medicine
	Community Pharmacy Practice	Jodie Bakus, Pharm.D.	Community Practice (Affiliated pharmacy practice sites)

Lansing	Sparrow Health System	Curtis Smith, Pharm.D.	Internal Medicine – Inpatient
			Pharmacokinetics
		Cathleen Edick, Pharm.D.	Ambulatory Medicine
		Claire Saadeh, Pharm.D.	Oncology – Inpatient
			Pain Management
	Ingham Regional Medical Center	Kristine Stewart, Pharm.D.	Internal Medicine – Inpatient
	Michigan State University Clinical Center	Nabila Ahmed, Pharm.D.	Ambulatory Medicine
Flint	Hurley Medical Center	Jennifer Hagerman, Pharm.D.	Internal Medicine – Inpatient

Table 2. Faculty/Clinical Practice Site Listing

Location	Practice Site	Faculty Member	Service/Specialty
Kalamazoo/Battle Creek	Kalamazoo Center for Medical Studies	Teresa Klepser, Pharm.D.	Ambulatory Medicine
		Mitzi McGinnis,Pharm.D.	Ambulatory Medicine
		George DeMaagd, Pharm.D.	Geriatric Assessment Center
		Heather VandenBussche, Pharm.D.	Cystic Fibrosis Clinic – Outpatient
		Allison Bernknopf, Pharm.D.	Drug Information
	Borgess Medical Center	Michael Klepser, Pharm.D.	Internal Medicine – Inpatient
		Vicki Sternhagen, Pharm.D.	Internal Medicine – Inpatient
	Bronson Methodist Hospital	Dean Van Loo, Pharm.D.	Internal Medicine – Inpatient
			Infectious Diseases
		George DeMaagd, Pharm.D.	Internal Medicine – Inpatient, Adult Medical Unit (Geriatrics Unit) and General Medicine Units
		Heather VandenBussche, Pharm.D	Pediatrics - Inpatient
		Mitzi McGinnis, Pharm.D.	Anticoagulation Clinic
	Family Health Center	Mary Frances Ross, Pharm.D.	Ambulatory Medicine
	Battle Creek Veterans Administration Hospital	Craig Straely, Pharm.D.	Psychiatry – Inpatient

	Kalamazoo Center for Medical Studies **1000 Oakland Drive**	A collaboration between Michigan State University College of Human Medicine, Borgess Medical Center, Bronson Methodist Hospital, Western Michigan University and the College of Pharmacy. Specialty clinics and instructional facilities in a four story center located on WMU's campus. The College shares with KCMS a 120 seat tiered auditorium capable of Distributive Learning presentations. Additional facilities include offices for two faculty members, P-4 doctor of pharmacy students assigned to the site and a Pharmacy Practice Resident.	Auditorium utilized only for distributive learning-based courses (approximately 8 hours weekly). Office space used on a regular, full-time basis

Kalamazoo	**Spindler Hall** **1000 Oliver Street**	Renovated dormitory/office building on Western Michigan University's campus. Located directly across Oliver street from the Kalamazoo Center for Medical Studies The College leases approximately 2/3's of the first floor of the building for instructional space and faculty/staff offices. Collaboration with WMU's College for Health and Human Services has been facilitated through the on-campus location. Resources developed and utilized by the College include: -32-station computer laboratory -60-sear classroom with A/V equipment -7 faculty/staff offices -1 student study lounge -1 conference room	Instructional site utilized for Professional Year 3 students (P-3) didactic instruction as well as presentations by P-4 students during advanced pharmacy practice experiences. Office space provided for three faculty members and three staff members with a resource room. 24-hour access allows for unlimited access to the computer laboratory as well as study areas.

Appendix1

Table 1. Off-Campus Instructional Sites

Location	Site	Description	Utilization
Grand Rapids	**Grand Rapids Medical Education and Research Center (GR MERC)** **1000 Monroe Blvd**	Renovated furniture manufactory occupying approximately one-half city block ten blocks north of the center of downtown Grand Rapids The College leases approximately 8500 sq ft of instructional space with seven faculty/staff offices. Facilities adjacent to the offices and instructional facilities of GR MERC providing opportunity for trans-disciplinary interactions and collaborations Resources developed and utilized by the College include: -42-station computer laboratory -85-seat classroom with A/V equipment -100+ -seat classroom with A/V and Distributive Learning equipment (shared with GR MERC) -7 faculty/staff offices -2 student study lounges -6 additional classrooms (shared)	Instructional site utilized for Professional Year 3 students (P-3) didactic instruction as well as presentations by P-4 students during advanced pharmacy practice experiences. Office space provided for four faculty members and three staff members. 24-hour access allows for unlimited access to the computer laboratory as well as study areas.

Doctor of Pharmacy Curriculum

Standard Program			Accelerated Program		
Professional Year 1 – Fall Semester			Professional Year 1 – Fall Semester		
4	BIOL331	Clinical Anatomy & Physiology 1	4	BIOL331	Clinical Anatomy & Physiology 1
3	PHAD310	The Profession of Pharmacy	3	PHAD310	The Profession of Pharmacy
3	PHAR325	Pharmaceutics 1	3	PHAR325	Pharmaceutics 1
5	PHCH320	Medical Biochemistry	5	PHCH320	Medical Biochemistry
2	PHPR303	Integrated Lab*	2	PHPR303	Integrated Lab*
17			17		
Professional Year 1 – Winter Semester			Professional Year 1 – Winter Semester		
3	BIOL332	Clinical Anatomy & Physiology 2	3	BIOL332	Clinical Anatomy & Physiology 2
3	ENGL321	Advanced Composition	3	ENGL321	Advanced Composition
4	PHAR326	Pharmaceutics 2	4	PHAR326	Pharmaceutics 2
4	PHCH330	Introduction to Drug Action/Diagnostic	4	PHCH330	Introduction to Drug Action/Diagnostics
2	PHPR304	Integrated Lab*	2	PHPR304	Integrated Lab*
16			16		
Professional Year 2 – Fall Semester			Professional Year 2 – Summer Semester		
4	BIOL387	Clinical Microbiology & Immunology	4	BIOL387	Clinical Microbiology and Immunology
3	PHAR440	Pharmacokinetics	3	PHAD436	Pharmacy Practice Management
3	PHCH427	Medicinal Chemistry 1	3	PHCH427	Medicinal Chemistry 1
3	PHCL423	Pharmacology 1	3	PHCL423	Pharmacology 1
1	PHPR411	Integrated Lab*	1	PHPR411	Integrated Lab*
2		Pharmacy Elective	2		Pharmacy Elective
16			16		
Professional Year 2 – Winter Semester			Professional Year 2 – Fall Semester		
3	PHAD436	Pharmacy Practice Management	3	PHAR440	Pharmacokinetics
3	PHCH428	Medicinal Chemistry 2	3	PHCH428	Medicinal Chemistry 2
4	PHCH430	Chemotherapeutic Agents	4	PHCH430	Chemotherapeutic Agents
4	PHCL424	Pharmacology 2	4	PHCL424	Pharmacology 2
1	PHPR412	Integrated Lab*	1	PHPR412	Integrated Lab*
2		Pharmacy Elective	2		Pharmacy Elective
17			17		
Professional Year 3 – Fall Semester (off campus)			Professional Year 3 – Winter Semester (off-campus)		
3	PHAD502	Sociopharmacy	3	PHAD424	Pharmacy Law and Ethics
1	PHPR501	Integrated Lab*	2	PHAD540	Pharmacoeconomics
2	PHPR514	Clinical Communication	1	PHPR502	Integrated Lab*
4	PHPR521	Pharmacotherapeutics – Toxicology/Nutrition/Nervous System	4	PHPR523	Pharmacotherapeutics – Infectious Diseases, Immunology, Oncology
3	PHPR522	Pharmacotherapeutics – Cardiovascular/Renal	4	PHPR524	Pharmacotherapeutics – Respiratory/Endocrine/Gastrointestinal
3	PHPR550	Drug Literature Eval/Study Design	2	PHPR	Externship**
2	PHPR	Externship**	2		Pharmacy Elective
18			18		
Professional Year 3 – Winter Semester			Professional Year 3 – Fall Semester		
3	PHAD424	Pharmacy Law and Ethics	3	PHAD502	Sociopharmacy
2	PHAD540	Pharmacoeconomics	1	PHPR501	Integrated Lab*
1	PHPR502	Integrated Lab*	2	PHPR514	Clinical Communication
4	PHPR523	Pharmacotherapeutics – Infectious Diseases, Immunology, Oncology	4	PHPR521	Pharmacotherapeutics – Toxicology/Nutrition/Nervous System
4	PHPR524	Pharmacotherapeutics – Respiratory/Endocrine/ Gastrointestinal	3	PHPR522	Pharmacotherapeutics – Cardiovascular/Renal
2	PHPR	Externship**	3	PHPR550	Drug Literature Evaluation/Study Design
2		Pharmacy Elective	2	PHPR	Externship**
18			18		
Professional Year 4			Professional Year 4		
1	PHPR680	Clinical Seminar	1	PHPR680	Clinical Seminar
32	Clinical Clerkships (see list on back)		32	Clinical Clerkships (see list on back)	
33			33		

Clerkships will be scheduled from June through April in the Standard Program. Students are required to complete eight one-month clinical clerkships during the 11-month period, allowing for completion prior to the University's Spring Graduation

Mapping of Standards to Coursework

Standard	Level	Attribute	Course Identifier	Instrument	Faculty Level Assessment
I. Patient-Specific Drug Therapy - The student shall formulate, implement, document and communicate a pharmaceutical care plan.	1 - Gather and organize information in order to formulate a pharmaceutical care plan.	a. Identify the concept and components of a pharmaceutical care plan.	PHAD 500	Introductory Performance Objectives, MC Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, Quizzes, PBL cases	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHPR 600 thru 690	Case studies, Direct observation Presentations, Portfolios	Pass/Fail, Subjective observation Percentage
		b. Gather relevant information / collect data (via observation, interview, computer and other data bases) needed to formulate a pharmaceutical care plan.	PHAD 500	Introductory Performance Objectives, MC Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, Quizzes, PBL cases	Anchor scale rating, Percentage, Total points
			PHAD 502	Class Discussion, mini-essay, MC exams	Percentage
			PHPR 600 thru 690	Direct observation, Presentations Case studies, Patient presentations Portfolios	Pass/Fail, Subjective observation Percentage
		c. Discuss the pathophysiology of disease states associated with the pharmaceutical care plan.	PHCH 320	Short answer/Essay	Percentage
			PHCL 423/424	Objective tests	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	PBL cases, Quizzes, Case studies, Patient presentations,	Anchor scale rating, Percentage, Total points, Subjective observation
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Patient Presentations, Discussions Multiple choice, T/F tests, Regular quizzes	Pass/Fail, Subjective observation Percentage
		d. Explain the components of physical assessment.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	PBL cases, Quizzes, Practical exam, Direct observation, Case studies, Patient presentations	Anchor scale rating, Percentage, Subjective observation, Total points
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage

			PHPR 600 thru 690	Case studies, Direct observation Presentations, Verbal/Written Quizzes	Pass/Fail, Subjective observation
		e. Describe the pharmacology, medicinal chemistry, pharmaceutics, and pharmacokinetics of drugs used in the pharmaceutical care plan.	PHAR 420/430/440	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHCL 423/424	Objective tests	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHCH 320/427/428/430	Multiple choice, T/F, short answer, essay	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes, Practice problems	Anchor scale rating, Percentage, Subjective observation
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Case studies, Direct observation Presentations, Multiple choice, T/F tests, Verbal/Written Quizzes	Pass/Fail, Subjective observation
		f. Describe the dispensing process.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 600 thru 690	Direct observation	Pass/Fail, Subjective observation
		g. Compound, prepare, and dispense prescription products.	PHPR 303/304	Prescription simulations, lab exercises	Percentage
			PHPR 411/412	Prescription simulations, lab exercises	Percentage
			PHPR 600 thru 690	Direct observation	Pass/Fail, Subjective observation
		h. Identify the categories of drug-related problems.	PHAR 420/440	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 303/304	Introductory Performance Objectives, Prescription Simulations, M/C Exams, Computer Simulations	Percentage
			PHCH 330/427/428/430	Multiple choice, T/F, short answer	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies	Subjective observation

			PHPR 600 thru 690	Patient Presentations, Discussions Case Studies, Portfolios, Verbal/Written Quizzes	Pass/Fail, Subjective observation
		i. Describe the value of documenting pharmaceutical care activities.	PHAD 310	Introductory Performance Objectives M/C Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		j. Explain the concept of and behaviors associated with the provision of pharmaceutical care.	PHAD 310	Introductory Performance Objectives M/C Exams	Percentage
			PHPR 411/412	Prescription Simulations Computer Simulations	Percentage
			PHPR 514	Role playing, direct faculty feedback	Subjective observation
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 502	Class discussion, service learning, mini-essays, M/C exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation

	2 - Interpret and evaluate patient information in order to formulate a pharmaceutical care plan.	a. Establish goals and desired outcomes for the pharmaceutical care plan.	PHAD 310	Introductory Performance Objectives, MC Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	PBL cases, Quizzes, Case studies, Patient presentations,	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Patient Presentations, Discussions Case Studies, Portfolios, Verbal/Written Quizzes	Pass/Fail, Subjective observation
		b. Interpret data needed to formulate and implement a pharmaceutical care plan.	PHCH 330	Objective tests	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 550	Case discussion, MC exams, essay exams	Subjective observation, percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Direct observation, Case studies	Subjective observation
		c. Prioritize data in order to develop a pharmacotherapeutic plan to achieve desired outcomes.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Patient Presentations, Discussions Case Studies, Direct observation, Verbal/Written Quizzes	Pass/Fail, Subjective observation
		d. Integrate pathophysiology with other applied sciences.	PHCH 320	Short answer essay	Percentage
			PHCL 423/424	Objective tests	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Total points
			PHPR 550	Case discussion, MC exams, essay exams	Subjective observation, percentage
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Multiple choice, T/F tests, Verbal/Written Quizzes	Pass/Fail, Subjective observation
		e. Perform basic physical assessment.	PHPR 501/502	Direct observation	Subjective observation
			PHPR 600 thru 690	Direct observation	Subjective observation

		f. Relate the pharmaceutical sciences (medicinal chemistry, pharmacology, pharmaceutics) to a specific pharmaceutical care plan.	PHCH 427/428/430	Multiple choice, T/F, short answer	Percentage
			PHCL 423/424	Objective tests	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Case studies, Verbal/Written Quizzes	Pass/Fail, Subjective observation
		g. Calculate dosage regimens using pharmacokinetic principles.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	PBL cases, Quizzes, Practice problems, Case studies, Patient presentations,	Anchor scale rating, Percentage, Subjective observation, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies, Direct observation, Problem sheets, Verbal/Written Quizzes	Pass/Fail
		h. Develop a monitoring plan that evaluates achievement of pharmacotherapeutic goals.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Patient presentations, PBL cases, case studies	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies, Portfolios, Verbal/Written Quizzes	Pass/Fail
		i. Identify drug-related problems.	PHCH 427/428/430	Multiple choice, T/F, short answer	Percentage
			PHCL 423/424	Objective tests	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	PBL cases, Quizzes, Case studies, Patient presentations	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies, Portfolios	Pass/Fail, Subjective observation
		j. Explain methods of documenting pharmaceutical care activities.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 514	Role playing, direct faculty feedback	Subjective observation

			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies, Verbal/Written Quizzes	Pass/Fail
		k. Describe federal and state laws relevant to pharmacy practice.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 600 thru 690	Discussions, Verbal/Written Quizzes	Pass/Fail, Subjective observation
		l. Verbally present cases / problems in an organized, logical manner.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 502	Group projects, class presentations	Percentage
			PHAD 514	Mock seminar, role playing, structured faculty feedback	Subjective observation
			PHPR 600 thru 690	Discussions, Patient presentations	Subjective observation
		m. Articulate patient-related factors contributing to compliance.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	PBL cases, Case studies, Patient presentations	Anchor scale rating, Total points
			PHAD 502	Case discussion, mini-essays	Percentage
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHAD 514	Role playing, direct faculty feedback	Subjective observation
			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies	Subjective observation
		n. Act in a manner consistent with the ideals of pharmaceutical care.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Role playing	Subjective observation
			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies	Subjective observation
	3 - Implement, document and communicate the pharmaceutical care plan.	a. Apply pharmaceutical sciences, pathophysiology, and pharmacotherapy to individual patients.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHCH 427/428/430	Multiple choice, T/F, short answer	Percentage
			PHCL 423/424	Objective tests	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies, Portfolios	Subjective observation

		b. Integrate the elements of physical assessment into the pharmaceutical care plan.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		c. Apply pharmacokinetic principles to patient-specific situations.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHCH 427/428/430	Multiple choice, T/F, short answer	Percentage
			PHPR 501/502 Case studies, Patient presentations,	PBL cases, Practice problems, Quizzes	Anchor scale rating, Percentage, Total points, Subjective observations
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests, Problem sheets; Self-assessment	Subjective observation, percentage
			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies, Verbal/Written Quizzes	Pass/Fail, Subjective observation
		d. Assure accuracy of the dispensing process.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 600 thru 690	Role Playing, Discussions	Subjective observation
		e. Implement the pharmaceutical care plan (including monitoring for achievement of pharmacotherapeutic goals).	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 600 thru 690	Role modeling, Case studies. Direct observation	Subjective observation
		f. Predict and prevent drug-related problems.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHCH 427/428/430	Multiple choice, T/F, short answer	Percentage
			PHCL 423/424	Objective tests	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHAD 502	Case discussion, M/C exams, mini-essays	Percentage
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Role Playing, Discussions	Subjective observation
		g. Document pharmaceutical care activities.	PHPR 600 thru 690	Discussions, Role playing, Written activities, Portfolios, Verbal/Written materials	Subjective observation
		h. Apply legal principles to patient-specific situations.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 514	Case discussion, direct faculty feedback	Subjective observation
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Role playing, Verbal/Written Quizzes	Pass/Fail

		i. Effectively communicate the therapeutic plan to other health-care professionals and to the patient and/or caregiver.	PHPR 501/502	Case studies, Patient presentations, PBL cases, Role playing	Anchor scale rating, Subjective observation, Total points
			PHPR 600 thru 690	Discussions, Role playing, Direct observation	Subjective observation
		j. Assume responsibility for drug-related patient outcomes.	PHCH 427/428/430	Multiple choice, T/F, short answer	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 600 thru 690	Discussions, Role playing	Subjective observation
		k. Use various methods to enhance patient compliance.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 502	Case discussion, mini-essay	Percentage
			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies, Role playing, Direct observation	Subjective observation
		l. Convince other professionals and the lay public of the importance of quality pharmaceutical care.	PHPR 501/502	Case studies, Patient presentations, PBL cases, Role playing	Anchor scale rating, Subjective observations, Total points
			PHPR 600 thru 690	Discussions, Role playing, Direct observation	Subjective observation

Standard	Level	Attribute	Course Identifier	Instrument	Faculty Level Assessment
II. Manage the Pharmacy and Medication Use Systems - The student shall specify, develop and implement systems for the purchase of pharmaceuticals and other supplies, for inventory control, and for the preparation, dispensing, distribution and administration of medications. The student shall manage pharmacy operations, human resources, and fiscal resources; and specify, acquire, maintain and update facilities and equipment. The student shall participate in a process for reporting and managing medication errors and adverse drug reactions, performing drug use evaluations, and participating in the development and implementation of a formulary system.	1 - Specify elements necessary for purchasing, preparing, dispensing, distributing and administering medications and maintaining adequate inventory control. Understand the components necessary to manage a pharmacy operation. Identify elements of and describe the importance of adverse drug reaction (ADR)/medication errors reporting, drug use evaluation (DUE), and a formulary system in the operations of a pharmacy practice.	a. Interpret and evaluate the accuracy and completeness of the prescription order.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Patient Presentations, Discussions, Case Studies, Role playing	Subjective observation and evaluation
		b. Describe commercially available drug delivery systems.	PHAR 326	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Quizzes, Direct observations	Subjective observations, Percentage
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		c. Describe quality control tests performed to assure that the dosage form meets USP requirements.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		d. Describe the methods used to study the bioavailability / bioequivalence of drug products both *in vitro* and *in vivo*.	PHCY 320	Short answer essay	Percentage
			PHAR 326	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		e. Gather appropriate information from the literature to assess the bioequivalence, therapeutic equivalence, and pharmacoeconomics characteristics of various dosage forms.	PHAR 326/440	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 540	Case discussions, MC exams, essay exams	Percentage
			PHPR 550	Case discussions, MC exams, essay exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		f. Identify proper storage requirements for all drug products.	PHAR 326	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage

			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		g. Ascertain vendor quality and dependability.	PHAD 436	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		h. Describe the principles of purchasing and inventory control.	PHAD 436	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		i. Describe the types of durable medical equipment available and the vendors / sources for durable medical equipment.	PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		j. Define the various routes of medication administration.	PHAR 326	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHCH 320/330	Objective tests, Short answer, essay	Percentage
			PHPR 305/306	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		k. Describe various types of pharmacy practice.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		l. Define the major management principles used to identify, evaluate, and propose changes in the operations of a pharmacy practice.	PHAD 436	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		m. Conduct a basic financial analysis to diagnose financial and management problems.	PHAD 436	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		n. Use financial statements and financial ratio analysis to assess the operations of a pharmacy practice and propose operational changes.	PHAD 436	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		o. Describe the components of a budget for a pharmacy practice or pharmacy department.	PHAD 436	Introductory Performance Objectives, M/C Exams	Percentage
			PHAD 540	Case discussion, MC Exams, essay exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		p. Identify the basic concepts of risk	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage

		management and their relationship to the managed care industry.	PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		q. Describe the basic concepts of risk management to make rational decisions regarding insurance.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		r. Describe the processes for hiring, evaluating, disciplining, and terminating pharmacy personnel.	PHAD 436	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 600 thru 690	Discussions, Role playing	Subjective observation and evaluation
		s. Explain methods of reporting ADR's both individually and as a system.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions	Subjective observation and evaluation
		t. Articulate the reasons why medication errors occur and ways to manage their further occurrence (e.g. systems reasons, human failure, etc.).	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 304	Lab exercise, MC exams, essays	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 424	Multiple Choice	Percentage
			PHAD 502	Case discussions, M/C exams, mini-essays	Percentage
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		u. Describe the components of a DUE and what it is designed to accomplish.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHAD 540	Case discussion, MC Exams, essay exams	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		v. Describe the strengths and weaknesses of various types of formularies.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation

	2 - Identify and analyze characteristics associated with purchasing, preparing, dispensing, distributing and administering medications and maintaining adequate inventory control. Demonstrate advanced skills in managing pharmacy operations, human resources, and fiscal resources. Develop systems for the reporting of medication errors and ADR's, for the conduct of DUE, and for the maintenance of a formulary system.	a. Select the appropriate drug delivery system for the management of a specific patient (e.g., pediatric, geriatric) or therapeutic problem.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Assigned Readings, Case studies	Subjective observation and evaluation
		b. Select the drug delivery system based on bioequivalence and therapeutic equivalence studies.	PHAR 440	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHAD 424	Multiple Choice	Percentage
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		c. Determine bioequivalence of drug products.	PHAR 440	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		d. Interpret the validity of the statistical and analytical methods used to perform *in vitro* and *in vivo* bioavailability / bioequivalence studies.	PHPR 550	Case discussion, M/C exams, essay exams	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		e. Compare the bioavailability of drug products administered by different routes of administration.	PHGH 620	Short answer essay	Percentage
			PHAR 326/440	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
			PHPR 501/502	PBL cases, Case studies, Patient presentations	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Assigned Readings, Quizzes/exams	Subjective observation and evaluation
		f. Determine the reliability of the manufacturer.	PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		g. Assess pharmacoeconomics data to select the dosage form, amount, and manufacturer of a drug product.	PHAD 540	Case discussion, M/C exams, essay exams	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		h. Use inventory control concepts to manage inventory and work effectively within a restrictive formulary.	PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation

		i. Explain civil law and liability situations that may arise from dispensing errors.	PHAD 424	Multiple Choice	Percentage
			PHPR 514	Case discussion, Direct faculty feedback	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		j. Describe the various medication administration techniques.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Direct observation	Anchor scale rating, Subjective observations, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		k. Using marketing principles, develop a plan to market billable cognitive pharmacy services to different segments of the market including payers, patients and other providers.	PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		l. Use the major management principles to identify, evaluate, and propose changes in the operations of a pharmacy practice.	PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		m. Effectively manage technical personnel with proper human resources management and efficient work delegation and workflow pattern.	PHAD 436	Performance Objectives, M/C Exams	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		n. Establish a mission statement and strategic plan for pharmacy operations management, human resource management, facilities management, and fiscal resources management.	PHAD 436	Performance Objectives, M/C Exams	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		o. Identify deficiencies in facilities design and equipment at an existing practice site.	PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		p. Prepare a budget for a pharmacy practice or pharmacy department.	PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		q. Evaluate pharmacy personnel based on established criteria.	PHAD 436	Performance Objectives, M/C Exams	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		r. Use the basic concepts of risk management to make rational decisions regarding insurance.	PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		s. Identify and complete reports of medication errors and ADR's.	PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation, pharmacokinetic rotation students fill out ADR forms
		t. Develop a plan to minimize medication errors for a particular practice setting.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points

			PHPR 600 thru 690	Discussions, Assigned Readings	Subjective observation and evaluation
		u. Collect DUE data based on the established criteria.	PHPR 600 thru 690	Discussions, Direct observation, Replication of previous work	Subjective observation and evaluation
		v. Gather and organize data for a formulary review.	PHPR 600 thru 690	Discussions, Direct observation, Replication of previous work	Subjective observation and evaluation
		w. Prepare a written formulary review for an existing or proposed formulary agent.	PHPR 600 thru 690	Discussions, Direct observation, Replication of previous work	Subjective observation and evaluation

3 - Apply information regarding purchasing, preparing, dispensing, distributing and administering medications and purchasing other supplies to optimize pharmaceutical care. Apply management principles to effectively manage a pharmacy operation, including resources, facilities, and equipment. Actively participate in the management of medication use through the reporting of medication errors and ADR, conducting and presenting DUE, and preparing and delivering formulary recommendations.	a. Choose the most appropriate drug delivery system for the patient based on pharmacotherapy, bioequivalence, route of administration, stability, incompatibility, and cost.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
		PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
		PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
		PHPR 600 thru 690	Discussions, Assigned readings, Case studies	Pass/Fail, Subjective observation, Verbal/Written Quizzes
	b. Evaluate quality control data to determine if a product meets the USP standards.	PHAR 326	Multiple choice, T/F test, short answer questions, problem sheets	Anchor scale rating
		PHAD 424	Multiple Choice	Percentage
		PHPR 600 thru 690	Discussions, Assigned readings, Literature search	Pass/Fail, Subjective observation, Verbal/Written Quizzes
	c. Evaluate *in vivo* data obtained from absolute and relative bioequivalence studies.	PHPR 600 thru 690	Discussions, Assigned readings, Literature search	Pass/Fail, Subjective observation, Verbal/Written Quizzes
	d. Choose the appropriate durable medical equipment for a patient (e.g. fit the crutches).	PHPR 600 thru 690	Discussions, Assigned readings, Literature search, Role playing, Case studies	Subjective observation, Patient satisfaction
	e. Choose the appropriate medical supplies for a patient (e.g. ostomy supplies).	PHPR 501/502	Case studies	Subjective observations
		PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
		PHPR 600 thru 690	Discussions, Assigned readings, Literature search, Role playing, Case studies	Subjective observation, Patient satisfaction
	f. Calculate equivalent dosages for drug products which vary according to their manufacturer, delivery system, route of administration and/or salt form.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
		PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
		PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
		PHPR 600 thru 690	Discussions, Assigned readings, Literature search, Role playing, Case studies, Direct observation	Subjective observation, Pass/Fail, Verbal/written quizzes

g. Design an investigational drug service for both an inpatient and outpatient setting.	PHPR 600 thru 690	Discussions, Assigned readings, Literature search, Role playing, Case studies	Subjective observation
h. Administer medications by various routes.	PHPR 501/502	Direct observation	Subjective observations
	PHPR 600 thru 690	Discussions, Role playing, Case studies	Subjective observation
i. Implement a management structure for a community pharmacy practice and health-systems pharmacy practice.	PHPR 600 thru 690	Discussions, Role playing	Subjective observation
j. Plan and perform ongoing evaluation of the management structure developed to facilitate continued quality improvement.	PHPR 600 thru 690	Discussions, Role playing	Subjective observation
k. Develop an information system that meets legal, business, archival, and patient care needs.	PHPR 600 thru 690	Discussions, Literature search, Assigned readings	Subjective observation and evaluation
	PHAD 424	Multiple Choice	Percentage
l. Analyze medication errors and ADR's and take action to reduce their further occurrence.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
	PHAD 424	Multiple Choice	Percentage
	PHPR 600 thru 690	Discussions	Subjective observation and evaluation
m. Develop criteria for a DUE.	PHAD 540	Case discussion, M/C exams, essay exams	Percentage
	PHPR 600 thru 690	Discussions, Literature search	Subjective observation and evaluation
n. Analyze data from a DUE and identify possible causes for non-compliance.	PHAD 540	Case discussion, M/C exams, essay exams	Percentage
	PHPR 600 thru 690	Discussions, Literature search, Assigned readings	Subjective observation and evaluation
o. Present findings of a conducted DUE in an organized manner to other health care professionals.	PHPR 600 thru 690	Discussions, Role playing	Subjective observation and evaluation
p. Evaluate an existing or proposed formulary agent and develop and implement a formulary recommendation.	PHPR 600 thru 690	Discussions, Literature search, Role playing	Subjective observation and evaluation

Standard	Level	Attribute	Course Identifier	Instrument	Faculty/Level Assessment
III. Health Promotion / Disease Prevention - The student shall provide emergency care on a limited basis and promote public awareness of health and disease.y	1 - Understand the basic elements of emergency care and disease prevention.	a. Describe common emergencies requiring emergency medical care, including those requiring CPR.	BIOL 331/332	Multiple choice, case studies	Percentage
			PHPR 412	Classroom discussion, Practicum, M/C exam	Subjective observation, percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Literature search, Assigned readings, Role playing	Pass/Fail, Subjective observation, Verbal/Written Quizzes
		b. Identify various therapeutic alternatives, both pharmacologic and non-pharmacologic, which can be used to treat common emergencies (including poisonings).	PHPR 412	Classroom discussion, Practicum, M/C exam	Subjective observation, percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Literature search, Assigned readings, Role playing	Pass/Fail, Subjective observation, Verbal/Written Quizzes
		c. Identify the basic concepts of disease prevention, including nutrition, risk assessment, etc.	BIOL 331/332	Multiple choice, case studies	Percentage
			BIOL 387	Multiple choice, case study	Percentage
			PHCH 620	Short answer, essay	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Literature search, Assigned readings, Role playing, Case studies	Pass/Fail, Subjective observation, Verbal/Written Quizzes
		d. Explain the use of devices and other means for detecting and/or monitoring diseases	BIOL 331/332	Multiple choice, case studies, lab experiments	Percentage, Subjective observation

			PHPR 411/412	Prescription simulation, lab exercises, Observation	Percentage, Pass/Fail
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes, Direct observation	Anchor scale rating, Subjective observations, Total points, Percentage
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Literature search, Assigned readings, Role playing, Case studies	Pass/Fail, Subjective observation, Verbal/Written Quizzes
		e. Describe ethical and legal issues involved in the delivery of health and pharmaceutical care as they relate to public health.	PHAD 424	Multiple Choice	Percentage
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 514	Case discussion, Direct faculty feedback	Percentage
			PHPR 600 thru 690	Discussions, Literature search, Assigned readings, Role playing	Pass/Fail, Subjective observation, Verbal/Written Quizzes
		f. Identify sources of information related to public health issues (e.g. epidemiology, economics, substance abuse, genetic screening, etc.).	PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 550	Case discussion, M/C, essay exam	Percentage
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Discussions, Literature search, Assigned readings, Role playing	Pass/Fail, Subjective observation, Verbal/Written Quizzes

	2 - Provide basic emergency care and promote health and disease awareness.	a. Demonstrate the ability to provide emergency first aid, including CPR.	PHPR 412	Classroom discussion, Practicum, M/C exam	Subjective observation, percentage
			PHPR 501/502	Direct observation, Quizzes	Percentage, Subjective observations
			PHPR 600 thru 690	Role playing, Case studies	Pass/Fail, Subjective observation, Verbal/Written Quizzes
		b. Obtain first aid and basic life support (BLS) certification.	PHPR 412	Classroom discussion, Practicum, M/C exam	Subjective observation, percentage
			PHPR 501/502	Direct observation, Quizzes	Percentage, Subjective observations
			PHPR 600 thru 690	Discussions, Assigned readings, Role playing, Role modeling, Case studies	Pass/Fail, Subjective observation, Verbal/Written Quizzes
		c. Describe the basic concepts of disease prevention to the general public and other health care professionals.	PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 600 thru 690	Discussions, Presentations	Subjective observation
		d. Recognize those patient problems, based on signs, symptoms, and a patient history, that require referral to another health care provider (ie. Good triage skills).	PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 600 thru 690	Role playing, Case studies, Direct observation	Subjective observation
		e. Identify potential and actual substance abuse in patients and colleagues.	PHPR 600 thru 690	Discussions	Subjective observation
		f. Discuss ethical and legal issues, as they relate to public health, with the general public and other health care professionals.	PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 514	Case discussion, MC exam, essay	Percentage
			PHPR 600 thru 690	Discussions, Case studies	Subjective observation
	3 - Provide advanced emergency care and disease/health awareness services.	a. Exhibit the ability to provide emergency medical care in patients that are suffering from a drug overdose or other poisoning.	PHPR 412	Classroom discussion, Practicum, M/C exam	Subjective observation, percentage
			PHPR 600 thru 690 Role playing, Case studies	Subjective observation, Pass/Fail,	Written/Verbal quizzes
		b. Design (and possibly implement) a prevention or detection program in a target population.	PHPR 600 thru 690	Discussions, Literature search, Assigned readings, Role playing	Subjective observation

		c. Conduct or participate in programs designed to provide public education and/or promote public awareness of disease prevention and health.	PHPR 600 thru 690	Discussions, Literature search, Assigned readings, Role playing	Subjective observation
		d. Perform services designed to screen, prevent, and/or detect various disease or pathologic conditions.	PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes, Direct observation	Anchor scale rating, Subjective observations, Total points, Percentage
			PHPR 600 thru 690	Role playing, Role modeling	Subjective observation
		e. Obtain instruction in Advanced Cardiac Life Support (ACLS).	PHPR 501/502	Quizzes, Direct observation	Percentage, Subjective observations
			PHPR 600 thru 690	Discussions, Literature search, Assigned readings, Role playing	Subjective observation

Standard	Level	Attribute	Course Identifier	Instrument	Faulty Level Assessment
IV. Provide Drug Information and Education - The student shall provide pharmaceutical information and education on health-related topics to health professionals and the general public. The student shall retrieve, evaluate and manage professional information and literature.	1 - Retrieve professional information and identify appropriate media to communicate effectively with an identified population.	a. Describe the nature, classification, and specific aspects of a drug information request.	PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation, Pass/Fail, Written/Verbal quizzes
		b. Identify the common drug and disease oriented pharmacy references and distinguish between primary, secondary, and tertiary literature.	PHPR 411/412	Lab exercises, case discussion, simulations	Percentage
			PHPR 521/522/523/524	Short answers	Subjective observation
			PHPR 550	M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Answering Drug Information requests (PHPR 606)	Subjective observation, Pass/Fail, Written/Verbal quizzes
		c. Identify and use online information resources (e.g., Medline, MicroMedex, IPA, IDIS).	PHPR 411/412	Lab exercises, case discussion, simulations	Percentage
			PHPR 550	M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Portfolios, Answering Drug Information Requests (PHPR 606), Reference Reviews (PHPR 606)	Subjective observation, Pass/Fail, Written/Verbal quizzes
		d. Develop skills for receiving and answering simple, objective drug information requests.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing, Role modeling	Subjective observation, Pass/Fail, Written/Verbal quizzes
		e. Retrieve information useful in making dispensing and compounding decisions.	PHPR 503/504	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Lab exercises, case discussion, simulations	Percentage
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Role playing, Role modeling	Subjective observation, Pass/Fail, Written/Verbal quizzes
		f. Describe methods to relate the information to	PHPR 411/412	Lab exercises, case discussion, simulations	Percentage

		relate the information to other health care professionals and patients / caregivers, including the appropriate media.	PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 600 thru 690	Discussion, Develop Personal Goals (PHPR 606)	Subjective observation, Pass/Fail, Written/Verbal quizzes
		g. Exhibit the ability to utilize the Internet to obtain simple drug information.	PHPR 411/412	Lab exercises, case discussion, simulations	Percentage
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 600 thru 690	Role playing, Role modeling	Subjective observation, Pass/Fail, Written/Verbal quizzes

17. What are the threats to the College's Doctor of Pharmacy program?

- Competition from sites that are better located (GVSU for example if they ever get their act together).
- Lack of differentiation in the job market realizing any change in the degree.
- Tuition costs making program out of reach for good students
- The current economic problems of the state resulting in funding for the university is definitely a threat to the program. Another major threat to the pharmacy program is the recent movement to mail order pharmacy and the impact upon ambulatory community pharmacy
- Unless there is a shift in the way pharmacy is practiced today in the community, there will be no need for the Doctorate.
- The major problem I can see is funding for the increase in faculty, while the state is cutting everything
- Qualified clinical sites
- High tuition and six years of study.
- Students have expressed concerns for the program's integrity when students have been allowed to continue despite making some grievous errors.
- Competition from other universities that would like to start a pharmacy program. (ie Grand Valley)
- The relatively isolated geographic location of Big Rapids.

18. What opportunities are there for the College's Doctor of Pharmacy program?

- I would suggest an interview element to admission to look at language ability. I believe an admission process weighted nearly exclusively on GPA and PCAT will not produce the best, patient focused people for the profession.
- Become a premier pharmacy practice program integrated with the growing health care services of western Michigan.
- Keeping the students' trust by upholding standards which are expressed to students upon entering the program
- The aging population may require more prescription drugs and there may be a need for more pharmacists, increased pharmacy school enrollment. Development of greater clinic skills through the program will offer more opportunities for the use of pharmacists

19. In the next five years, what major trends will affect and/or change the training and skills needed by pharmacists entering the profession in 2010?

- More business and supervisory education is needed or pharmacy will strictly be a profession of employees without pharmacists who are capable of leading their own profession.
- Drug importation from other countries. Which might lead to poor or unknown drugs to be taken by patients leading to drug-drug interactions that our graduates might not be aware of or can anticipate making counseling difficult or lead to litigation.
- Focus on improving medication use, comprehensive medication reviews, medication therapy management. Overseeing technicians and technology.
- There definitely needs to be an increase emphasis in technology as well as evaluating potential non-traditional practice settings. This would include the establishment of clinical services in a free-standing setting, not reliant upon physician sponsorship
- Health insurance coverage
- Disease state management
- Decrease distributive functions particularly with increased mail-order
- Technological advances
- Genetics
- I believe the swing may go back to an overage as more and more prescriptions are handled by mail order facilities.
- A greater emphasis should be placed on basic business and management skills, as the role of the pharmacists moves away from a dispensing role to a provider of information and administrative role.
- New more complicated drugs and therapies.
- Continued immigration of non-english speaking patients may require greater foreign language skills by pharmacists.
- Growth of mail-order prescription-How best do deal with this issue

20. What changes/additions or deletions do you feel are essential to the College or Doctor of Pharmacy program?

- I believe a "tracked program" is needed to allow for a Pharm.D to have multiple specialties (management, managed care, pharmacoeconomics, manufacturing etc) in addition to merely a clinical degree.
- I also recommend the possibilities of obtaining dual degree
- Need greater information and training on the biological/immunology/genomics revolution that is allowing different medications to be approved by the FDA and this will accelerate in the next 20 years.
- I believe that the students need to understand the importance that politics plays in their ability to practice and that without involvement, they are at the mercy of non-practitioners.
- Pharmacognosy/Herbals/Homeopathic meds - increased popularity among consumers Genomics
- Curriculum needs to reflect a greater emphasis on business skills, but less emphasis on pharmaceutics
- Continuing improvement of communication/ language skills.
- Developing better systems of helping pharmacists learn how to appropriately delegate responsibilities to other staff members

Please make any additional comments below: **None were made**

Section 7
Labor Market Demand Analysis

There is a current shortage of pharmacist nationwide that is projected to worsen as the leading edge of the baby boomers begin to reach retirement age. This primary source of the shortage can be found in the demand for pharmacists in large chain settings. However, this has effect almost all career pathways a pharmacist can choose by increasing average salaries and overall demand within the profession. Current nationwide shortages is reflected in a recent chain pharmacies survey that reported 4133 pharmacy openings (3648 full-time, and 485 part-time) for January 2004.[1]

With the aging population and expected rise in prescription volume over the next couple of decades, the current shortage is expected to get much worse. Table 1. shows the projected need for pharmacists in the year 2020.[2]

Table 1.
Conference Estimates: Current Use and Projected Need for Pharmacists in the United States *(Full Time Equivalents)*

	Current use of pharmacists 2001	**Projected need for pharmacists 2020**
Order fulfillment	136,400	100,000
Primary services	30,000	165,000
Secondary/tertiary services	18,000	130,000
Indirect/Other services	12,300	22,000
Total	**196,700**	**417,000**
Total estimated supply		**260,000**
Shortfall		*157,000*

Order fulfillment can be described as the traditional dispensing services pharmacists are generally known for providing. Primary services refers to a more recent model of pharmacy practice in which the pharmacists identify, prevent, and solve drug-related problems for the purpose of achieving defined therapeutic outcomes. Under this model, pharmacists become a patient educator and advocate, taking responsibility for the entire drug regimen of their patients. Secondary/tertiary services includes such activities as drug use, safety, and policy, acute care, nursing facilities, intermediate care/mental retardation/psychiatric, hospice, home health, assisted living, continuing care retirement communities, correctional facilities and nuclear pharmacy. Lastly, the indirect/other category includes careers with little or no patient contact, such as careers in industry (scientist, economist/outcomes researcher, marketing/sales, medical service liaison, drug information, and regulatory affairs), academics (deans and faculty), regulatory/government policy, pharmacy informatics and consulting.

Pharmacy compensation has been positively affected by the recent shortage. But even before this problem surfaced a few years ago, salaries were favorable and had of history of steady growth. Table 2 shows the results of a recent national survey of weighted hourly pharmacist wages (www.imercer.com).

Table 2

2004 Pharmacy Compensation Survey - Spring Edition
National Results

	Hourly Wgtd Mean
Pharmacy Team Mgr	$47.04
Staff Pharmacist	$42.14
Staff Pharmacist (Healthcare Retail/Satellite)	$41.83
Staff Pharmacist (Mail-order/Online)	$40.32
Clinical Pharmacist	$43.10
Nuclear Pharmacist	$44.10

Median total compensation can be found in Table 3 below, with a national comparison between 2003 and 2004 survey results.

Table 3

Job title	2003 median total cash compensation	2004 median total cash compensation	% change
Pharmacy team manager	$89,400	$94,600	+5.8
Staff R.Ph.	84,200	88,400	+5.0
Staff R.Ph. (mail-order/on-line)	79,800	87,400	+9.5
Clinical R.Ph.	82,900	85,200	+2.8

Source: Mercer Human Resource Consulting

The general outlook for the profession of pharmacy appears to be quite good for the foreseeable future. Even if outside forces (e.g., automation, use of technicians, mail order, Internet-based pharmacy) expand, growth of the clinical and patient care responsibilities should more than compensate for any lost dispensing positions that may occur. Evidence of the growth in the profession can be found in the recent expansion of many pharmacy programs across the country along with the formation of a dozen new pharmacy schools in as many years.

References:

1. NACDS Foundation January 2004 Chain Pharmacy Employment Survey.
2. **Professionally Determined Need for Pharmacy Services in 2020;** Report of a Conference Sponsored by the Pharmacy Manpower Project, Inc. David A. Knapp, Ph.D. Conference Facilitator and Reporter.

Section 8
Evaluation of Facilities and Equipment

Physical Facilities

At present the College of Pharmacy of Ferris State University occupies three fixed facilities, one on the main campus of FSU in Big Rapids for first and second year (P-1, P-2) students, and one in Grand Rapids at the Medical Education and Research Center (MERC), and one in Kalamazoo at Western Michigan University, Spindler Hall, for the third year (P-3) students. The student population at the Grand Rapids and Kalamazoo sites is split about evenly. The P-1 and P-2 students may also make use of several clinical sites that may vary from year to year for short experiential activities. The fourth year (P-4) students are on rotation at various clinical sites throughout the state including community, institutional and some specialized sites (See Appendix 1).

The building on the main campus in Big Rapids has been occupied since the fall of 1972. It has a total of 62,000 square feet, of which 47,000 square feet are utilized as instructional space. The space has undergone some renovations, with new renovations completed August 2004.

An animal facility is housed in the College of Pharmacy building. However, none of the College of Pharmacy courses require the use of animals at this time. Protocols involving animals in research may be performed if approved.

The facility in Grand Rapids occupies approximately 9,000 square feet of the Garden level of the renovated historic Berke-Gay Building located on Monroe Avenue on the east bank of the Grand River in downtown Grand Rapids.

In Kalamazoo FSU utilizes space in the Unified Clinic Building of Kalamazoo Center for Medical Studies (KCMS) with additional space being secured in Western Michigan University's Spindler Hall. KCMS is a medical education structure utilized by Bronson Hospital, Borgess Hospital, Western Michigan University, Michigan State University and Ferris State University for professional education.

Renovations, including proposed renovations, in the pharmacy facility on the Big Rapids campus of FSU.

Pharmacy building rooms 212 A/B, which were formerly laboratory space, were converted to office space for the new Departmental Head/Assistant Dean Basic Pharmaceutical Sciences and a secretary. The former secretary's office in room 202A was converted to a faculty instructional preparation room. The adjacent copy/preparation room, 202B, was converted to a faculty office. Room 112, has been converted into a computer laboratory and classroom dedicated to the Integrated Lab sequence with comput stations sufficient for 30 students to work independently in the lab.

Remodeling of lab space (Rooms 201 and 303) formerly utilized in laboratory intensive courses in the old curriculum has resulted in two new 75-seat classrooms. Each room will have a capacity for 75 students, but together will create a 150-student inter-classroom accomplished via inter-connective audio and visual communications between the two rooms. In addition a third lab has undergone demolition in anticipation creating additional classroom space for the 2005-06 academic year. Room 305 while not remodeled received new furnishings.

Remodeling/renovations involving rooms 102, 104, and 106 for a student lounge/study area has begun with the dismantling of the rooms completed. The single room, to be used for the student lounge, resulting from such dismantling is to be ready for use by early in the fall of 2004.

Description of the Facilities in Grand Rapids

In July, 2002, the College's Grand Rapids offices were relocated to the Boardwalk Building. While upper levels of the building have been converted to loft apartments, the lower levels were reserved for business or educational activities. The College utilizes approximately 9,000 square feet of space in the lower level and shares common areas with medical students from Grand Rapids Medical Education and Research Center (GR MERC) as well as students enrolled in other health professions programs. A large 85-student classroom has been equipped with audiovisual equipment capable of delivering state-of-the-art presentations in a very "heterogeneous" environment. A computer laboratory/classroom with 40 stations complements the classroom, providing students with individual access to computing resources. An additional 120-seat auditorium has been fitted with distance-learning equipment as part of a joint effort between the College and GR MERC. The distance-learning classroom is used to connect students in Grand Rapids with their peers in Kalamazoo. This technology has also been used to "deliver" lecturers from across the state to the classroom. Offices for six faculty and staff members are included in the facility and students are provided additional computers for their person computing needs in a large open area. The College has priority scheduling in the auditorium and exclusive control of the classrooms.

Description of the Facilities in Kalamazoo

The College has been closely affiliated with Kalamazoo Center for Medical Studies (KCMS) since 1995 when it became a member of the organization. At that time small classrooms within the KCMS building were utilized, as enrollment in the program remained constant at about 15 students. In 2000, as class sizes began to increase, the College developed a classroom in Western Michigan University's Spindler Hall, located "across the street" from the KCMS building. Initially, a single classroom and student breakout rooms were developed along with a small computer lab. With implementation of the new curriculum, student numbers have increased markedly and additional space has been developed. Through the very generous assistance of the Pharmacy Alumni Association, a 30-station computer laboratory/classroom was completed in January 2002. Additionally, five faculty and staff offices have been added to the College's facilities in Spindler Hall. With the need for classroom space capable of distance-learning instruction, the College has collaborated with Western Michigan University to utilize an existing classroom in KCMS capable of distance-learning based instruction. The KCMS "Media Room" will accommodate approximately 100-120 students in very pleasant surroundings. With completion of technology installations in the fall of 2002 at each location, the College can now provide synchronous instruction in Kalamazoo and Grand Rapids with the capacity to connect to classrooms on campus and across the state. In addition to the support received from KCMS, the College has benefited tremendously from the continual support of Western Michigan University in this collaborative effort.

Unfortunately, the instrument used to survey faculty did not contain questions pertaining to office space for faculty and meeting/work space for students at the APPE locations. Discussions with faculty during the preparation of the document noted a need to assess this lack of space. None of the APPE sites are owned by Ferris and therefore each individual institution allocates space for faculty and students. Because faculty members are not employees of these institutions and because space in any health care

facility is at a premium, faculty offices are frequently small and/or shared with other faculty at the same institution. Student meeting areas are also limited, primarily because conference rooms in general at health care institutions are limited, with a significant demand for their use. This is one reason that new pharmacy practice faculty must be placed at institutions without a current affiliation with Ferris State University. Also, the College of Pharmacy must continue to work with affiliated institutions to maintain or increase office and meeting space necessary to adequately educate its students.

All of the main lecture facilities at all three locations are equipped with the necessary audio-visual aides to facilitate didactic delivery. The main classrooms each have Internet access and are (or will be in the case of the new classrooms) equipped with a desktop computer, visualizer, DVD and VCR players, amplifier, overhead projector and projection gun. Distance learning facilities are set-up to allow the instructor to control various audio and visual parameters between the two sites.

Section 9
Curriculum Review

Professional Competencies and Outcome Expectancies

The College of Pharmacy has completed the implementation of the new Doctor of Pharmacy Curriculum, which was previously approved by the faculty. See Appendix 2 for an outline of the courses.

As of August 2004, the College of Pharmacy has had one full class of students (accelerators and non-accelerators) plus one additional group of "accelerators" complete the 4-year program. A synopsis of progression of students is provided here.

	Class of 2000	Class of 2001	Class of 2002	Class of 2003	Total
Maximum (Max)	122	120	121	130	493
Current/Grad	109	111	112	129	461
Cur/Grad – Max	-13	-9	-9	-1	-32
Remaining (%)	89.37	92.5	92.56	99.23	93.51
Attrition rate (%)	10.65	7.5	7.44	0.77	6.49

The College of Pharmacy Assessment Committee, in conjunction with the Curriculum Committee has conducted a curricular mapping to determine if goals, objectives and professional competencies approved by the faculty have been achieved by coursework. A mapping document was developed outlining the approved objectives of the program and distributed to all course coordinators. The involved faculty identified where their coursework met objectives of the program. The document was then compiled to identify any deficiencies that might exist in the current curriculum.

The curricular mapping document is attached in Appendix 2. All program goals and objectives were covered by currently offered coursework.

Areas and Content of Curricular Core

Instruction in innovative technologies is imbedded in many different courses throughout the curriculum. The intensive 5-credit biochemistry course lays the foundation for the biotechnology presented in medicinal chemistry and chemotherapeutics; as well as the pharmacotherapeutics series. Innovative technologies in drug deliveries are presented in Pharmaceutics 2 and Profession of Pharmacy. Advances in drug information systems and pharmacy automation are also presented in the pharmacy practice management coursework and drug literature evaluation and research methods coursework. Students will also receive instruction in innovative technologies, as they would relate to specific electives offered in the P-2 and P-3 years. Finally, students are exposed to new technologies in automation and drug delivery in the many and varied EPPE and APPE rotations they participate in.

Students begin the first professional year of the four year program with a rigorous 5-credit hour Medical Biochemistry course (PHCH 320), providing the biochemical foundation for material that will be presented in medicinal chemistry, pharmacology, pharmaceutics and therapeutics. Understanding new advances in biotechnology require a solid grounding in biochemistry, and the faculty has maintained a commitment to the importance of this foundation course. One of the issues identified in the development and implementation of the Doctor of Pharmacy curriculum was the important integration between

anatomy and physiology; and the study of human biochemical systems. As part of the implementation of the new curriculum, clinical anatomy and physiology was moved from a pre-pharmacy requirement into the first professional year. It was felt that this change was needed to provide a more seamless foundation for the pharmaceutical sciences.

This change significantly increased the rigor of the first professional year. In light of progression issues identified in previous visits by ACPE, the Curriculum Committee, in consultation with students and faculty, has closely monitored the impact that this workload had on students. Suggestions had been made to move all or part of anatomy and physiology back into pre-pharmacy; as well as splitting biochemistry over the first professional year. Ten focus groups were conducted encompassing all students in the entering classes of 2000 and 2001. In spite of the heavy workload, students overwhelmingly supported keeping the current first year curriculum intact. Their reasons included:

1. Inconsistency in "feeder" colleges and university's structure for anatomy and physiology. There was a concern that splitting anatomy and physiology would be difficult for some students as many colleges offer these together.
2. The importance of all students being on the same level with respect to anatomy and physiology prior to entering the second professional year.
3. The anatomy and physiology sections are almost exclusively pharmacy students. The course instructor has taken great care to customize the material to the needs of the program. Faculty from the College of Pharmacy maintain close ties with the course coordinator and this class is included in the Curriculum Committee content evaluations discussed later in this chapter.
4. Although rigorous, the 5-credit biochemistry course provides a necessary foundation. Splitting it would break continuity with anatomy and physiology and the second semester Introduction to Drug Action/Diagnostics (PCHC330).

As a result, the Curriculum Committee made no changes to the first year curriculum. Progression issues identified in the first class did not reoccur in subsequent classes.

Coursework in the behavioral, social and administrative sciences is begun in the first professional year with PHAD 310-The Profession of Pharmacy. Students are exposed to practitioners across a wide array of practice settings allowing them to see first hand the many different ways the pharmacist influences health and disease. This is especially important due to the high percentage of students who are beginning the pharmacy professional education years with experience from the community practice setting. Coursework is progressed in the curriculum with Pharmacy Practice Management (PHAD 436), which is an intensive pharmacy management course focused on practice management, human resources and financial management offered in the second professional year; and Sociopharmacy (PHAD 502), Pharmacy Law and Ethics (PHAD 424) and Pharmacoeconomics (PHAD 540) offered in the third professional year. Coursework in behavioral, social and administrative science is staged to take advantage of other concurrent coursework and new perspectives that come from the early pharmacy practice experience.

Early and Advances Experiential Training for Pharmacy Students

Accreditation standards for College of Pharmacies require that they provide "early" and "advanced" experiential training for students in actual pharmacy practice sites. P-1 Early Pharmacy Practice Experiential (EPPE): For the P-1 introductory experience, sites have been identified, throughout the state, to allow for structured visitations to ambulatory and institutional practice facilities. In Integrated Lab 1 (P-1 semester 1) and 2 (P-1 semester 2), pairs of students visit both an ambulatory (community-based practice) site and an institutional site. If an ambulatory site is visited in the first semester (Integrated Lab I) then an institutional site is visited in the second semester (Integrated Lab II), and vice versa. The

students complete a structured site "inventory" upon their visit and discuss pertinent issues with the pharmacist(s). The inventory includes:

- Basic description of the practice site;
- Services provided by the pharmacist;
- Role of the pharmacist relative to other health care practitioners (e.g. pharmacist, nurse, dentist, etc.);
- Extent to which the pharmacist is involved in patient education;
- Advantages and disadvantages of the practice site;
- Applications of the coursework being covered during the P-1 year; and
- Level of student interest in pursuing these sites for advanced experiences.

At the conclusion of the fall semester, each group (comprised of the 2 students) completes a written summary of their experience and synthesize a 10-12 minute presentation, based on this experience. This is then presented to the lab. In the winter semester, this process is repeated.

P-2 Early Pharmacy Practice Experiential (EPPE): The early experiential visit in the second professional year is intended to build on the experience in the first professional year by exposing the student to pharmacotherapy review and clinical problem solving. This is done in the context of specific patients being cared for in an institutional (long-term care) setting. Students (again in pairs) conduct a complete pharmacotherapy review of a patient in one of the facilities. Students are asked to review drug therapy and present it in a problem-solving format using SOAP (Subjective, Objective, Assessment, Plan) and PWDT (Pharmacist work-up of drug therapy) methods.

The student pair is expected to:

- Review the patient's medical history via on-site documentation (patient chart);
- Conduct a medication history with the patient if the patient is competent enough to do so;
- Research drug actions and indications;
- Prepare a pharmacotherapy "work-up" of the patient using the SOAP and PWDT; and
- Present to the class in patient case format.

P-3 Early Pharmacy Practice Experiential (EPPE): At this point of the pharmacy curriculum students have acquired a basic level of knowledge required for a more clinical approach to the practice of pharmacy. In the P-3 year the students are further prepared with general knowledge embodied in the practice of pharmacy. This is accomplished through coursework in Pharmacotherapeutics, Pharmacoeconomics, Pharmacy Law and Ethics, Sociopharmacy, Drug Literature Evaluation, and Clinical Communications.

In the P-3 early experiential, the students are assigned to several ambulatory (community-based practice) and institutional practice sites. From these sites, they learn to integrate their knowledge into practice under the supervision of a licensed pharmacist. During these early pharmacy practice experiences students are responsible for many practice-related activities including patient-focused care interventions such as assisting with drug related problems, patient counseling and OTC assessment and recommendations. The community-based experience is one day per week over one of the semesters of the P-3 year. The institutional experience is provided either one day per week over one of the semesters of the P-3 year or in one 3-week block in the summer prior to, in the middle of, or at the end of their P-3 courses. Students are also conducting patient therapy reviews in their P-3 year as part of the P-3 early experiential.

P-4 Advanced Pharmacy Practice Experience (APPE): By the beginning of the P-4 year, the student has fulfilled most of the academic requirements of the pharmacy program. At this point in the curriculum, the

student has also gained a limited practice experience from their P-3 EPPE. The practice experience gained in the P-3 year serves as a foundation for the P-4 advanced pharmacy practice experiences.

The P-4 APPE's include eight, one-month rotations (see Appendix 3), as well as a clinical seminar on current drug topics, researched and presented by the student. Mandatory APPE's include two months of Internal Medicine, two months of Ambulatory Care and one month of Advance Community Pharmacy Practice. In addition to the required APPE's, the students choose three, one-month elective experiences from a variety of options. The APPE's are not designed to be taken in a certain order, but are scheduled to accommodate all students within the eight month period.

While completing the P-4 advanced pharmacy practice experiences, the students are expected to be professional, utilize independent problem solving skills, communicate articulately with patients and other health care practitioners, show good literature evaluation skills, and demonstrate adequate understanding of the practice of pharmacy. At the end of the 8th month, each student has experienced different aspects of the practice of pharmacy and ideally demonstrated independence in the practice of pharmaceutical care. Some of the clinical skills the student acquires includes but is not limited to the following: oral and written communication skills, ability to obtain medication history and perform discharge counseling, general knowledge of pathophysiology and treatment of diseases, pharmacology of drugs typically used, drug selection/drugs of choice, and patient specific pharmacotherapy. The student also advances their skills in medical literature review and become motivated, self-directed learner. These characteristics are needed after graduation since learning is a continual process.

In order to evaluate the introductory and advanced pharmacy practice experiences, the College of Pharmacy has established an Experiential Subcommittee. This subcommittee is a representative group of adjunct faculty from different areas of pharmacy practice, the experiential coordinator and the Associate Dean of Pharmacy Practice. This subcommittee meets twice a year to give their feedback on what is being done during the students' experiential years.

One of the subcommittee's major recommendations has been to change the P-3 institutional experience from a 1 day a week 14-week experience to a 3-week blocked experience to achieve better continuity and learning environments. This subcommittee also provides feedback on the PY-4 rotations but has not made any major recommendations for change to date.

The Pharmacy Practice Department also oversees and evaluates the P-4 advanced experiences. Over the past few years, several changes have been made in the advance rotations to accommodate the move to the all Pharm.D. degree. Some of those changes include new rotation evaluation forms, faculty development sessions, and changing the Internal Medicine/Ambulatory Care rotations from a 2-4 week rotation to a 1-8 week rotation. Due to scheduling difficulties, occasionally the Internal Medicine/Ambulatory Care rotations must be split into 2 separate 4 week rotations. However, they are both done with the same faculty member. This problem should be remedied when the APPE scheduling software is purchased. Other changes include a new Advanced Community Practice Rotation requirement, 4-5 new elective rotations, and allowing students to schedule elective rotations outside of the typical FSU sites. Overall, the Experiential Subcommittee and the College of Pharmacy Faculty work together to assure good rotation experiences for all students.

Professionalization, Group-Work and Problem Solving Skills

Coursework is sequenced in a manner that is intended to develop in the student the capacity to understand, organize and communicate the professional and ethical skills needed to practice the profession of pharmacy (see curriculum Appendix 3). The Integrated Lab was developed as part of the curriculum that would be offered throughout professional years 1 – 3 as an opportunity for faculty to

utilize smaller group sizes for active learning exercises (e.g. pharmacology computer simulations). In addition, student communication skills are developed through written work and presentation requirements that span the first three professional years. This includes papers and formal presentations about their P-1 EPPE; SOAP notes; pharmacist work-ups of drug therapy; case presentations from their P-2 EPPE; and case presentations based on lab exercises and their P-3 EPPE. Prescription and patient counseling simulations are used throughout the Integrated Lab and are commensurate with the completed and concurrent coursework in the curriculum.

Group work is utilized at many different points in the curriculum. Early experiential visits in the P-1 and P-2 years are conducted in pairs with students preparing reports on their visits, formal presentations, patient therapy work-ups and case presentations in collaboration with their partners. Integrated Labs during the P-2 year utilize group work extensively for medical chart review, profile review, drug interactions screening exercises, parenteral compatibility problems, individualization of drug dosing and prescription simulations. Students also work in problem based learning groups in the Drug Literature Evaluation/Research Methods course and in Pharmacoeconomics (P-3 year).

The P-3 Pharmacotherapeutics (PHPR 521-524) course is designed to develop in the student a strong sense of independence – to develop into an independent learner. At the beginning of each semester, the students divide themselves into groups of 5-7 students. Some experiences within the pharmacotherapeutics course require utilization of these learning teams in order to accomplish the required learning.

In the most successful teams, the team's responsibilities are shared by the members rather than allowing a few "elite" members to control the entire team's activities. This ensures everyone participates and that all the components of the required task are accomplished. There are six distinct roles that are required in every successful group; captain, reflector, recorder, spokesperson, optimist, and realist.

Critical thinking skills are developed progressively through the curriculum. During PHPR 303, 304, 411, 412, students must: compound prescriptions, prepare prescription labeling and perform counseling, patient profile, drug interaction, intravenous compatibility simulations. Also, students are assigned a nursing home patient and must complete a pharmacist workup of drug therapy and SOAP note. Students also work with web-based virtual patient simulations, which require the student to select patient questions and requests for patient information in real time. During the P-3 year, critical thinking skills are developed and assessed through case presentations (PHPR 560), oral presentations (PHPR 501-502), case studies (PHPR 521-524 and PHPR 501-502), case briefings of pharmacoeconomic literature (PHAD 540), and outlines of each speech that shows how they put it together (PHPR 568). During the P-4 year, critical thinking skills are incorporated in case presentations, journal clubs, and drug therapy recommendations based on patient assessment.

Technology Use

WebCT: One area where there has been considerable evolution in teaching methods has been the increased utilization of WebCT for on-line content delivery, quizzing and exam practice. A number of steps have been taken to evaluate the impact of greater use of web-enabled learning.

Focus Groups: Focus groups were run with students to get feedback regarding the curriculum. Specific questions were asked regarding the advantages and disadvantages of WebCT. Student responses included:

1. The use of WebCT is beneficial to the students. It allows for more understanding of instructor expectations.

2. WebCT allows the student to throttle the rate of the material and learn at their pace.
3. Practice quizzes level the playing field for all students because some students may have old tests and others don't.
4. Where practice quizzes are used, more feedback on incorrect answers would be beneficial.

Distance Education: Distance learning technology was implemented in the Pharmacotherapeutics course (PHPR 521-524) starting in August 2002. Since that time, the faculty has discussed various methods to continue the high level of teaching through this medium. Prior to August 2002, the faculty underwent training on the use of distance learning. We typically hold 1-2 sessions per year devoted to the training of new faculty as well as refreshing the use of the technology for other faculty members. In January 2003, the pharmacy practice department invited Ulrich Chung to view our distance learning equipment and to observe lecture delivery. His consultative report provided suggestions for improvement in handling the technology as well as techniques to use within the classroom during lecture to enhance student learning and participation.

The faculty continually makes improvements and refinements to lecture delivery based on the above-mentioned sessions as well as student evaluations of individual lectures. Techniques that have been implemented include, addressing the students at the distant site, using case studies, developing homework questions and requiring small group assignments.

Computer technology use across the curriculum: Ferris State University currently utilizes WebCT as its web-enabled course management system. This is a fully functional web-based learning tool that allows for content delivery, quizzing, discussion groups, in-course email, and real-time chat, whiteboard and student assignments. WebCT is utilized across the curriculum in varying degrees from grade book function to full content delivery (e.g. medical terminology modules). Different facets of WebCT are used in the following pharmacy courses:

PHAD310 - The Profession of Pharmacy	PHCH330 - Introduction to Drug Action	PHPR524 - Pharmacotherapeutics – Cardiovascular/Renal
PHAD360 - Institutional Pharmacy	PHCL352 - Selected Topics in Pathophysiology	PHPR550 - Drug Literature Evaluation/Study Design
PHAD424 - Pharmacy Law and Ethics	PHCL424 - Pharmacology 2	PHPR556 - Advanced Topics in Infectious Disease
PHAD490 - Pharmacoeconomics	PHPR303 - Integrated Lab 1	PHPR558 - Palliative Care
PHAD502 - Sociopharmacy	PHPR304 - Integrated Lab 2	PHPR566 - Applications of Pharmaceutical Care in Ambulatory Practice
PHAR325 - Pharmaceutics 1	PHPR411 - Integrated Lab 3	PHPR570 - Medical Research: Methods and Design
PHAR326 - Pharmaceutics 2	PHPR412 - Integrated Lab 4	PHPR576 - Advance Cardiac Life Support
PHAR440 - Pharmacokinetics	PHPR501 - Integrated Lab 5	PHPR600 - Internal Medicine 1
PHAR446 - Novel Drug Delivery	PHPR502 - Integrated Lab 6	PHPR601 - Internal Medicine 2
PHCH320 - Medical Biochemistry	PHPR514 - Clinical Communications	PHPR602 - Ambulatory Care Pharmacy Experience
PHCH427 - Medicinal Chemistry I	PHPR521 - Pharmacotherapeutics – Tox/Nutrition/Nervous System	PHPR611 - Advanced Community Pharmacy Experience
PHCH428 - Medicinal Chemistry II	PHPR522 - Pharmacotherapeutics – Cardiovascular/Renal	PHPR652 - Oncology
PHCH430 - Chemotherapeutic Agents	PHPR523 - Pharmacotherapeutics – I.D/Immunology/Oncology	PHPR680 - Clinical Seminar

The College of Pharmacy is also considering the acquisition of an audience response system that would allow individual students to respond to questions in the classroom using hand-held remote devices. This type of classroom feedback system will assist instructors in gaining real-time feedback on student comprehension.

SRS Pharmacy Information system. The Integrated Labs currently use the SRS system, which is a fully functional pharmacy information system to expose students to automated prescription dispensing. Students also see a wide variety of pharmacy information systems for both the inpatient and ambulatory practice settings while on early and advanced experiential rotations.

Automated Drug Information Resources. Students are required to utilize a number of computer-based drug information resources including Micromedex, Facts and Comparisons and American Hospital Formulary Service Drug Information. In addition, students are required to utilize on-line search engine/databases such as International Pharmacy Abstracts, Medline and the Iowa Drug Information service. Access is provided through on campus and off-campus sites.

Webstudies. Ferris State University also utilizes a web-enabled interactive training and grading program developed at Idaho State University. This program is used to deliver virtual prescription simulations for students in the Integrated Lab sequence.

Written and verbal communication requirements

P-1 year: Students are assigned to visit one ambulatory and one institutional pharmacy practice setting. As part of this, they must conduct an "inventory" of the activities of the pharmacist in relation to the patient and other health care practitioners. Students are then required to write a paper about their experience and give a 15-minute formal presentation using PowerPoint slides in each of the two semesters.

P-2 year: Students are assigned a patient at a local nursing home as part of the early experiential for this year. Students must then conduct a thorough pharmacotherapy review, complete a written Pharmacist Work-up of Drug Therapy and SOAP note, and give a verbal case presentation on the patient using audio-visuals. In Pharmacy Practice Management, the students are assigned a written problem solving pharmacy management project and required to submit their assignment to www.turnitin.com as a check to insure there is no unreferenced plagiarism.

P-3 year: Students take the course Clinical Communications. During this course, they are required to prepare a "mock" clinical seminar. In preparation for this mini-presentation the student's lesson plan is submitted in writing for review. Students are then required to give a short presentation with audiovisuals to the class. Pharmacy practice faculty are also extensively involved in this course in delivering sessions on the many aspect of patient communication including topics such as:

- Medication histories
- Patient assessment
- Patient counseling
- Professionalism in communication
- Barriers to clinical communication
- Compliance issues
- Unique patient populations

As part of the medication history sessions, the students are required to conduct two medication histories outside of class and then write up their results for their grade.

Students also give structured verbal presentations in the Integrated Lab and many of the electives in the P-3 year.

P-4 year: Students have a number of APPE communication requirements as part of their monthly rotations. These include formal presentations using PowerPoint slides; more informal drug class reviews

for physicians and nurses; journal club presentations; newsletters; patient write-ups; and patient chart notes.

Students are also required to prepare and deliver a clinical seminar during the P-4 year. This is considered a capstone written and verbal presentation project, which requires the student to thoroughly research a therapeutics topic and then present and defend their position in front of fellow students and faculty. Faculty review topics in advance and students are not allowed to repeat material presented in the previous few semesters. A comprehensive handout must be prepared for the audience. Presentations are 30-35 minutes in length followed by questions and answers. Students are graded on their research, content, audiovisuals, communication style, handout and ability to respond to questions. They are also required to prepare a 6-10 page manuscript on their topic that is edited and graded.

Student organizations: Pharmacy students participate in several professional associations and activities and in community service activities through a number of student organizations and student chapters of professional organizations. These activities help to foster social interaction and professional development of the students. Following are a few of the organizations active in the College of Pharmacy:

1. AMCP (Academy of Managed Care Pharmacy)
2. APhA – ASP (American Pharmacy Association – Academy of Students of Pharmacy)
3. ASHP (American Society of Health-System Pharmacists)
4. NCPA (National Community Pharmacist Association)

College of Pharmacy Curriculum Committee

Charge: Responsibility for overall curriculum review and outcomes assessment (with direction from the Assessment Committee). Provide direction for needed course changes. Bring recommended curriculum revisions to the faculty for approval.

Membership: Members: 3-Pharmaceutical Sciences, 3-Pharmacy Practice, 1-Administrator, 2- students [1-P-1/P-2 and 1-P-3/P-4] (non-voting members), and 1-Alumnus. If the COP UCC representative is not an official member of the curriculum committee, s/he shall be an ex-officio member. Term length and limit: 3 years alternating for faculty and students (if possible for students).

Reporting: The College of Pharmacy Curriculum Committee is a standing faculty committee. Actions are reported to the full faculty for approval where appropriate and forwarded to the University Curriculum Committee.

Content Evaluations: The College of Pharmacy Curriculum Committee assesses the ongoing delivery of the curriculum through the use of Content Evaluations. Content Evaluations are conducted for each didactic course once every three years. Their purpose is to insure that course materials remain consistent with the curriculum as approved by the pharmacy faculty. Content evaluations are conducted at the end of the semester, separately from the Student Assessment of Instruction (SAI's), which are instructor specific feedback forms. Students are presented with the course outline as previously approved by the Curriculum Committee. Students are then given a form (Appendix 2) and asked to identify any additions or deletions in course content presented compared to this outline. Students are also asked to comment on any inconsistencies in examinations, unnecessary duplication with other coursework in the curriculum, and level of coordination with concurrent coursework.

Content Evaluations are conducted by faculty or staff not associated with delivery of the course. Results and comments are forward to the course coordinator and a structured response sheet must be completed (Appendix 2). The course coordinator must address discrepancies. The members of the Curriculum

Committee then review student and faculty responses. Significant alterations of the course outline are then reviewed and approved by the Curriculum Committee and forwarded to the faculty and University Curriculum Committee as appropriate.

A number of curricular changes have resulted from feedback given in the content evaluations. The first of these was a change in the sequencing of physical assessment material presented in the P-2 year. Students had positive comments about training in physical assessment but had a difficult time relating it to drug therapy since pharmacotherapeutics was taught predominantly in the P-3 year. After reviewing these comments and discussing with faculty, the physical assessment labs were moved from the P-2 Integrated Labs to the P-3 Integrated Labs.

Another issue detected by the content evaluations was a discrepancy in content in the Drug Literature Evaluation and Research Methods course. Changes in faculty responsible for the course had resulted in a shift in the balance of the material as compared to the originally approved course outline. The Curriculum Committee reviewed these changes and, with input from current faculty, approved a new course outline. This included a recommendation to maintain the existing balance of drug information, research methods and biostatistics; as well as an updating of the bio-statistical content. These changes were forwarded to the College department heads. Subsequently, a new course coordinator was assigned. The Curriculum Committee conducted a follow-up content evaluation that demonstrated the effectiveness of the corrective actions. No further significant issues were identified for this course.

A third example of effectiveness of the content evaluations involved student feedback on the Clinical Communications course delivered in the P-3 year. Students expressed concerns regarding the delivery of this course with respect to its integration with concurrent coursework, the P-3 experiential rotations and preparation for the P-4 clinical seminar. This prompted a review of the course outline by the Curriculum Committee. Recommendations included balancing material presented between patient communication skills and seminar preparation. In addition, the Committee recommended that faculty members in the College of Pharmacy coordinate the course. The faculty approved the content related recommendations and forwarded them to the department heads. Subsequently, a new course coordinator was assigned. A follow-up content evaluation was conducted, which validated the changes made.

Content evaluations for the APPE's have been developed and approved by the Curriculum Committee for implementation in the late summer of 2004.

Section 10
Enrollment Trends

Recruitment

The Assistant Dean of Admissions and Student Academic Affairs devotes a significant amount of time to recruitment activities. These activities include meeting with individual students (and families), career/professional fairs, visits to feeder institutions, and group speaking engagements. The Director of Off-Campus Student Services, who was hired last year, is also becoming active in a variety of recruitment activities. Recent college recruitment visits included trips to Lake Superior State University, Northern Michigan University, Michigan Technological University, Bay De Noc Community College, Michigan State University, and Aquinas College. Other activities included attendance at health career fairs in Big Rapids, Grand Rapids, Traverse City and Lansing.

In addition to numerous individual visits by prospective students to the college, group recruitment presentations are given within the college throughout each year. One annual event is called "Dawg Days," and is offered in the fall. High school students and their families are invited to the University by the Admissions Office and are given information about FSU and the general college experience. Those who are interested in pharmacy are escorted to the Pharmacy Building for a specific presentation on the college. They are given ample opportunity to ask questions, and a tour of the facilities is provided.

To encourage interest from minority students, the college has also participated in the Kings Chavez Parks program organized by the Office of Minority Affairs that brought a group of high school minority students to learn about the profession and the pharmacy program. This office arranged for another group of minority middle and high school students to visit the college for a similar experience in July of 2003. In addition, visits to inner-city high schools within the state have been made to talk with groups of students about pharmacy as a career choice.

The issue of recruiting minority students to Ferris was recently addressed by the Honors Council, a group of faculty and administrators who provide advice to the FSU Honors Program. It was discovered that those who are qualified to enter the Honors Program are highly sought after individuals who rarely choose to come to the rural Ferris campus when they are offered a free education at more prestigious universities or ones closer to home. Even so, efforts are still being explored to attract high-quality minority students to Ferris State University.

On-line-based program information on the Internet was expanded and updated extensively in 2003-04 to improve its use as a recruitment tool. All of the former recruitment materials are now digitized and placed on the college's web site (http://www.ferris.edu/htmls/colleges/pharmacy/). Components of this web site that have enhanced our communication with prospective students include a popular FAQ's section, the Admissions policies and procedures, the latest class profile, college (downloadable) and university (on-line) applications, and an announcement section where students are provided updates as the admissions process proceeds.

Preprofessional Requirements

The preprofessional requirements were developed to provide the student with a background in basic sciences as well as meet the general education requirements of the University, see Table 1 - Prerequisites

Table 1 - Prerequisites

Requirement	Semester Hours
General Chemistry	8 - 10
Organic Chemistry	8 - 10
General Biology	8
Microbiology	4
Statistics (Biostatistics preferred)	3
Calculus for the Life Sciences or Calculus	3 - 4
English Composition	6
Interpersonal Communications or Principles of Public Speaking	3
Introductory Psychology or Introductory Sociology	3
Principles of Economics (Macroeconomics)	3
Cultural Enrichment (with one course at the 200+level)	9

General chemistry, organic chemistry, general biology and microbiology courses must include laboratories. Students interested in pursuing a graduate degree are encouraged to take Calculus 1 and 2 as well and Physics 1 and 2.

Admission Requirements

The application deadline for the College of Pharmacy is January 31 of the year for which admission is sought. It is expected that applicants will have completed all first-year courses and at least the first semester of courses normally taken in the second year by the deadline date of January 31. Most importantly, three-fourths of the chemistry and two-thirds of the biology/microbiology prerequisites must be successfully completed prior to this date. Official transcripts for completed academic work from all colleges and universities attended should be requested by January 15 and must be received by the College of Pharmacy by February 15. Transcripts of coursework underway during the semester of application are required to be submitted upon completion of the semester.

Students must receive a minimum of a C (2.0) for all pre-pharmacy coursework to be considered for admission. Students who achieve less than a C (2.0) in a math or science course may repeat the course but will be penalized in the assessment of their transcript. A minimum GPA of a 2.5 (4.0 scale) is required to apply. Advanced placement and CLEP credits in science and math courses cannot be applied towards meeting admission requirements. Science and math courses over five years old are generally not considered for admission purposes, unless there are extenuating circumstances. Repeat penalties are not applied to courses that are too old to be considered for admission. Foreign academic credits, with the exception of Canada, cannot be used to meet the pre-pharmacy requirements. Equivalency evaluation and OAC credits from Canada are not acceptable. Applicants who have earned, or will earn prior to admission into the professional program a B.S. degree or higher, are not required to meet the General Education requirements of the University.

The evaluation, or ranking, of candidates takes into consideration the completion of the required pre-pharmacy courses, academic performance in all pre-pharmacy courses with extra consideration given to

the grades obtained in chemistry, biology, and mathematics, and performance on the Pharmacy College Admissions Test (PCAT). Other factors that may be considered include motivation for the study and practice of pharmacy and demonstration of communication skills that could include documentation of pharmacy practice experience, preparation of a writing sample, and participation in an interview.

Student transcripts are evaluated for completeness. Notification is sent to those who are missing courses or have taken incorrect courses allowing them to correct any errors that may have occurred. The admissions formula consists of weighted factors that are identified through a statistical analysis conducted each year. This analysis uses the existing first-year students' grades and their pre-pharmacy information. A typical formula consists of variables associated with grades in math and science courses, PCAT composite scores, and a course repeat factor. The data from the current applicants are compiled in a database and then this data is transformed into individual ranks using the formula. The Admissions Committee has addressed the idea of interviewing the candidates. However, a variety of impeding issues (e.g., time and resource restraints, identifying a valid and reliable means to conduct the interviews, interviewer identification and training, etc.) have currently remained unresolved.

The top students (140 for the Fall of 2004) received an offer by mail in April. This may be a conditional offer, depending on whether they have completed all of their pre-pharmacy coursework. These initial successful candidates are given 14 days to respond to the offer and pay a $200 deposit, which is refundable up through mid-July. This deposit is applied towards their tuition bill upon entry into the program in the Fall.

The other qualified applicants will receive letters with their numerical ranks listed. They are also informed of the last rank that was reached in the previous year, which provides them with a fairly good idea of their chances for admissions. As successful applicants decline our offer, the next candidate in line will receive an offer, until a full class is achieved. To alleviate the annual flood of phone and email inquires regarding the current admissions process; regular updates that include the current wait list number are posted on the college's web site.

The quality and quantity of the applicant pool has increase dramatically in recent year. A record number of applicants were received this past year with 739 applying for a seat in the program. This has resulted in a tentative class of very high caliber students whose average GPA (3.63) and PCAT score (221 or 83%tile) also set records for these measures of ability. Appendix 3 shows the demographic data of the applicant pools since the beginning of the all-Pharm.D. program in the Fall of 2000. Appendix 3 shows a comparison between the 2003 entering class and the national averages at that time. Most notable is our higher GPA (3.53 vs. 3.46) and application to admit ratio (5.2:1 vs 4.6:1)

Studies that relate admission criteria to performance

The admissions formula used to rank the applicants is based primarily upon the performance of students previously admitted to the program. A regression analysis is conducted annually to determine which factors predict the success of the students. Each factor is assigned a weight based upon the analysis. On occasion, additional factors or different weights will be used in the formula, due to the limits of the statistical analysis to illicit everything the committee wishes to utilize to differentiate the applicants. Examples of factors employed currently or in the past include overall GPA, math/science GPA (combined or weighted separately), PCAT score, four-year vs. community college pre-pharmacy coursework, an error factor, and a course repeat factor. The latter one involves applying a penalty to applicants who have repeated a science or math course when the initial grade was below a C (2.0). The error factor involves assessing a penalty equivalent to the difference between the applicants reported pre-pharmacy GPA and the actual pre-pharmacy GPA.

Early Admission

Students enrolled in the Pre-Pharmacy curriculum and participating in the University's Honors Program are eligible for guaranteed admission to the College. The criteria for maintaining the guaranteed admissions for the incoming pre-pharmacy Honors students are listed below.

Honors Program Pre-Admission

The College of Pharmacy offers students pre-admission into the professional program after two years of pre-pharmacy courses in the Honors Program at Ferris State University. As long as the conditions listed below are met, students are guaranteed a seat in the class in which they are eligible to enter.

Students Must:

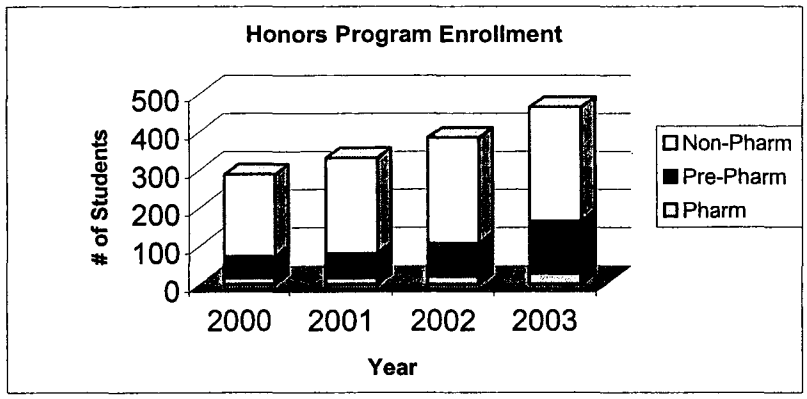
1. Be enrolled in the pre-pharmacy Honors Program at Ferris State University and have completed the required coursework within two years.
2. Take all of their pre-pharmacy coursework at Ferris after being admitted as freshman.
3. Earn a cumulative GPA of at least 3.50 in the science (Chemistry and Biology/Microbiology) and math (Calculus and Statistics) pre-pharmacy coursework prior to the admissions deadline.
4. Earn at least a C (2.0) in each of the science and math pre-pharmacy courses. The guarantee is void if a student earns a grade below a C (2.0) in any of the science and math pre-pharmacy courses, and successfully repeating a course does not restore the guarantee.

The purpose of this program is to attract top-quality students to Ferris' pre-pharmacy program and to alleviate the anxiety of students in the program who were worried about their admissions status even with stellar academic credentials. The initial criteria were less stringent (i.e., 3.25 overall pre-pharmacy GPA and a 50th percentile on the PCAT), and were increased recently due to the relatively high quality applicant pool in the past couple of years. The intent of the program is not to grant guaranteed admission to students who are less academically qualified. Having higher standards will help reduce the chances of this occurring in the future. The Honors Program has benefited tremendously since the guaranteed admission program was implemented in 2001. Since 2001, enrollment in the Honors Program has increased by 63% (see Table 10-1 and Figure 10-1). The proportion of pharmacy and pre-pharmacy students has increased from a quarter of all Honors Program students to just over a third. The number of students that elect to stay in the program after they have been admitted is relatively low because of the additional requirements (e.g., 15 hours of volunteer service each semester) combined with the heavy demands of the pharmacy curriculum. Other programs at Ferris, including the Michigan College of Optometry and the College of Business, have also adopted the concept and have created their own Honors Program guarantee agreements.

Table 10-1. Pharmacy and Pre-Pharmacy Students in the Honors Program

	2000	2001	2002	2003
Pharm	16	16	19	28
Pre-Pharm	57	65	88	137
Non-Pharm	215	250	277	299
Total	288	331	384	464

Figure 10-2.



Retention - Progression of Students

With the new curriculum and much larger Pharm.D. class size, progression of students through the program has been monitored closely. Since the last accreditation visit, a new permanent college-level committee was formed, the Progressions and Academic Standards Committee. It is chaired by the Assistant Dean of Student Academic Affairs, and is responsible for establishing and enforcing policies related to progressions and academic standards and for addressing individual student cases. Since its creation, the Committee has adopted a number of policies that clarify and solidify the rules that students must follow in order to proceed through the curriculum and graduate. The College and University policies and standards related to progressions are introduced in the first week of class and posted on-line for students to use as a reference throughout the program.

All students who are in academic difficulty after a particular semester are required to visit or contact the Assistant Dean of Student Academic Affairs prior to the beginning of the next semester (or shortly thereafter). During these academic counseling sessions, an attempt is made to discover the source of the difficulty and advice is given to help the students perform better. Advice may include reducing working hours, obtaining free tutoring from the University's Academic Support Center, obtaining personal counseling from the University's Counseling Center, or obtaining medical advice from the Birkam Health Center. Current policies are also reviewed and their options are explored. A written summary of the conversation is often recorded and kept in their files. A copy is given to the student and one is usually sent to their advisor, so that the advisor can stay abreast of the student's current situation.

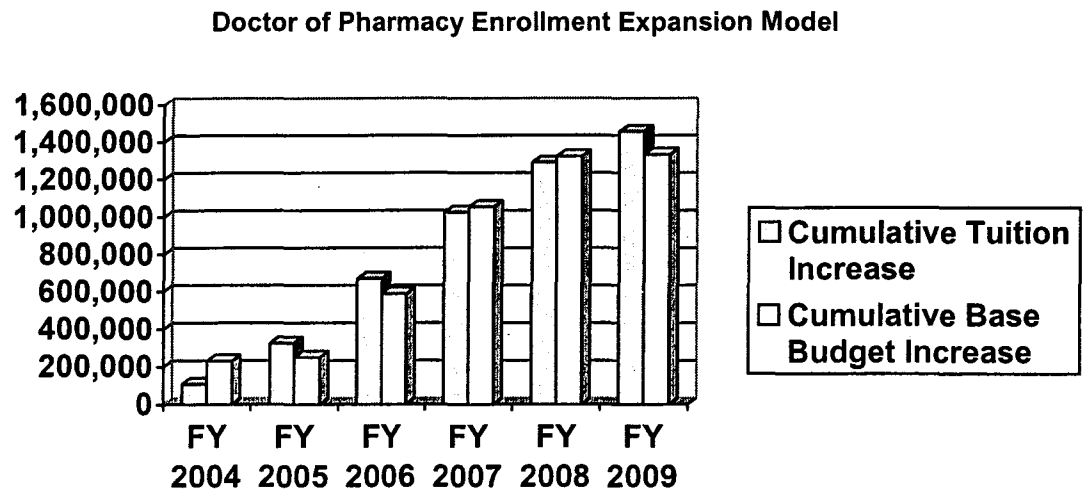
Student attrition rates (12.3%) were a concern with the first entering classes of the new Pharm.D. program. These rates can be found in Appendix 4 of this chapter. The initial rates may be attributed to the newness of the program, and the relatively smaller applicant pools. The recent increased quantity and quality of the applicant pool resulted in an overall attrition rate (since the start of the all Pharm.D.

program) of 7.3%. This compares much more favorably to the AACP published national average of 6.09%. Since most attrition occurs in the first year of the program, the low rate of the latest incoming class is quite encouraging. The appendix also identifies where students fall back in the curriculum when they encounter significant academic or personal difficulties. Another concern that was identified related to the perceived difficulty of the accelerated curricular option and the fear that it would result in students having a more difficult time progressing through the program. While other assessment data will be gathered as more students proceed through the program, the grade point averages of the initial accelerators do not differ significantly from the standard-track students (see Appendix 3).

Enrollment Expansion Initiative

As a direct result of the continuing shortage of pharmacists and an ever-growing applicant pool, the College was asked by University Administration to develop a plan for enrollment expansion in 2002. The College's administration developed plans for an increase in enrollment of 25%, or 30 students in each entering class. Because of the significant logistical considerations required for such an expansion, it was felt that a titration upward, with 10 additional students added in each of three years, would provide a more "controlled" expansion and facilitate procurement and coordination of the resources necessary for such growth. Further, the extended enrollment growth plan allows for consideration of each step in the enrollment expansion to be based on applicant pool and manpower projections and, to some extent, success in faculty recruitment.

Initial projections called for the addition of one clerical/administrative position, one technical position to support distance learning endeavors between the three existing campuses, one additional counselor for on- and off-campus student support and eight faculty positions, one in the Pharmaceutical Science Department and seven in the Pharmacy Practice Department. Additionally, renovation of several classrooms/laboratories within the College was proposed at a total cost of $321,500. The additions to tuition revenue are presented graphically below as are additions to base costs. Data is included through FY 2009 to demonstrate the full impact of the projected expansion.



The table below outlines anticipated faculty and staff additions based on enrollment growth

Fiscal Year	Positions to be added
2004	1 FTE – Pharmaceutical Sciences
2005	1 FTE – Pharmacy Practice 0.5 FTE – Clerical/Administration 1 FTE – Distance Learning Technician
2006	2 FTE – Pharmacy Practice
2007	3 FTE – Pharmacy Practice
2008	1 FTE – Pharmacy Practice 1 FTE – Student Support Services

Concern has been expressed by faculty members regarding enrollment growth and the uncertain fiscal status of the State and, consequently, funding for program expansion. Although guided by a clearly developed fiscal plan, much of the required on-going costs will not be incurred until well after enrollment increases have been implemented, creating a situation in which required resources are not committed until well into the expansion plan. Commitment from the University administration will be necessary before proceeding to full implementation.

Identification of advanced practice sites for additional faculty and students is also of concern. Utilization within existing affiliated institutions has reached a maximum level with implementation of the Doctor of Pharmacy program and it is felt that further expansion will require development of sites that have not been utilized heretofore. This expansion will extend further the overall program distribution, taxing the College's infrastructure and organizational structure and require rapid development of inexperienced sites.

Section 11
Program Productivity/Cost

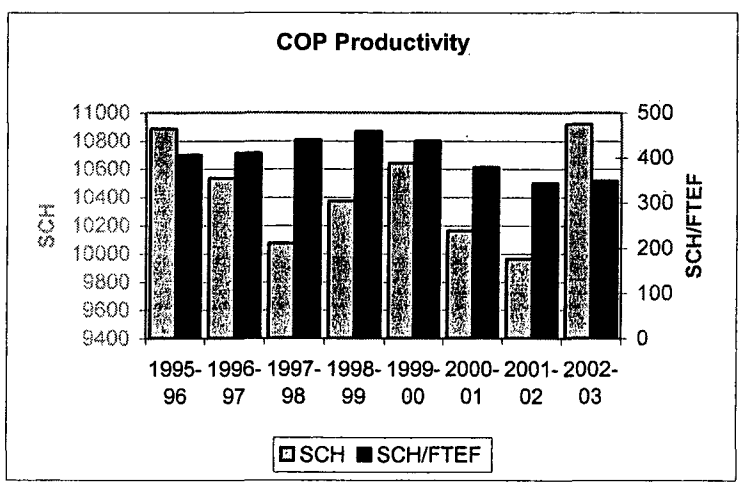
Program Productivity

For the College as a whole, workload, as measured by Student Credit Hours (SCH) per Full Time Equated Faculty (FTEF), has decreased from 458.99 in 1998-99 to 349.42 in 2002-03. The shift in this number is largely due to increase in the emphasis on advanced experiential training which is necessary as part of the Doctor of Pharmacy degree and its accreditation standards. Student contact hours (SCH's) generated in the Ferris registration system grossly underestimate the number of contact hours faculty spend with each student on rotations. The following table depicts the changes in the SCH/FTEF for the College of Pharmacy as published in the FSU Productivity Report: Fall 1998-Winter 2003 obtained from Institutional Research and Testing.

Credit Hour Production

	1998-99	1999-00	2000-01	2001-02	2002-03
SCH	10,373.50	10,643.50	10,165.00	9,967.00	10,919.00
SCH/FTEF	458.99	437.65	379.53	344.21	349.42
Univ Ranking*	5/8	5/8	6/10	6/9	6/9

*This is the ranking of the College of Pharmacy compared to other Colleges in the University with 1 being the college with the highest ratio of SCH to FTEF
SCH = Student Credit Hours
FTEF = Full Time Equated Faculty



Program Cost Table

	Instructor Cost/SCH	Dept. Cost/SCH	Dean's Cost/SCH	Total Cost/SCH
Ferris State University	$153.93	$34.71	$17.08	$205.71
College of Pharmacy	$308.58	$63.27	$52.29	$424.13

In interpreting the Cost/SCH several issues need to be considered. The College of Pharmacy program runs 12 months a year, while the accounting information used by Ferris only considers the Fall and Winter semesters. In addition, when students are on clerkship rotations they spend 40 hours/week with a faculty member generating a large number of SCHE but only a few SCH. Unfortunately this is not taken into account in the Cost/SCH calculation. Lastly our students pay tuition at the professional rate, which generates income to offset the extra cost incurred by the program.

Workload

In the Fall 2003 semester the Pharmaceutical Science Department and the Pharmacy Practice Department forwarded a Departmental Workload Policy to the Dean of the College of Pharmacy for comments. At this time neither policy has been approved or forwarded to academic affairs for approval. The Dean has requested that the Heads of each department rework the documents such that common language is used in both. The paragraphs below describe the proposed workload policies.

Pharmaceutical science faculty are assigned to various team-taught courses, individual courses and elective courses covering the basic science disciplines within the department. A full faculty workload is defined as 720 student credit hour equivalents (SCHE) per academic year. The net student credit hours in the College of Pharmacy is calculated by the number of students multiplied by the credit hours with an adjustment for professional level courses. Currently, among tenure track faculty in the Pharmaceutical Sciences the average student credit hours equivalents produced per year is 772. This number is based on an average class size of 130 students, however the student population will increase to 150 with the incoming class of 2005. The 772 SCHE does not include all teaching responsibilities. Unlike faculty in many of the colleges on campus, faculty in the College of Pharmacy are on a 12-month contract. Summer course loads are not included in the calculation of annual SCHEs. Pharmaceutical Science faculty are also responsible for serving on university and departmental committees. The amount of committee work varies from one faculty member to the next and is not calculated into the faculty workload. A copy of the Department of Pharmaceutical Sciences Faculty Workload Policy is included in Appendix 4

In the Pharmacy Practice Department, standard didactic workload has been increased from 20 lecture hours/year to 24 lecture hours/year. This reflects changes necessitated by increased departmental responsibility for "clinical electives," other changes in the curriculum, and actual past practices. In order to adequately supervise students, Pharmacy Practice Department faculty are assigned no more than four Clerkship students per month. These are the limits set forth in the Pharmacy Practice Department Workload Policy developed in 2003. This policy can be found in Appendix 4. Under the current rotation schedule, faculty have four clerkship students assigned to them 10 months out of the year. This is in addition to their normal didactic, University service, practice site, and clinical seminar workloads. Despite reaching a compromise on the number of Clerkship students assigned to each faculty member, it has become evident that the sustainability of a 4:1 clerkship student to faculty ratio is not healthy for the program. In fact, evidence of faculty burnout has become evident among several clinical faculty members. Although the student load has taken a toll on faculty at all ranks, the detrimental effects are most pronounced amongst the junior members. If not remedied, most faculty believe that turnover will become a problem within the next 1-2 years.

College Finances

In general, the fiscal support provided for the implementation of the Pharm.D. and continued support of the program has provided for development of all essential instructional sites and appointment of faculty identified in the original plan. All college fiscal resources are devoted to support the professional program and the practice experiences. This includes funding allocated to student and faculty recruitment and ongoing assessment activities.

The strategic planning process has annually provided an updated iteration of the entry-level Doctor of Pharmacy program implementation plan and has also served as a useful guide in establishing an annual budget for the College and for each department. With completion of all aspects of curricular implementation, College budgeting will be more "routine" in the upcoming years except for continuing support for renovations in the College. During the implementation phase, the College budget was closely scrutinized by University administration with frequent adjustments to ensure accuracy. The methods and procedures followed during implementation were appropriate; the College maintained tight fiscal control ensuring that all components of the original plan were implemented.

Much of the additional funding required for the Doctor of Pharmacy program has resulted directly from increased tuition revenue. This has ensured a greater level of "buy-in" on the part of central administration with regard to increased programmatic costs. The increases seen, in both faculty and supplemental faculty and supplies and expenses, are still very conservative. Faculty additions have been based on maintenance of large, lecture-based format in many of the didactic courses and a four-to-one student-to- faculty ratio in advanced pharmacy practice experiences. The possibility of reduction in student: faculty ratio exists through greater adjunct faculty utilization. To this point, adjunct faculty support (Supplemental Faculty), has been adequate. It is anticipated that the Adjunct Faculty Fee Schedule developed in 2001 will ensure adequate support for clerkships throughout the next 1-2 years. At that time, the fee structure will require reassessment with additional base budget support requested. It is important to note that recent fiscal measures have reduced the original level of adjunct faculty support by approximately $90,000. It will be critical to regain this support as the University's fiscal picture improves. Additionally, discussion continues regarding the possibility of providing support for the Community Practice Advanced Pharmacy Practice Experience. This would require an additional $75,000 to $120,000 annually for a class of 150 students.

The current level of support within the College, although providing for adequate personnel, does require significant and sustained teaching commitments from all faculty members, limiting scholarly activities and increasing the risk of faculty attrition as a result of "burn-out." The use of "Supplemental Faculty" support, currently equal to approximately 5.0 FTE in the Pharmacy Practice Department and 0.5 FTE in the Pharmaceutical Sciences Department has mitigated the faculty instructional load. It will be imperative that Supplemental Faculty funding is utilized judiciously to ensure maximal benefit. Involvement of adjunct faculty not only reduces student-to-faculty ratios, but also provides added specialties for experiential training.

During FY 2004, State appropriations were reduced on two occasions to total 15%. Initially, State appropriations were reduced 10% prior to the start of the academic year. This was followed with a second 5% reduction announced in December 2003. This latest reduction was mitigated through recent action of the State's Governor; State Universities were asked to restrain tuition increases (holding to no more than a 2.4% increase in 2004-2005) with the promise that 3% of the budget would be restored. Anticipation of reduced state funding and conservative fiscal management over the last several years has diminished the effect of these devastating reductions, however all University operations have seen reductions in budget. Currently, State budget projections include a $1 billion shortfall for the upcoming

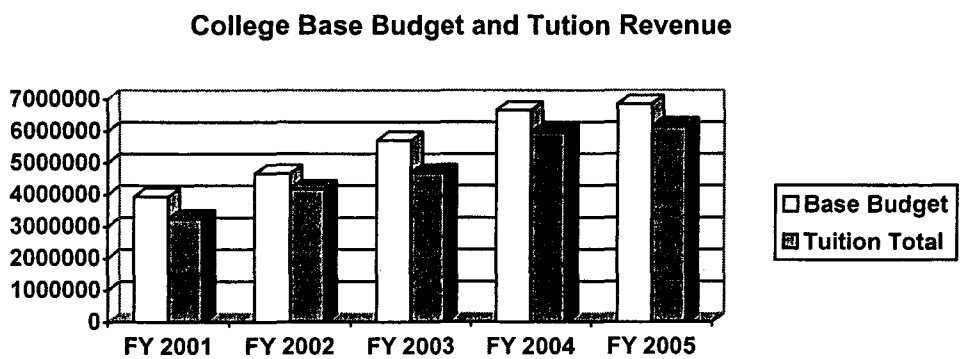
fiscal year, posing a potential for further funding reductions. Fiscal cutbacks to this point have affected the College through reductions in both base funding and loss of positions or reductions in position funding. Current College reductions are outlined below:

College of Pharmacy Budgetary Reductions 2003-2004

Fiscal Action	Budgetary Impact
Eliminate Medicinal Chemistry Position	$98,000 reduction to College Salaries Budget
Partially fund Pharmacy Practice Position	$28,000 reduction to College Salaries Budget
Reduce Supplemental Faculty Support	$57,500 reduction to Supplemental Faculty Budget

The fiscal reductions outlined above occur at the same time as the College has been requested to increase enrollment by 25% over three years. In response to the request, an implementation plan was developed by the College that calls for the addition of faculty and staff positions over the next several years as the larger classes are processed through the curriculum. Financial aspects of the plan are reviewed below, addition of eight faculty positions and two support personnel are called for in the projections. Through enrollment expansion and the commensurate increase in faculty and staff, the permanent loss of existing position will be mitigated through creative assignment of new faculty positions.

Implementation of the Doctor of Pharmacy curriculum in FY 2001 provided the College with the opportunity to critically assess base funding levels and secure the support required for additional resources directly related to the curricular conversion. Principle areas of base-funding growth included faculty salaries, supplemental faculty costs and operational expenses (Supplies and Expenses). With a base budget of $3,934,822 in FY 2001, the college entered its first Doctor of Pharmacy class. In FY 2005, the college's budget is projected to be $6,840,949, representing an increase of 74%. Further, per student annual programmatic costs are calculated to have increased from $9,551 in FY 2001 to $14,583 in FY 2005, an increase of 53%.



To facilitate the requisite programmatic expansion, the Board of Trustees Finance Committee approved in Fall 2001, a $991,808 initiative for development of the off-campus instructional sites. The initiative consisted of both one-time allocations and ongoing costs and was comprised of both central funds and Pharmacy Alumni Association support. The details of the initiative are tabled below:

	Kalamazoo – WMU/KCMS	Grand Rapids – MERC
One-time Expenditures	$221,794	$494,314
Ongoing Expenditures	$42,770	$232,930
Total Expenditures	$264,564	$727,244
TOTAL FUNDING		$991,808
Funding Sources		
Pharmacy Alumni Fund	$200,000	
Ongoing Tuition Capture	$282,000	
Central Carryover	$410,000	
Central Ongoing Funding	$100,000	

This increase in expenditures was accompanied by an 84% increase in tuition revenue over the same period. Thus, costs of implementation of the Doctor of Pharmacy program have been largely borne by students through increased tuition. The effect of increased tuition can be viewed through another perspective. In FY 2001, the combined baccalaureate and Doctor of Pharmacy program generated $3,240,340 in tuition revenue. In FY 2005, the Doctor of Pharmacy program is projected to generate $6,136,291 in tuition. Tuition revenue, as a percentage of base budget, increased from 82.3% in FY 2001 to 98.4% in FY 2005. Although this shift in revenue brings with it significant implications regarding recruitment and student demographics, the increased tuition revenue has allowed for funding of the majority of the initially requested resources for implementation of the Doctor of Pharmacy curriculum without further increase in central funding. In FY 2001, total tuition provided all but $694,482 of the College's total base funding, while in FY 2005, after an increase of 73.8% in base funding, total tuition provides all but $704,658 of total base funding. Further, total tuition costs per student have increased from approximately $16,800 in the baccalaureate program to approximately $44,800 for completion of the Doctor of Pharmacy program. Despite the significant increases in tuition costs, application numbers have shown a robust increase in recent years.

College Budget/Planning Process

The University's general fund budget is prepared annually based on State allocations and anticipated tuition revenues. Allocation of funds to specific university operations and each of the Colleges is made by the president's office as the fiscal year begins. Uncertainty in state support over the last several years has often forced a delay in announcement of the upcoming year's financial outlook until after the fiscal year has begun. However, when budget reductions are anticipated, early notice is provided from the President's office to allow for identification of areas of reduction or potential expansion. During the initial allocation process, the University's Deans are provided opportunity to discuss budgeting impact with the President and the Vice-President for Academic Affairs.

Once the University has established the College of Pharmacy's budget, departmental allocations are determined through discussions with the Dean and Assistant/Associate Deans. This process allows for discussion and refinement of departmental initiatives and disclosure between the departments as well as alignment of initiatives within the College. Budget allocations are assessed on an ongoing basis throughout the year by the Dean's office. Unanticipated rates of expenditure are reviewed by the Dean and appropriate Assistant/Associate Deans.

The College has utilized a systematic approach to guide budgetary expenditures over the past several years. Until 2004, the Strategic Planning Committee developed a detailed listing of initiatives for the next 3-5 years to be considered for University funding. This listing was based on the Doctor of Pharmacy implementation fiscal planning that was established with the Doctor of Pharmacy initiative, but also identified specific items within the College that should be developed or that required funding support.

In general, budgeting within the College has proceeded smoothly over the past several years. The Dean's office has ensured that allocations are fair and balanced, providing equitable support for both departments and the college's operations. Open dialogue between the Assistant/Associate Deans contributes to the openness and transparency in the budgeting process. As is outlined in the recent plans summarized below, all initiatives supported implementation of the new curriculum.

2002 Strategic Plan

	Project	Status
Infrastructure	Identify 3rd and 4th year instructional sites	Completed
	Upgrade AV in Pharmacy 101	
	Enhance Distance Learning	Completed
		Ongoing efforts at both
	Remodeling of Pharmacy Practice Lab	MERC and KCMS facilities
		Done
Faculty	Strengthen Faculty Resources	Eight new faculty positions have been created and successfully recruited
	Adjunct Faculty Support	New sites have been established with ongoing expansion
	Salary Equity Adjustment	College-wide adjustments implemented with ongoing contractual adjustments
Staff	Off-campus student affairs	Completed
	Additional Dept. head off-campus	Not included in later strategic plans

2003 Strategic Plan

	Project	Status
Infrastructure	Computer Upgrade for Lab	Partial funding
	Expand Medical References to Off-campus Students and Faculty	Partial funding
Faculty	Strengthen Faculty resources	Eight new faculty positions created and successfully recruited
	Salary Equity Adjustment	College-wide adjustments implemented with ongoing contractual adjustments
Staff	Distance Learning/Technology Support Position	Two part –time technicians funded

2004 Strategic Plan

	Project	Status
Infrastructure	Accreditation Visitation Fees ($13,500)	Approved

	Distance Learning support ($30,000)	Reallocation of internal resources
	Expand Medical Reference Availability	Coordinate with FLITE to optimize resources
	Enrollment expansion facilities upgrade	Within enrollment expansion fiscal model
	Enhanced student scholarship support ($84,000)	Funding not included in expansion model
	Clerkship scheduling software	Reallocation of departmental funds
Faculty	Implementation of 4th professional year	Within current budget
	Enrollment expansion (8 FTE)	Within fiscal model
	Enrollment expansion recruiting costs	Within fiscal model
	Salary Equity Adjustment	Adjustments made previously; ongoing contractual adjustments
Staff	Enrollment expansion support staff (2.5 FTE)	Within fiscal model
	CE coordinator ($50,000)	College's continuing education program under reassessment
	Satellite Campus coordination ($140,000)	Funding denied – coordination through internal reallocation of FTE's
	Residency Programs ($60,000)	Funding denied

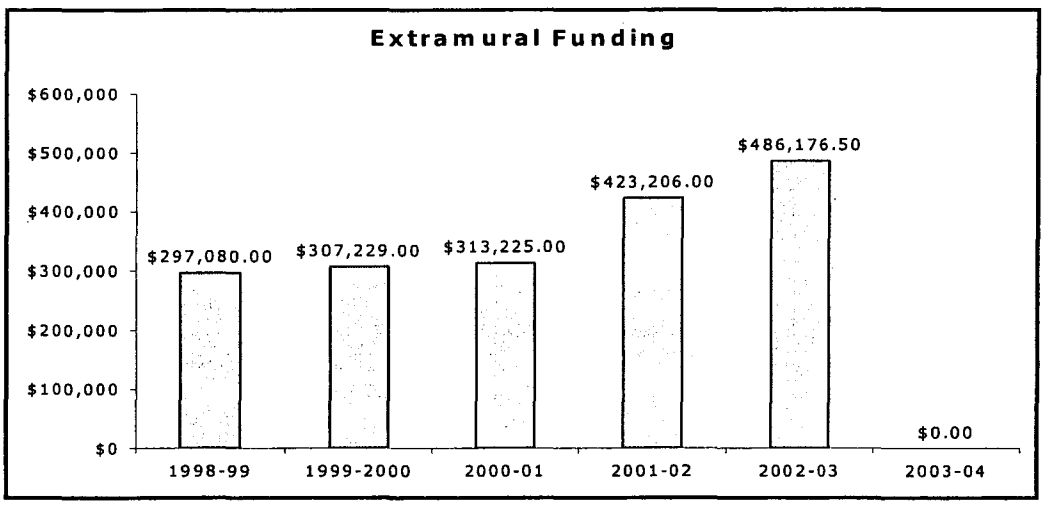
Management of the budget is appropriate through the Dean's office with annual allocations to each department and operations within the Dean's office. Department Heads have been provided software to directly access all departmental accounts, while the College's account clerk provides oversight. This increased access to the budget will allow for increased disclosure to the College faculty of each department with openness and frequent updates. All College funding has been directed for use in the Doctor of Pharmacy program's implementation and refinement. Currently, expenditures in ancillary areas is minimal.

Funding required for implementation of the Doctor of Pharmacy program has been available to ensure that the resources originally identified in the implementation plan have been secured for use in the program. Exceptions to this include the loss of one position in the pharmaceutical sciences department and partial funding of a pharmacy practice position with additional reductions in the Supplemental Faculty allocation. These reductions are especially critical in light of the enrollment expansion plan underway in the College. It seem incongruent to experience reductions in faculty support while additional positions are approved in the enrollment expansion plan. Further, the reductions creates suspicion regarding the full support of the plan by the University's administration.

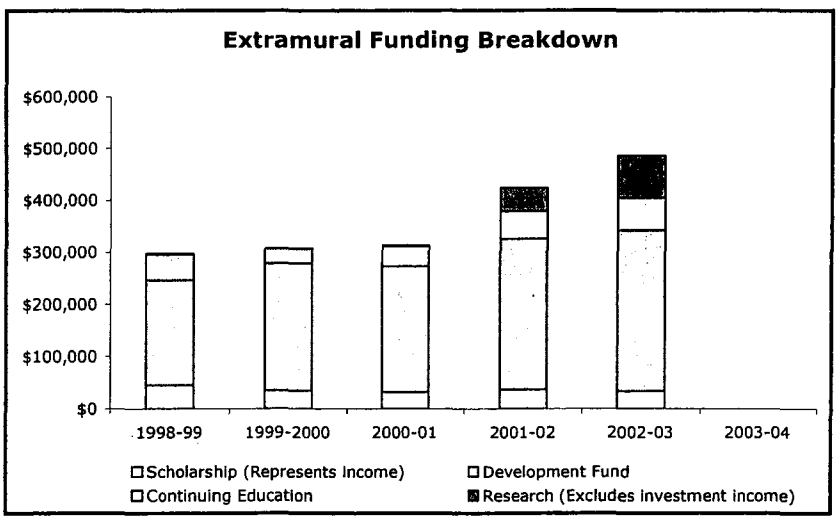
The College is heavily dependent upon University allocations for its operation. As outlined in the data below, extramural funding comprises only about 7.1% of the College's total budget and is not relied upon for support of the College's programming. This is consistent with the College's teaching mission and focus on didactic and clinical education. However, it is noteworthy that extramural funding has shown significant increases in recent years with increases in donations to the development fund, continuing education revenues and research funding. Further emphasis of research activities within the College will require a more formalized and consistent mechanism of handling funding. Currently, the University's Director of Grants and Contracts position is unfilled, limiting the prospect for refinement and future

development of policies. Continued efforts by the Dean to secure extramural funding from corporate pharmacy and College benefactors have been successful and this effort must be continued. Emphasis on scholarly activity has been greatly increased in both departments with expectations of increases in funded scholarly activities in the future.

Revenues from continuing education endeavors have increased over the past six years. Much of this increase is due to the addition of a second College-sponsored symposium focused on contemporary topics in infectious diseases. Growth of revenues beyond current levels is dependent upon the re-establishment of the Continuing Education coordinator position. This position was lost in FY 2002, with part-time support provided though FY 2003. Currently, all continuing education activities are managed through the Continuing Education Committee and its clerical support.

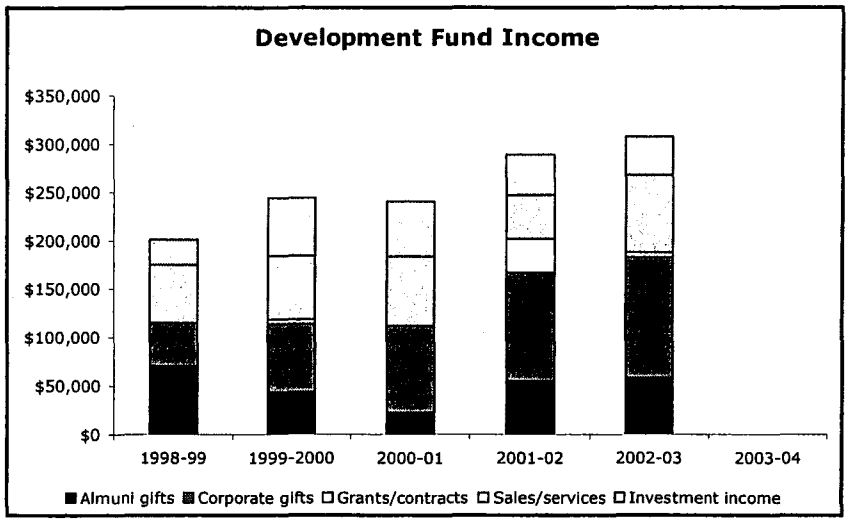


Areas that contributed to extramural income growth included increases in corporate gifts to the College Development Funds, continuing education activities, and research grants and contracts.



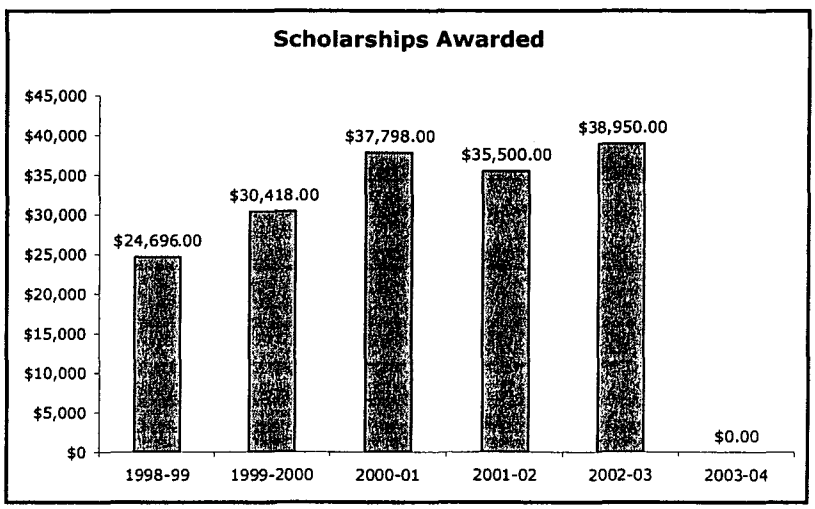
This increase in the level of extramural funding is significant in light of the current downturn in economic indicators. Examination of development fund income over the self-study period reveals 52.6% growth in overall income during this time. Alumni annual contributions have increased over the past several years,

largely due to the organized efforts to secure a scholarship fund for the Doctor of Pharmacy program. This increased funding has been complemented by generous growth in corporate contributions to the College.



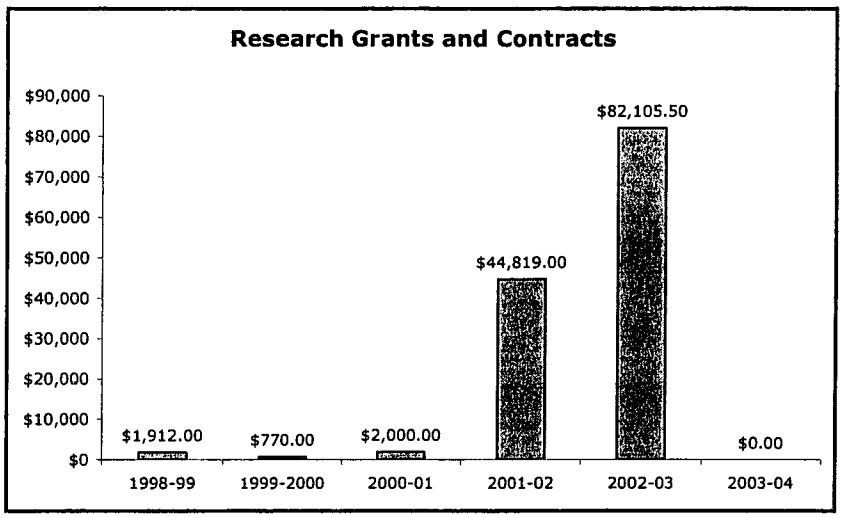
Development fund revenue is important to the College as this serves as the source of funding for a variety of non-general fund initiatives such as purchase of computer hardware and software; provision of adjunct faculty resource materials and training; subsidies for student attendance at national and local meetings; support of substance awareness programs; and provision of emergency loans and academic excellence scholarships to cite a few examples.

As a result of significant increases seen in tuition and the additional year required to complete the Doctor of Pharmacy curriculum the College has strengthened its commitment to providing financial assistance to its students. Over the self-study period, the total dollar amount awarded in student scholarships increased by approximately 58%. This extramural funding is complemented by $400,000 in needs-based academic scholarships funded by the University that is awarded annually as scholarships to qualifying students.



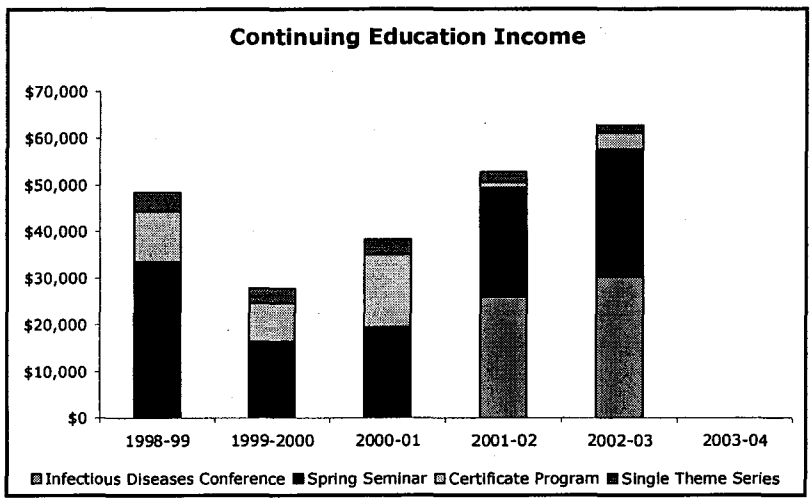
Currently, other sources of non-general fund revenue for the College include continuing education revenues and research endeavors. Since research is not the primary focus of the College, it is not

surprising that income related to research activities represents a small portion of the total budget. In addition to the grant-related activities directly awarded to the College, through affiliated institutions, the College has participated in a number of significant grants related to practice site development, which are not included in the totals expressed. These include the $2.2 million grant received by the Kalamazoo Center for Medical Studies for study of the implications of a conversion to managed care-based benefits for the State's Medicaid population, a $900,000 grant awarded the the Upper Peninsula Health Education Center to establish anticoagulation services in a five county region surrounding Marquette, and a $1.2 million grant awarded to Michigan State University's College of Human Medicine for establishment of a statewide Area Health Education Center (AHEC).



Despite increases in research grant activity in 2001-02 and 2002-03, the College remains focused on teaching and may appear to be an unattractive venue to conduct traditional research. Therefore, these grants are likely to represent anomalies rather than signal sustainable, long-term activity. However, research opportunities centered on instruction and the scholarship of teaching must be explored

As can be seen from the data below, revenues from continuing education have shown a consistent increase since the last accreditation visit. Much of this increase is due to the addition of a second seminar series, the Spring Infectious Disease Seminar. Despite the revenue growth, loss of funding for the continuing education coordinator position has stimulated discussion regarding the College's commitment to providing continuing education programming and the appropriate handling of accreditation record keeping as well as what direction future continuing education programming should follow. The College must develop a plan that clearly identifies its role in professional continuing education, that outlines the resources required to support the programming developed and that realistically projects revenues.



Currently, the College has been able to sustain and even grow, modestly, its extramural funding. However, cultivation and growth of new sources of extramural funding have not been strengths of the College. If the College is to thrive as a source of modern pharmacy education, significant attention needs to be given to identifying new and sustainable sources of funding outside general fund sources. This need continues to be accentuated by an ongoing state budgetary crisis coupled with previous University-wide losses of state appropriations.

Section 12
Conclusions

Centrality to FSU mission

The mission of Ferris State University is to "be a national leader in providing opportunities for innovative teaching and learning in career-oriented, technological and professional education." The Pharmacy program is a professional program that supports this mission through the use of innovative classroom teaching and experiential education which both lead to the student being prepared to begin their career following graduation.

Uniqueness and Visibility

The Pharmacy program is a professional four year Doctoral program, one of only three pharmacy programs in the state. The only other professional doctoral program at Ferris similar to pharmacy is optometry.

Approximately one-third of the students enrolled in the honors program designate pharmacy as their program of choice. Pre-pharmacy students are offered early enrollment into the pharmacy program. Since its inception, this program has attracted many high quality students to Ferris. These students take courses in their first two years of pre-pharmacy in Colleges other than Pharmacy generating a large number of SCH's for faculty within these colleges. Many of the honors students that do not ultimately enroll in the pharmacy program choose to continue their education in other programs at Ferris. The success of this program has been noticed by other colleges at Ferris, who have started their own guaranteed admissions program for honor students.

The split campus model used to deliver the curriculum also enhances visibility of the program throughout the state. Students visiting experiential sites wear a Ferris State University intern badge and are easily recognized as a Ferris student by patients and other healthcare professionals at experiential site. The P-3 facilities at Western Michigan University and GR MERC are shared with many other healthcare programs from other universities in the state, and signage at both locations recognizes Ferris State University. In the P-4 year, students enroll in clerkship rotations throughout the state, interacting with patients and other healthcare providers. The map below indicates all the sites in which the College of Pharmacy has a presence. In addition, clerkship rotations in England and France allow students to promote the program at an international level. Being a true exchange program, students from France and England also enroll in rotations in our program.

FSU Educational and Practice Sites

Over the years, Ferris pharmacy graduates have proven to be wonderful recruiters for the program. They will oftentimes work alongside technicians who have dreams of becoming pharmacists some day, or provide shadowing opportunities for high school or pre-pharmacy students. Also, students from other states and countries enrolled in the pharmacy program enhance our visibility internationally when they return to their home state or country to practice pharmacy, recommending Ferris to those interested in joining the profession.

Service to state and nation

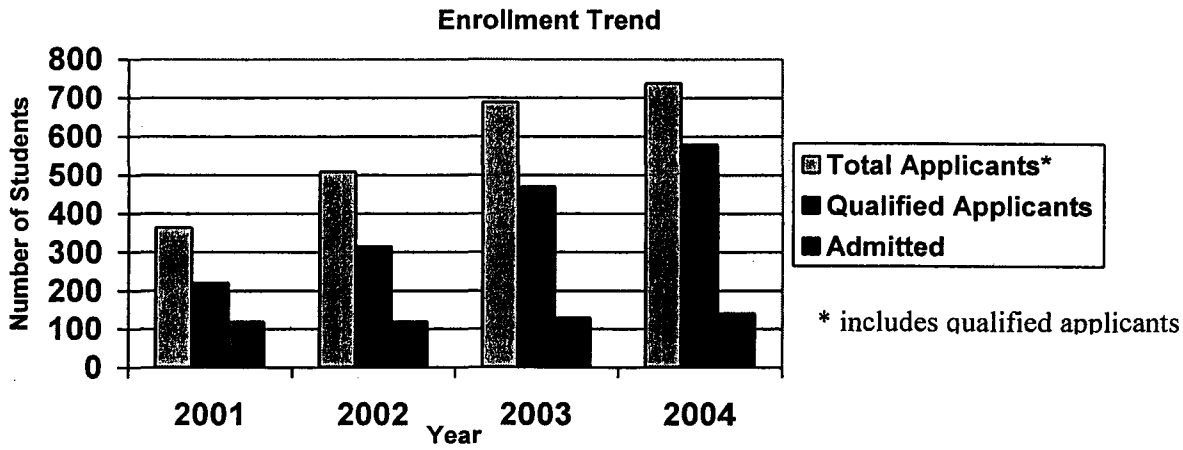
The majority of pharmacists practicing in the state have graduated from Ferris.

Faculty and administrators from the College of Pharmacy serve as leaders in many state and national organizations, including the Michigan Pharmacy Association, Michigan Board of Pharmacy, American Association of Colleges of Pharmacy, American College of Clinical Pharmacy, National Community Pharmacy Association, and the American Society of Health Systems Pharmacists.

The College also provides continuing education opportunities for pharmacists. Approximately 300 pharmacists attend each year the annual CE seminar presented in Big Rapids and approximately 90 pharmacists and other health care practitioners attend the Infectious Disease Symposium presented in Grand Rapids. Both of these continue to grow in attendance every year. Other CE opportunities have been offered at different sites through out the state and have allowed pharmacists to receive certification in a specialty area.

Demand by students

The demand for seats in the College of Pharmacy has increased every year since 2001, as can be seen by the increase in qualified and total applicants the College receives. The number of students admitted in 2001 and 2002 was 120, however due to a University mandate to increase enrollment 130 students were admitted in 2003, and 142 in 2004. In 2005 enrollment will reach a maximum when 150 students are admitted.



Quality of instruction

Educational standards for the Doctor of Pharmacy degree have brought faculty to Ferris with degrees in pharmaceutics, medicinal/biochemistry, pharmacology, pharmagonosy, toxicology, pharmaceutical administration, business, and pharmacy practice. This type of experience from around the nation, provides a diverse and rich teaching and practice environment for students of the College of Pharmacy. The College of Pharmacy also provides clinical training in practice setting that are not only recognized locally and regionally, but nationally. The multi-disciplinary nature of medical training, allows our students the opportunity to not only interact with a diverse array of pharmacists, but also physicians, nurses, social workers and other health care para-professionals.

Faculty use many different methods for teaching including classroom lecture, practice-based laboratory, recitation, problem based learning, group learning, and web-enabled learning. The College of Pharmacy has broken new ground for the University with distance education classrooms operating in two different cities with class sizes of 100-130 (future growth to 150).

When current students in the College of Pharmacy were surveyed and asked to respond to the following statement "the quality of instruction in the College of Pharmacy is adequate", students from the P-1 year rate the quality of instruction as 1.9, P-2 year as 1.8, P-3 Grand Rapids as 2.1 and P-3 Kalamazoo as 2.0. (Using the following scale 1 = Strongly Agree, 2 = Agree, 3 = Undecided, 4 = Disagree and 5 = Strongly Disagree).

Issues identified in focus groups, student surveys and graduate surveys either have been addressed or are under study by faculty of the College of Pharmacy, including the college's Curriculum Committee. This includes:

1. Computer upgrades for use in the P-1 and P-2 practice skills lab including the implementation of a pharmacy information system.
2. Concerns regarding first semester course load (P-1) were discussed in detail in focus groups with P-1 and P-2 students, along with the college's Curriculum Committee. Overall, it was felt anatomy and physiology should remain in the P-1 curriculum rather than transferred to pre-pharmacy.
3. Changes in the P-3 early experiential allowing greater flexibility in when students can take the institutional practice experience.
4. Faculty and curricular changes in the Drug Literature Evaluation and Research Methods class.
5. Faculty and curricular changes in the Clinical Communications class.
6. Greater emphasis on over-the-counter (OTC) medications in the therapeutics series.
7. Upgrades in computer technology to improve performance of distance education equipment.
8. Expanded number of elective courses and rotations.
9. Improving access to on-line references and journals.
10. Hiring of an off-campus student services coordinator.

Students graduating from the program pass the pharmacy licensure exam at approximately the same rate as the nation, recognizing that there are occasional increases and decreases in the pass rate (see tables below). Please note that this represents data from our B.S. program and not the new Pharm.D. program, The fact that the University of Michigan has been offering the all-Pharm.D. degree for many more years should also be taken into consideration.

NAPLEX RESULTS

(NORTH AMERICAN PHARMACY LICENSURE EXAMINATION)

FIRST-TIME CANDIDATE GROUP

		Jan – Apr 01	May – Aug 01	Sep – Dec 01	Jan – Apr 02	May – Aug 02	Sep – Dec 02	Jan – Apr 03	May – Aug 03	Sep – Dec 03	Jan – Apr 04
I.	Number of Candidates	52	50	17	64	53	20	7	23	24	0
II.	Scores:										
	Ferris Average	**92.31**	**103.44**	**91.53**	**95.20**	**100.28**	**101.25**	**84.86**	**105.17**	**101.21**	
	FSU, WSU, UM Average	94.93	102.48	99.14	97.77	98.35	101.18	92.00	102.18	100.00	104.32
	National Average	94.54	103.35	94.22	95.13	103	94.62	97.39	103.38	95.88	100.14
III.	Percentages:										
	Ferris Pass Rate	**88.46**	**100.00**	**82.35**	**87.5**	**94.34**	**100.00**	**71.43**	**95.65**	**95.83**	
	FSU, WSU, UM Pass Rate	93.10	96.50	90.48	92.98	94.64	100.00	86.67	94.81	92.73	94.74
	National Pass Rate	87.91	96.75	90.10	89.27	96.74	88.52	91.47	96.54	89.64	95.07

TOTAL CANDIDATE GROUP

		Jan – Apr 01	May – Aug 01	Sep – Dec 01	Jan – Apr 02	May – Aug 02	Sep – Dec 02	Jan – Apr 03	May – Aug 03	Sep – Dec 03	Jan – Apr 04
I.	Number of Candidates	54	59	22	70	60	27	13	31	27	3
II.	Scores:										
	Ferris Average	**91.96**	**100.08**	**87.09**	**94.40**	**97.13**	**92.81**	**81.46**	**98.94**	**98.15**	**84.67**
	FSU, WSU, UM Average	92.25	100.00	88.98	94.07	96.63	**92.18**	89.74	98.75	92.47	91.72
	National Average	90.25	101.70	90.50	90.81	101.21	90.02	91.50	101.40	89.40	92.13
III.	Percentages:										
	Ferris Pass Rate	**88.89**	**94.92**	**72.73**	**88.57**	**88.33**	**81.48**	**69.23**	**80.65**	**88.89**	**100**
	FSU, WSU, UM Pass Rate	87.95	92.55	77.27	87.50	91.35	88.33	83.33	90.53	83.50	87.32
	National Pass Rate	81.07	94.38	94.38	81.52	93.76	81.73	82.77	93.84	79.55	83.22

On the Jurisprudence exam our students have not performed as well when compared to the nation. In response to the Jurisprudence pass rate, the Pharmacy Law and Ethics class has been restructured and a new faculty member is now teaching the class. This data is also from the B.S. program and does not yet reflect the changes made in the Jurisprudence course.

MPJE RESULTS

(MULTISTATE PHARMACY JURISPRUDENCE EXAMINATION)

FIRST-TIME CANDIDATE GROUP

		Jan – Jun 01	Jul – Dec 01	Jan – Jun 02	Jul – Dec 02	Jan – Jun 03	Jul – Dec 03
I.	Number of Candidates	49	76	113	118	35	65
II.	Average Scores:						
	Ferris	**79.61**	**78.63**	**81.21**	**79.14**	**77.09**	**78.94**
	FSU, WSU, UM	81.32	81.14	82.01	79.22	79.49	78.25
	National	82.59	81.86	82.08	80.19	80.34	79.76
III.	Pass Rate Percentages:						
	Ferris	**93.88**	**78.95**	**86.73**	**86.44**	**60.00**	**81.54**
	FSU, WSU, UM	92.00	87.36	90.86	84.86	84.00	78.68
	National	92.45	91.75	92.15	86.45	86.58	84.67

TOTAL CANDIDATE GROUP

		Jan – Jun 01	Jul – Dec 01	Jan – Jun 02	Jul – Dec 02	Jan – Jun 03	Jul – Dec 03
I.	Number of Candidates	52	88	127	137	53	86
II.	Average Scores:						
	Ferris	**79.54**	**78.17**	**80.94**	**78.57**	**76.30**	**78.01**
	FSU, WSU, UM	81.08	80.86	81.68	79.20	79.03	78.12
	National	82.25	81.51	81.72	79.85	79.92	79.33
III.	Pass Rate Percentages:						
	Ferris	**94.23**	**77.27**	**86.61**	**83.21**	**56.60**	**76.74**
	FSU, WSU, UM	90.38	86.63	89.35	84.08	81.34	79.27
	National	91.22	90.54	90.78	84.93	84.52	82.61

Demand for graduates

There is currently a shortage of pharmacist nationwide that is projected to worsen as the leading edge of baby boomers begin to reach retirement age. The primary source of the shortage can be seen in the demand for pharmacists in the large chain settings. This has affected almost all pharmacist career pathways increasing average salaries and overall demand within the profession. The nationwide shortages is reflected in a recent chain pharmacies survey that reported 4133 pharmacy openings (3648 full-time, and 485 part-time) for January 2004.[1]

With the aging population and expected rise in prescription volume over the next couple of decades, the current shortage is expected to get much worse. Table 1 below shows the projected need for pharmacists in the year 2020.[2]

Table 1

Conference Estimates: Current Use and Projected Need for Pharmacists in the United States *(Full Time Equivalents)*

	Current use of pharmacists 2001	**Projected need for pharmacists 2020**
Order fulfillment	136,400	100,000
Primary services	30,000	165,000
Secondary/tertiary services	18,000	130,000
Indirect/Other services	12,300	22,000
Total	**196,700**	**417,000**
Total estimated supply		**260,000**
Shortfall		*157,000*

Placement Rate and Average Salary of Graduates

Because of the recent implementation of the Pharm.D. degree, data is not currently available for placement for these graduates. However, 48% of students responding to the "senior survey" identified they had already accepted positions prior to graduation.

Pharmacy compensation has been positively affected by the recent shortage. But even before this shortage surfaced a few years ago, salaries were favorable and had of history of steady growth. Table 2 shows the results of a recent national survey of weighted hourly pharmacist wages (www.imercer.com).

Table 2

2004 Pharmacy Compensation Survey - Spring Edition
National Results

	Hourly Wgtd Mean
Pharmacy Team Mgr	$47.04
Staff Pharmacist	$42.14
Staff Pharmacist (Healthcare Retail/Satellite)	$41.83
Staff Pharmacist (Mail-order/Online)	$40.32
Clinical Pharmacist	$43.10
Nuclear Pharmacist	$44.10

Median total compensation can be found in Table 3, with a national comparison between 2003 and 2004 survey results.

Table 3

Job title	2003 median total cash compensation	2004 median total cash compensation	% change
Pharmacy team manager	$89,400	$94,600	+5.8
Staff R.Ph.	84,200	88,400	+5.0
Staff R.Ph. (mail-order/on-line)	79,800	87,400	+9.5
Clinical R.Ph.	82,900	85,200	+2.8

Source: Mercer Human Resource Consulting

Service to non-majors

Currently a member of the College of Pharmacy Faculty is involved in courses for the Michigan College of Optometry and the College of Allied Health Sciences. The courses are: OPTM 532 - General Pathology, OPTM 533 - General and Ocular Pharmacology, and DHYG 218 - Pharmacology for Dental Hygienists.

In addition Faculty and Administrators from the College of Pharmacy are involved in orientation course offered by the Honors College, FSUH 290 - Orientation to the Discipline of Pharmacy. This is a 1 hours course offered the Fall term of the sophomore year to pre-pharmacy students enrolled in the Honors College.

Facilities and equipment

Facilities in Big Rapids house the first two professional years with classrooms in Grand Rapids, and Kalamazoo used to house the third professional year of the program.

The Big Rapids campus is undergoing renovation to improve the student study lounge area as well as convert several labs into classroom space. Much of this was necessary to support the increased enrollment. When asked if the classrooms used for instruction on the Big Rapids Campus met their needs P-1 students rated the classrooms at a 1.3 (1 = strongly agree, 2 = agree), both P-2, and P-3 students rated the classrooms at a 1.6. Comments made by students indicate that the large auditorium used for the majority of lectures could be made more student friendly and needs to be updated.

When asked if the classrooms used for instruction on the Grand Rapids and Kalamazoo campus met their needs P-3 students in Grand Rapids rated the classrooms at a 1.3 (1 = strongly agree, 2 = agree), while students in Kalamazoo rated the classrooms at a 1.1. Comments from students indicate the need for increased space in Grand Rapids and Kalamazoo as the enrollment expansion proceeds and more students move through the curriculum and reach these locations in the third professional year.

Hospital and community pharmacies through out the state are used for the fourth professional year to provide the experiential portion of the program. With increased enrollment more of these sites will be necessary to meet the demand. Unfortunately, the instrument used to survey faculty did not contain questions pertaining to office space for faculty and meeting/work space for students at the APPE

locations. Discussions with faculty during the preparation of the document noted a need to assess this lack of space. None of the APPE sites are owned by Ferris and therefore each individual institution allocates space for faculty and students. Because faculty members are not employees of these institutions and because space in any health care facility is at a premium, faculty offices are frequently small and/or shared with other faculty at the same institution. Student meeting areas are also limited, primarily because conference rooms in general at health care institutions are limited, with a significant demand for their use. This is one reason that new pharmacy practice faculty must be placed at institutions without a current affiliation with Ferris State University. Also, the College of Pharmacy must continue to work with affiliated institutions to maintain or increase office and meeting space necessary to adequately educate its students.

Library Information Resources

Overall Library Services to on and Off-Campus Faculty

The Distance Education Librarian is responsible for the provision of library services to faculty and students in off-campus programs. On a regular basis, the Distance Education Librarian and the Health Sciences Librarian travel to Grand Rapids and Kalamazoo to participate in library orientation programs for P-3 level students at off-campus sites. These orientation sessions include information on how to access FLITE resources from off-campus sites. Students participating in externships also learn about the information resources available to them through the hospital libraries where they are working. Some of the hospital libraries provide access to databases not available through FLITE.

In addition to access to electronic resources, FLITE offers interlibrary loan and document delivery services to off-campus students and faculty. Some of the hospital libraries where students are involved in externships will accept interlibrary loan requests directly from Ferris students. These hospitals include Bronson Hospital in Kalamazoo and St. Mary's Hospital and Spectrum Hospital in Grand Rapids.

As a means of assessing the strength of the overall pharmacy collection, library staff have checked library holdings against the Alphabetic List of 2001 AACP Basic Resources for Pharmaceutical Education and the 2003 edition of the AACP Core List of Journals for Libraries that Serve Schools and Colleges of Pharmacy. The Alphabetic List includes 818 monographs, periodicals and other serials, websites, and databases/indexes. As of October 2003, FLITE had current access to 89% of the "first purchase" periodical titles, 58% of the other serial titles, and 76% of the monographs. FLITE had current access to 59% of all periodicals on the list, 45% of other serials, and 38% of the monographs. (Lapsed journal and serials subscriptions were not counted as current. Monographs were counted only if the library owned the edition stated on the list or a later edition.) Faculty in the College of Pharmacy have generally preferred to allocate library resources more heavily to journal subscriptions than monographs, and this preference is borne out by the percentages of book and journal titles owned on the Alphabetic List. The Core Journals List consists of 109 journal titles, 29 of which are designated as "recommended for first purchase" titles. FLITE has access to 25 of the 29 "first purchase" titles (86%) and 71 of the total 109 titles (65%). The library had one lapsed subscription among the 29 "first purchase" titles and four lapsed subscriptions on the entire list. In preparation for the last ACPE accreditation review, the library reported in 1998 that it owned 21.3% of the current monographs on the AACP's 1998 Basic Booklist for Pharmaceutical Education and subscribed to 48.9% of the journal titles listed on the 1997 Core Journals List. While there is still room for improvement to the library's holdings in pharmacy materials, the percentage of materials owned on the list has increased over the past five years.

A complete listing of all journal holding in all formats, including full-text titles found in electronic databases accessible to Ferris authorized users, can be found on the FLITE website at http://www.feris.edu/library/periodicals/homepage.htm.

Evaluations conducted among faculty members and students reveal a dichotomy of results. This confusing picture is most likely due to ability of the faculty and students to obtain references from affiliated hospitals, thus generally meeting their everyday needs. However, critical evaluation is commonplace when they are asked to specifically evaluate the support provided by FLITE. Obtaining real-time access to various primary literature resources through FLITE can be difficult. The steps required to obtain a reference on-line are often cumbersome resulting in several faculty members utilizing FLITE only as a source of last resort. Additionally, there are many technical problems with obtaining the articles. Often times the links set up to view the articles do not work off-campus. For these reasons, many of the faculty and students only use the library at the specific institutional sites. These services are excellent for Kalamazoo, Grand Rapids, Lansing, and Marquette although students and faculty may find it inconvenient to pick-up references if not assigned specifically to the hospital site. As a result of changes within the curriculum, particularly the P-3 year, it is anticipated that students will have an increased need for access to primary literature, thus further increasing the need for reliable and comprehensive support from FLITE.

Mean Faculty Responses to Survey[1]

	Big Rapids	Grand Rapids	Kalamazoo	Clerkship Rotations
Instructional facilities meet the students needs (e.g. crowding, flexible, safe).	2.8	2.2	1.9	2.8
Technology, in the classroom/lab, meets the instructors needs (e.g. computers, projectors, microphones, overhead, etc.).	2.8	2.3	2.3	2.6
Technology in the classroom/lab maintained.	2.5	1.8	2.1	2.6
Instructional materials, references, and supplies are available.	2.8	2.5	2.7	2.0
Adequate secretarial support is provided.	2.3	1.8	1.5	3.3
Adequate computer technical support is provided.	2.3	2.3	2.3	
FLITE provides adequate access to reference materials.	2.4			
I have adequate access to the necessary literature sources.		2.8	3.1	2.8
I have the ability to access literature sources in a timely manner.		2.8		3.0

[1]Based on 5 point Likert scale: 1=Strongly Agree, 2=Agree, 3=Undecided, 4=Disagree, 5=Strongly Disagree occasionally had troubles getting articles from FLITE (not tried since Fall Semester '03) New health sciences librarian Jessica Rush is a strength. Area of improvement Access to technology and resources and literature off-site., Computer support for off campus faculty. Library resources access from off campus. Access to primary resources. Need better access to primary literature.

Several of these issues have been addressed and there is ongoing dialogue between the College and FLITE to address all of them. In 2003, Jessica Rush was appointed as the Health Sciences Librarian; her nursing background provides her with an excellent understanding of the students' and faculty's needs and she has been diligently working with the School of Pharmacy to help correct these problems. The library modified off-campus access to its databases and these changes are expected to be in place within the next 2-3 years. These changes include a new "citation manager" that will allow students and faculty to put in the information for the article they are requesting. He/she will then be directed to where the article can be found on Ferris' system. There will also be a link if the article needs to be obtained through interlibrary loan (ILL). Additionally, there are plans to imbed the passwords required for specific journals into the database. This will allow both students and faculty to gain access to these password required journals without having to know the actual password. In addition to these permanent changes, Jessica has agreed to help find temporary solutions in the interim. There are also ongoing talks between the School of Pharmacy and FLITE regarding the possible acquisition of other databases that may streamline the process of obtaining on-line full-text articles.

Along with these changes, the library staff is very helpful when problems occur. "Chat Reference" allows faculty and students to access a resource librarian on campus through and instant messenger service. If the student or faculty member is experiencing difficulties, then they can click on this "Chat Reference" and the librarian can walk him/her through the steps needed to obtain the articles.

Although moving toward total electronic/digital availability, FLITE is aware that print versions of common reference texts are often very useful in the academic setting. Further, because of the off-campus location of the P-3 instructional sites, a full set of print references has heretofore not been available. To correct this problem, FLITE has ordered approximately 13 different pharmacy-specific tertiary resources (2 copies each) to be housed in Kalamazoo and Grand Rapids. These are expected to be in the respective sites within the next year.

Library services available to students and faculty at the off campus sites, see appendix 6 for a listing of theses services.

Student Perceptions Library Services

Student perceptions – Percentage Agreeing with Statement

	P1/P2	P3	P4
access to computers and software in the College met their needs	71%	65%	54%
access to computers and software in the FLITE met their needs	75%		

P1/P2 comments: The FLITE library was a great facility and had the resources to meet my needs. Computer access was easy, but the use of paper always seemed to become an issue even though it was need for pharmacy-related projects.

P3 comments: I did not feel we had adequate resources available to us our P3 year. Trying to research anything was near impossible. The technology was adequate, but access to library services was poor. Using the library through ferris.edu is near impossible. MicroMedex needed to be on the computers at the MERC building! Computers at the MERC building were beneficial. The MERC building should have access to a medical/pharmacy library and resources much more broad than currently exist. Both in hard copy and on computer. Not having a library to go to in order to get information or study was a large

adjustment for me. The access to computers was fine. Once MicroMedex was put on the computers that helped a lot. There were adequate pharmacy tertiary sources in the computer lab and no library so I guess that does not apply.

P4 comments: Micromedex at MERC please! Rotation sites were used a lot for literature etc. The Bronson Librarian was wonderful in helping me obtain articles I needed for rotations and also for seminar. I really appreciated his help. Need easier access to journal articles in the P4 year! Having the hospital libraries to go to in order to get information and study or use the computer was a big help the 4th year. Marquette was a great placement for my P4 year. Housing, and access to computers were great.

Library Summary

Significant efforts to correct the deficiencies discussed above are underway. Additional staff members in the Library will improve service to both on- and off-campus faculty. Additional resources and improved access methods will increase consistency and reliability. The recruitment of a Drug Information Specialist for the College also will contribute to increased progress in providing updated resources and methods that ensure access. However, efforts must be continued to reduce the fragmented nature of on-line access to journals and references. As outlined above, initial conversations have been held with the desire to secure access to a complete informational database such as OVID. Ongoing expansion of the program, both in enrollment and geographically, requires that a secure and consistent informational source for all students and faculty be provided. Current expenditures for pharmacy resources must be evaluated and the possibility of combining various health-care related budget lines to obtain a more costly, but more complete data base must be considered.

Cost

In interpreting the Cost/SCH several issues need to be considered. The College of Pharmacy program runs 12 months a year, while the accounting information used by Ferris only considers the Fall and Winter semesters. In addition, when students are on clerkship rotations they spend 40 hours/week with a faculty member generating a large number of SCHE but only a few SCH. Unfortunately this is not taken into account in the Cost/SCH calculation. Lastly our students pay tuition at the profession rate, which generates income to offset the extra cost incurred by the program.

Program Cost Table : 2001-2002

	Instructor Cost/SCH	Dept. Cost/SCH	Dean's Cost/SCH	Total Cost/SCH
Ferris State University	$153.93	$34.71	$17.08	$205.71
College of Pharmacy	$308.58	$63.27	$52.29	$424.13

Faculty: Professional and Scholarly Activities

Many faculty within the College of Pharmacy work at various scholarly activities, However since scholarly activity is not a University priority, support and resources for scholarly activity are limited. The high faculty to student ratios in the College, and the amount of time faculty spend teaching limits the

amount of time they are able to devote to the pursuit of scholarly activities. Faculty are rewarded for scholarly activities as a component of promotion and merit.

Summary of Scholarly Activities
FSU College of Pharmacy

	1998-99	1999-00	2000-01[A]	2001-02[B]	2002-03	2003-04
Grants and Contracts	$ 1912	$ 770	$ 200	$ 44,819	$ 82,106	$ 101,000
Publications	Not reported	Not reported	Not reported	Not reported	12 + 1 chapter	18 + 3 chapters
Abstracts	Not reported	Not reported	Not reported	Not reported	1	5
Presentations	Not reported	Not reported	Not reported	Not reported	17	50
PhD FTE	14	14	14	14 (1-Instructor, 1-Assistant, 4-Associate, 8-Prof)	13 (1-Instructor, 1-Assistant, 4-Associate, 7-Prof)	13 (2-Instructors, 1-Assistant, 4-Associate, 6-Prof)
Pharm.D. FTE	Not available	Not available	Not available	Not available	20	23

[A] First all Pharm.D. admissions
[B] Basic Science department head position mandated in accreditation site visit is filled.

Administrative Effectiveness

The College of Pharmacy has recently completed the design and implementation of the Doctor of Pharmacy curriculum as required by the accreditation organization. This required a complete revision of the curriculum, with the addition of one more year of education and clinical experience; implementation of new coursework across the curriculum; expansion of the Kalamazoo site; design and implementation of the Grand Rapids site at the MERC; the addition of clinical experiential sites across the state; and expansion of the faculty to accommodate the additional coursework and experiential sites. The recent graduation of the first Doctor of Pharmacy class speaks to administrative effectiveness and desire to maintain excellence in the pharmacy program. Administration has also been responsive to student concerns and logistic issues that have occurred during the implementation process. The combination of program and enrollment expansion hiring, along with turnover of existing faculty will increase the need for teambuilding, good communication and procedures for individual faculty goal planning and assessment.

Administrative guidance toward the finalization of the workload document for the College of Pharmacy will help workload allocation across both departments. With an approved faculty workload it anticipated that faculty will be able to better manage their commitment to teaching, their participation in scholarly activities, and their service to the University.

As evident from the faculty survey there exists a continuum of faculty perceptions regarding the effectiveness of the administration. See section 5 for a summary of the data from the faculty perception survey.

1. NACDS Foundation January 2004 Chain Pharmacy Employment Survey.

2. **Professionally Determined Need for Pharmacy Services in 2020;** Report of a Conference Sponsored by the Pharmacy Manpower Project, Inc. David A. Knapp, Ph.D. Conference Facilitator and Reporter.

	2 - Evaluate professional information and provide basic pharmaceutical education to other health professionals and the general public.	a. Identify the requesters specific drug information needs.	PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690 Role playing, Role modeling, Answering Drug Information Requests (PHPR 606)	Subjective observation, Pass/Fail,	Written/Verbal quizzes
		b. Determine the appropriate information to evaluate to respond to drug information requests.	PHPR 411/412	Lab exercises, case discussion, simulations	Percentage
			PHPR 501/502 Case studies, Patient presentations,	PBL cases	Anchor scale rating, Total points
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Role playing, Role modeling, Answering Drug Information Requests (PHPR 606)	Subjective observation, Pass/Fail, Written/Verbal quizzes
		c. Describe strengths and limitations of various study designs.	PHPR 521	Objective tests	Percentage
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussion, Answering Drug Information Requests (PHPR 606)	Subjective observation, Pass/Fail, Written/Verbal quizzes
		d. Discuss various statistical methods used for data analysis and determine their appropriateness.	PHPR 521	Objective tests	Percentage
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussion, Answering Drug Information Requests (PHPR 606)	Subjective observation, Pass/Fail, Written/Verbal quizzes
		e. Evaluate the effects on outcomes of various methods for patient selection and blinding.	PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 540/550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussion, Readings, Literature searches	Subjective observation, Pass/Fail, Written/Verbal quizzes
		f. Discuss the application of study results to expanded patient populations.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage

			PHPR 600 thru 690	Discussion	Subjective observation, Pass/Fail, Written/Verbal quizzes
		g. Exhibit the ability to utilize literature resources available on the Internet.	PHPR 411/412	Lab exercises, case discussion, simulations	Percentage
			PHCH 427/428/430	Multiple choice, T/F, short answer	Percentage
			PHPR 501/502	PBL cases, Case studies, Patient presentations	Anchor scale rating, Total points
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Role playing, Role modeling	Subjective observation, Pass/Fail, Written/Verbal quizzes
		h. Construct a logical and grammatically correct written answer to a drug information question.	PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussion, Portfolios	Subjective observation, Pass/Fail, Written/Verbal quizzes
		i. Relate findings from the primary literature to various audiences using appropriate written and verbal communication techniques.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussion, Presentations	Subjective observation, Pass/Fail, Written/Verbal quizzes
		j. Counsel patients about the proper use and effects of their medications.	PHPR 401/402	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 501/502 Case studies, Patient presentations,	PBL cases, Role playing	Anchor scale rating, Total points, Subjective observations
			PHPR 600 thru 690	Discussions, Role playing, Role modeling, Direct observation	Subjective observation, Pass/Fail, Written/Verbal quizzes

	3 - Analyze professional information and provide thorough pharmaceutical education to other health professionals and the general public.	a. Assess drug literature to determine the quality of data gathered to respond to drug information requests.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing, Role modeling, Answering Drug Information Requests (PHPR 606)	Subjective observation, Pass/Fail, Written/Verbal quizzes
		b. Determine clinical significance of study results.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches	Subjective observation, Pass/Fail, Written/Verbal quizzes
		c. Design investigations of pharmacotherapy-related issues that use the scientific method.	PHPR 600 thru 690	Discussions, Readings, Literature searches	Subjective observation, Pass/Fail, Written/Verbal quizzes
		d. Analyze data collected in investigations of pharmacotherapy-related issues that use the scientific method.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Problem solving	Subjective observation, Pass/Fail, Written/Verbal quizzes
		e. Assess the utility and accuracy of a response to a drug information request and the impact of the response on pharmaceutical care.	PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches	Subjective observation, Pass/Fail, Written/Verbal quizzes
		f. Evaluate the results of primary literature studies within the context of an individual patient's concomitant disease state(s), social, educational, and economic status to make a recommendation.	PHPR 501/502 Case studies, Patient presentations,	PBL cases	Anchor scale rating, Total points
			PHPR 550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Data gathering, Readings, Literature searches, Case studies	Subjective observation, Pass/Fail, Written/Verbal quizzes

		g. Provide inservice education to physicians, nurses, and other health care professionals.	PHPR 600 thru 690	Discussions, Data gathering, Role playing, Role modeling, Presentation Direct observation	Subjective observation, Pass/Fail, Written/Verbal quizzes
		h. Provide pharmacologic and non-pharmacologic education to patients.	PHPR 411/412	Prescription, Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription, Simulations, Computer Simulations	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Role playing	Anchor scale rating, Subjective observations, Total points
			PHPR 600 thru 690	Discussions, Data gathering, Role playing, Role modeling, Direct observation	Subjective observation, Pass/Fail, Written/Verbal quizzes

Standard	Level	Attribute	Course Identifier	Instrument	Faculty Level Assessment
V. Critical Thinking - The student shall find, understand, analyze, evaluate, and synthesize information and shall make informed, rational, and ethical decisions.	1 - Understand critical-thinking processes and apply them at basic levels.	a. Systematically gather and generate relevant information (e.g., read, listen, observe, recall, reflect).	BIOL 301/302	Multiple choice, case studies, lab worksheets, lab experiments	Percentage, subjective observation, total points
			PHCH 320	Short answer, essay	Percentage
			PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	PBL cases, Quizzes, Case studies, Patient presentations	Anchor scale rating, Percentage, Total points
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 540/550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Role playing, Role modeling, Data gathering, Problem solving, Answering Drug Information Requests (PHPR 606)	Subjective observation
		b. Use appropriate technology to assist in the processing of information.	BIOL 301	Lab experiments	Subjective observation
			PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Quizzes, Direct observations	Anchor scale rating, Subjective observations, Total points, Percentage
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 540/550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Role playing, Role modeling, Answering Drug Information Requests (PHPR 606)	Subjective observation, Pass/Fail, Written/Verbal quizzes
		c. Analyze information by summarizing, identifying principles of organization; by identifying the relationships between premises and conclusions; by distinguishing facts, inferences, theories, opinions; and by identifying assumptions	BIOL 301	Lab experiments, lab worksheets	Subjective observation, total points
			PHCH 320	Short answer, essay	Percentage
			PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage

		assumptions.	PHPR 501/502	PBL cases	Total points
			PHAD 424	Multiple Choice	Percentage
			PHPR 540/550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Answering Drug Information Requests (PHPR 606)	Subjective observation
		d. Assess accuracy, fairness, significance, relevance, completeness, and persuasiveness of information and its sources.	PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502 Case studies, Patient presentations,	PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 540/550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Answering Drug Information Requests (PHPR 606)	Subjective observation
		e. Synthesize information and create a solution, hypothesize, draw conclusions, conjecture alternatives, or decide a course of action.	BIOL 401	Lab worksheets, Lab experiments	Total points, Subjective observation
			PHCH 424	Short answer, essay	Percentage
			PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	PBL cases, Case studies, Patient presentations	Anchor scale rating, Total points
			PHAD 424	Multiple Choice	Percentage
			PHPR 521/522/523/524	Multiple choice, T/F tests	percentage
			PHPR 540/550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Problem solving, Journal Clubs, Reference Reviews	Subjective observation
		f. Identify one's own assumptions, biases, and prejudices relevant to the issue.	PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage

			PHPR 501/502	PBL cases	Total points
			PHAD 424	Multiple Choice	Percentage
			PHPR 540/550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches	Subjective observation
		g. Evaluate the conclusion according to identified criteria.	BIOL 351/352	Case studies, lab worksheets, lab experiments	Subjective observation, total points
			PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 540/550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Discussions, Journal Clubs, Answering Drug Information Requests (PHPR 606)	Subjective observation
		h. Provide support for arguments, solutions, and results.	BIOL 45	Lab worksheets, lab experiments	Total points, subjective observation
			PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations., PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHPR 540/550	Case discussion, simulations, M/C, essay exams and project	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Problem solving	Subjective observation

	2 - Identify and analyze ideas and problems of increasing complexity, generate defensible solutions, and establish criteria for evaluation of solutions..	a. Employ more sophisticated methods for discovery and analysis of information, including statistical analyses, probability studies application, and advanced electronic information searching and processing.	PHCH 320	Short answer, essay	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 540	Case Discussion, M/C, essay exams	Percentage
			PHPR 550	Case Discussion, M/C, essay exams	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Receiving and Answering Drug Information Requests (PHPR 606)	Subjective observation
		b. Develop interdisciplinary approaches to problem analysis.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Receiving and Answering Drug Information Requests (PHPR 606)	Subjective observation
		c. Test one's own assumptions, biases, values, and prejudices relevant to the issue.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 502	Case discussion, Service Learning, Mini-essay	Percentage
			PHAD 540	Case Discussion, M/C, essay exams	Percentage
			PHPR 550	Case Discussion, M/C, essay exams	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing, Problem solving, Receiving and Answering Drug Information Requests (PHPR 606), Presentations	Subjective observation
		d. Identify realistic outcomes.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHAD 540	Case Discussion, M/C, essay exams	Percentage

			PHPR 550	Case Discussion, M/C, essay exams	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing, Problem solving, Portfolios, Answering Drug Information Requests (PHPR 606), Written Assignments	Subjective observation
		e. Construct criteria for evaluation of chosen solutions.	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHAD 540	Case Discussion, M/C, essay exams	Percentage
			PHPR 550	Case Discussion, M/C, essay exams	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing, Problem solving	Subjective observation
	3 - Make decisions regarding complex problems that require an integration of one's ideas and values within a context of scientific, social, cultural, and ethical issues.	a. Situate problems and solutions within appropriate social, scientific, cultural, intellectual, and ethical contexts.	PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Role playing	Anchor scale rating, Total points, Subjective observation
			PHAD 502	Case discussion, Service Learning, Mini-essay, M/C exams	Percentage
			PHAD 540	Case Discussion, M/C, essay exams	Percentage
			PHPR 550	Case Discussion, M/C, essay exams	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing	Subjective observation
		b. Articulate specific criteria for determining success or failure of solutions.	PHPR 303/304	Prescription Simulations, Computer Simulations	Percentage
			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Role playing	Anchor scale rating, Total points, Subjective observation
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHAD 540	Case Discussion, M/C, essay exams	Percentage
			PHPR 550	Case Discussion, M/C, essay exams	Percentage

	PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing, Problem solving	Subjective observation
c. Display openness to new ideas and a tolerance for ambiguity and incompleteness.	PHPR 403/404	Prescription Simulations, Computer Simulations	Percentage
	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
	PHPR 501/502	Case studies, Patient presentations, PBL cases, Role playing	Anchor scale rating, Total points, Subjective observation
	PHPR 521/522/523/524	Case studies	Subjective observation
	PHAD 540	Case Discussion, M/C, essay exams	Percentage
	PHPR 550	Case Discussion, M/C, essay exams	Percentage
	PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing, Direct observation	Subjective observation
d. Identify approaches to modify solution implementation	PHPR 403/404	Prescription Simulations, Computer Simulations	Percentage
	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
	PHPR 501/502	Case studies, Patient presentations, PBL cases, Role playing	Anchor scale rating, Total points, Subjective observation
	PHPR 521/522/523/524	Case studies	Subjective observation
	PHAD 540	Case Discussion, M/C, essay exams	Percentage
	PHPR 550	Case Discussion, M/C, essay exams	Percentage
	PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing	Subjective observation
e. Modify solutions when monitoring indicates a need.	PHPR 403/404	Prescription Simulations, Computer Simulations	Percentage
	PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
	PHPR 501/502 Case studies, Patient presentations	PBL cases	Anchor scale rating, Total points
	PHAD 540	Case Discussion, M/C, essay exams	Percentage
	PHPR 550	Case Discussion, M/C, essay exams	Percentage
	PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing, Problem solving, Direct observation	Subjective observation
f. Prioritize problems based on identifiable criteria or standards	PHPR 403/404	Prescription Simulations, Computer Simulations	Percentage

			PHPR 411/412	Prescription Simulations, Computer Simulations	Percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Role playing	Anchor scale rating, Total points, Subjective observation
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHAD 424	Multiple Choice	Percentage
			PHAD 540	Case Discussion, M/C, essay exams	Percentage
			PHPR 550	Case Discussion, M/C, essay exams	Percentage
			PHPR 600 thru 690	Discussions, Readings, Literature searches, Role playing, Problem solving, Case studies	Subjective observation

Standard	Level	Attribute	Course Identifier	Instrument	Faculty Level Assessment
VI. Communication - The student shall read, write, speak, listen and use data, media and computers to communicate effectively with various audiences for a variety of purposes.	1 - Demonstrate basic communication skills and assess the quality of one's communication performance in situations involving reading, listening, writing, speaking, aesthetic forms of communication (e.g. literature, art, theater, music) and use of data, media, and computers.	a. Write and speak accurately and clearly during communications with peers and teachers.	PHPR 303 304	Project, Presentation, mock seminar, role play	Point System
			PHPR 412	Project, Presentation, mock seminar, role play	Point System
			PHAD 436	Project, Presentation, mock seminar, role play	Point System
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 502	Group projects, class presentations	Objective observation
			PHPR 514	Project, Presentation, mock seminar, role play	Point System
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Direct observation	Subjective observation
		b. Use data, media, and computers to assist in communications with peers and teachers.	PHPR 303 304	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects	percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 502	Group projects, class presentations	Objective observation
			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		c. Interpret ideas, thoughts, and feelings communicated through reading. Identify personal strengths, weaknesses, barriers, and preferences in all modes of communication.	PHPR 303 304	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects	percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation

		d. Identify the basic components of conflict resolution.	PHPR 303/304	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects,	percentage
			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation

	2 - Demonstrate improvement in basic communication skills and exhibit creativity in communication situations through the use of reading, listening, writing, speaking, aesthetic forms of communication, and use of data, media, and computers.	a. Use writing, speaking, data, and media creatively to convey convincing messages.	PHCH 320	Short answer, essay	Percentage
			PHPR 303/304	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects	percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases, Role playing	Anchor scale rating, Subjective observations, Total points
			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		b. Use computer technology creatively to convey information and proposals in narrative, graphic, and tabular modes.	PHPR 303/304	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects	percentage
			PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		c. Given a specific situation describe the best mechanism for conflict resolution.	PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
	3 - Communicate effectively using a variety of methods (i.e. reading, listening, writing, speaking, aesthetic forms of communication, and the use of data, media, and computer skills) and with a variety of target audiences.	a. Choose communication methods appropriate to the purpose of the interaction.	PHPR 303/304	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects	percentage
			PHPR 501/502	Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 424	Multiple Choice	Percentage
			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation, Verbal/written quizzing

		b. Choose communication methods appropriate to the needs/desires of the target audience.	PHPR 403/404	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects	percentage
			PHPR 501/502	Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 424	Multiple Choice	Percentage
			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation, Verbal/written quizzing
		c. Choose communication methods that are sensitive to the cultural background of the target audience.	PHPR 403/404	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects	percentage
			PHPR 501/502	Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation, Verbal/written quizzing
		d. Write, read, listen, speak and use data, media, aesthetic forms of communications and computers during communications effectively in a variety of contexts.	PHPR 403/404	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects	percentage
			PHPR 501/502	Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		e. Interpret ideas, thoughts and feelings communicated through reading, listening, aesthetic forms of communication, data, media, and computers with sensitivity to the cultural background of the sender.	PHPR 403/404	Presentation, mock seminar, role play, Projects	percentage
			PHPR 412	Presentation, mock seminar, role play, Projects	percentage
			PHPR 501/502	PBL cases	Total points

			PHPR 514	Presentation, mock seminar, role play, Projects	percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		f. Use conflict resolution when managing human resources.	PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation

Standard	Level	Attribute	Course Identifier	Instrument	Faculty Level Assessment
VII. Law, Ethics and Professionalism - The student shall articulate the influence of values on ideas and actions and shall demonstrate the ability and inclination to take responsibility for ethical conduct in personal and professional settings. The student shall demonstrate the ability and inclination to learn on one's own, to pursue new knowledge, to self-assess, to respond appropriately to assessment by others, and to modify one's ideas in light of new discoveries.	1 - Recognize the role of values in personal and professional interactions. Maximize learning through the use of effective personal learning strategies.	a. Identify which values influence one's own behavior in social and professional settings.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 412	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 502	Service Learning, mini-essay	Percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		b. Identify which values influence the behavior of other individuals and groups in social and professional settings.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 412	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 521/522/523/524	Case studies, Multiple choice, T/F tests	Subjective observation, percentage
			PHAD 502	Service Learning, Written report	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		c. Describe the process by which values influence behavior in social and professional settings.	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 412	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 502	Class Discussion, M/C exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		d. Describe how values inform and are conveyed by artistic works and sociocultural activities.	PHPR 600 thru 690	Discussions	Subjective observation
		e. Describe how values influence scientific investigation and the development of technology.	PHPR 550	Case discussion, M/C, essay exams	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		f. Articulate the values that have been adopted by one's profession (e.g., honesty, justice, empathy).	PHAD 310	Introductory Performance Objectives, M/C Exams	Percentage
			PHPR 411/412	Role play exercises, Direct faculty feedback	Subjective observation

			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 502	Case Discussion, Mini-essay	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		g. Articulate the values that underlie the concept of pharmaceutical care (e.g., altruism, compassion, empathy, autonomy).	PHAD 511	Introductory Performance Objectives M/C Exams	Percentage
			PHPR 411/412	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		h. Display an appreciation/ respect for the legal system.	PHAD 511	Introductory Performance Objectives M/C Exams	Percentage
			PHPR 411/412	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		i. Articulate a personal approach to learning, including time management strategies, optimal locations for study, and utilization of available instructional resources.	PHPR 600 thru 690	Discussions	Subjective observation
		j. Identify strengths and weaknesses within one's personal approach to learning.	PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		k. Formulate strategies to address identified weaknesses in one's approach to learning.	PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation

		a. Describe the strengths and weaknesses of the major ethical theories.	PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		b. Use key ethical principles in the resolution of ethical dilemmas (e.g., autonomy. beneficence, non-malficence, justice, honesty).	PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		c. Relate personal and professional values to the process of ethical decision making.	PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		d. Articulate the reasons that specific values have been adopted by one's profession.	PHAD 424	Introductory Performance Objectives MC Exams	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
	2 - Evaluate personal and professional conduct according to ethical theories and principles. Improve personal performance through assessments by self and others.	e. Display professionalism in the classroom.	PHAD 424	Introductory Performance Objectives MC Exams	Percentage
			PHPR 411/412	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 501/502	Direct observations	Subjective observation
			PHAD 502	Group Project, Class presentation	Subjective observation
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 521/522/523/524	Direct observation	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		f. Interpret assessment feedback to identify own areas of strengths and areas needing refinement or remediation.	PHPR 411/412	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		g. Self assess the effectiveness of learning performance.	PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		h. Formulate strategies to address performance areas in need of refinement or remediation.	PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		i. Initiate action to correct identified errors or learning difficulties without prompting.	PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
	3 - Adopt or construct ethical principles and use them as a guide for one's actions. Complete learning activities on	a. Employ ethical principles and a systematic decision making process to resolve ethical dilemmas within complex	PHPR 411/412	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation

	Complete learning activities on an ongoing basis for personal and professional development based upon self-determined areas of deficiency and/or interest.	personal, societal, and professional situations.	PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		b. Habitually exhibit the values that underlie the concept of pharmaceutical care (e.g., altruism, compassion, empathy, autonomy).	PHPR 411/412	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 501/502	Discussions	Subjective observation
			PHAD 424	Multiple Choice	Percentage
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		c. Display professionalism in pharmacy practice.	PHPR 501/502	Discussions	Subjective observation
			PHAD 410	Introductory Performance Objectives M/C Exams	Percentage
			PHPR 411/412	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		d. Regularly self-assess learning needs for ongoing personal and professional growth.	PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		e. Describe postgraduate opportunities for ongoing personal and professional learning.	PHAD 410	Introductory Performance Objectives M/C Exams	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		f. Explain the necessity of lifelong learning to maintain professional competence and personal growth.	PHAD 410	Introductory Performance Objectives M/C Exams	Percentage
			PHCH 430	Written/published CE lessons	Total points
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		g. Engage in learning activities without prompting on a regular ongoing basis for personal or professional development.	PHPR 501/502	Discussions	Subjective observation
			PHPR 521/522/523/524	Direct observation	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation

Standard	Level	Attribute	Course Identifier	Instrument	Faculty Level Assessment
VIII. Social Awareness - The student shall demonstrate an understanding of self, the strengths and challenges of cultural diversity and the historic responses of society in times of rapid change. The student shall demonstrate effective interpersonal and intergroup behaviors in a variety of situations and circumstances.	1 - Explain differences of opinion and approach in social, cultural, historical, economic, political and scientific issues in a given society. Identify interaction behaviors that are essential for maximum personal effectiveness in interpersonal, intergroup and leadership situations.	a. Explain differences in ideas, beliefs, aesthetics and values found in various historical periods and societies including how they evolved.	PHPR 600 thru 690	Discussions	Subjective observation
		b. Describe the major ideas, beliefs, aesthetics and values associated with various subcultures within one's own contemporary society.	PHPR 600 thru 690	Discussions	Subjective observation
		c. Describe one's own social, cultural, historical, economic and political background.	PHAD 502	Self-assessment	Credit/no credit
			PHPR 600 thru 690	Discussions	Subjective observation
		d. Describe the major institutions and processes of the American system of government and the economic system in which it is practiced.	PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		e. Identify personal interaction behaviors and those of others in interpersonal, intergroup and leadership situations.	PHPR 501/502	Presentations, Direct observations, PBL cases	Anchor scale rating, Subjective observations
			PHAD 502	Group projects	Credit/no credit
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		f. Evaluate the appropriateness of personal interaction behaviors and those of others in interpersonal, intergroup and leadership situations.	PHPR 501/502	Presentations, Direct observations, PBL cases	Anchor scale rating, Subjective observations
			PHAD 502	Group projects	Credit/no credit
			PHPR 521/522/523/524	Case studies	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		g. Provide feedback to increase the effectiveness of others in interpersonal, intergroup and leadership situations.	PHPR 303/304	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 411/412	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 501/502	PBL cases	Subjective observations
			PHAD 502	Group projects	Credit/no credit
			PHAD 514	Role play exercises, Direct faculty feedback	Subjective observation
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation

	2 - Explain how social, historical, economic, political and scientific issues affect human behavior and events. Function effectively in interpersonal, intergroup and leadership situations.	a. Explain how differences in approach to social, cultural, economic, political and scientific issues among people can affect every day behavior.	PHAD 502	Class discussion. Mini-essay	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		b. Explain how differences in approach to social, cultural, economic, political and scientific issues among people can affect the delivery and acceptance of health care.	PHPR 521/522/523/524	Case studies	Subjective observation
			PHAD 502	Class discussion. Mini-essay	Percentage
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions	Subjective observation
		c. Describe the impact of historic social, cultural, economic, political and scientific events on the evolution of contemporary pharmacy practice.	PHPR 521/522/523/524	Case studies	Subjective observation
			PHPR 600 thru 690	Discussions	Subjective observation
		d. Use appropriate interaction behaviors in interpersonal, intergroup and leadership situations.	PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		e. Assess peers according to defined criteria.	PHPR 501/502	Presentations	Anchor scale rating
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		f. Employ feedback from others to enhance personal effectiveness in interpersonal, intergroup and leadership situations.	PHPR 501/502	Presentations	Anchor scale rating
			PHAD 502	Group project	Credit/no credit
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		g. Contribute opinions, insights, information and leadership assertively and appropriately during group decision-making situations.	PHPR 501/502	Presentations	Anchor scale rating
			PHAD 502	Group project	Total points
			PHAD 424	Group Project	Scoring Rubric
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		h. Assume leadership positions in campus matters that involve human health and concerns that are not health-related.	PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation

	3 - Adapt professional practice to a changing society and changing societal expectations for pharmacists. Apply personal interaction behaviors within professional and civic situations.	a. Render high quality pharmaceutical care that takes into account relevant differences in cultural, social, economic political and scientific viewpoints between the provider and the patient.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHAD 502	Class discussion	Credit/no credit
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		b. Advocate improved professional approaches to meet the pharmacy-related needs of society and individual patients based upon critical analysis of the social, cultural, historical, economic and political significance of the pharmacy profession's societal contributions.	PHAD 502	Class discussion	Credit/no credit
			PHAD 424	Multiple Choice	Percentage
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation
		c. Use appropriate interpersonal and intergroup behaviors during professional interactions with patients, other health care providers and the public.	PHPR 501/502	Case studies, Patient presentations, PBL cases, Direct observations, Role playing	Anchor scale rating, Subjective observations, Total points
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		d. Adapt interpersonal and intergroup behaviors to differing professional environments.	PHPR 501/502	PBL cases, Role playing	Subjective observations, Total points
			PHPR 600 thru 690	Discussions, Demonstration Role playing	Subjective observation
		e. Contribute opinions, insights, information and leadership assertively and appropriately during the health care team decision-making process.	PHPR 501/502	Case studies, Patient presentations, PBL cases	Anchor scale rating, Total points
			PHPR 600 thru 690	Discussions, Demonstration, Role playing, Direct observation	Subjective observation
		f. Assume leadership positions in community matters that involve human health and civic concerns that are not health-related.	PHAD 502	Class discussion	Credit/no credit
			PHPR 600 thru 690	Discussions, Demonstration, Role playing	Subjective observation

Student Evaluation of College of Pharmacy Curriculum

Course Number and Title: _____ **Date:** _____

The Curriculum Committee requests your assistance in evaluating this course for content. In other words, the committee is concerned as to whether **all listed topics in the course outline/syllabus** received adequate instructional coverage. This evaluation is **strictly limited to content** and any remarks concerning instructional methods or other issues will **not** be considered. Please record your answers to the numbered questions (1 through 5) on the IBM answer sheet provided. Answer A = Yes, B = No, and for question 5, C = Not applicable.

1. Did the instructor(s) cover the material listed in the course outline/syllabus through **lecture, assigned readings or use of other media** such as video or computed aided instruction? (see attached outline/syllabus)

   ☐ Yes (A) ☐ No (B)
   If **no**, what topics were **not** covered?

2. Was there any **additional material** presented beyond that listed in the course outline/syllabus?

   ☐ Yes (A) ☐ No (B)
   If **yes**, please list the additional material.

3. Were **examinations** consistent with the topics presented through **lecture, assigned readings or other instructional methods**?

   ☐ Yes (A) ☐ No (B)
   If **no**, please explain.

4. Are the **topics** presented in this class **unnecessarily duplicated** in other classes?

   ☐ Yes (A) ☐ No (B)
   If **yes**, please list the **topics and class** in which they are repeated.

5. Are the **topics** presented in this course **reasonably coordinated** with similar material in other courses taken as prerequisites or concurrently?

   ☐ Yes (A) ☐ No (B) ☐ Not applicable (C)
   If **no**, please explain.

If you wish to offer any **suggestions** to the Curriculum Committee pertaining to **course content**, please do so on the back of this sheet.

Faculty Response to Course Evaluation – College of Pharmacy Curriculum

This form is to be completed by the faculty subsequent to receiving student evaluation of the course which included comments and suggestions.

Date: _____

Course Number and Title: _____ **Instructor:**

1. What topics in the attached course syllabus were not covered?

2. Please explain why these topics were not covered.

3. What additional topics not listed in the syllabus were covered?

4. Please explain why these additional topics were included in the course.

5. Will the additions/deletions be made on a permanent basis?

   ☐ Yes ☐ No

   If yes, please provide the Curriculum Committee with a revised outline.

6. Feel free to provide the Curriculum Committee with any additional comments you would like to make regarding constructive student input in the course evaluation.

FSU College of Pharmacy

Enrollment Trends

	2000	2001	2002	2003	2004
Michigan Students	95 (79%)	99 (82%)	111 (92%)	115 (88%)	128 (90%)
Non-MI Students	25 (21%)	21 (18%)	9 (8%)	15 (12%)	14 (10%)
Foreign Students	18 (15%)	11 (9%)	3 (2%)	9 (7%)	8 (6%)
Top Feeder College	LSSU & MSU 6 each	Grand Rapids Comm College 10	Central Michigan University 9	Grand Valley State University 9	Grand Valley State University 11
BS Degree	19 (16%)	17 (14%)	22 (18%)	20 (15%)	28 (20%)
MS/MA Degree	0	1	0	0	0
Ph.D. Degree	0	0	0	0	3 (2%)
Male	38 (32%)	47 (39%)	54 (45%)	52 (40%)	65 (46%)
Female	82 (68%)	73 (61%)	66 (55%)	78 (60%)	77 (54%)
Age: Average Range	22.3 19 – 36	23.3 19 – 51	23.7 18 – 49	22.4 19 – 44	23.8 19 – 49
Race:					
White	100 (83%)	100 (83%)	98 (82%)	104 (80%)	113 (80%)
Asian or Pacific Islander	16 (13%)	15 (13%)	5 (4%)	8 (6%)	9 (6%)
Black or African Amer.	4 (3%)	5 (4%)	2 (2%)	1 (1%)	0
Native American	0	0	2 (2%)	1 (1%)	0
Not specified	0	0	12 (10%)	16 (12%)	20 (14%)

* The PCAT % figures are percentiles.

† The first percentage = FSU Admits/Total Admits. The second percentage = FSU Admits/ FSU Qualified Applicants.

FSU College of Pharmacy

Enrollment Trends

	2000	2001	2002	2003	2004
Total Applicants	409	365	510	689	739
Qualified	232	221	315	471	574
Admitted	120	120	120	130	142
GPA	3.26	3.28	3.46	3.54	3.61
Range	2.5 – 4.0	2.5 – 4.0	2.7 – 4.0	2.6 – 4.0	3.0 – 4.0
Chemistry	3.09	3.10	3.34	3.43	3.48
Biology	3.17	3.30	3.49	3.56	3.68
Math	3.26	3.27	3.36	3.51	3.64
Internal GPA	3.33	3.25	3.56	3.53	3.61
External GPA	3.22	3.29	3.41	3.54	3.61
PCAT*	212 (73%)	208 (65%)	216 (79%)	220 (83%)	221 (84%)
Range	158 – 249	163 – 256	181 – 260	175 – 269	185 – 285
Chemistry	216 (70%)	214 (68%)	223 (86%)	229 (91%)	230 (92%)
Biology	215 (65%)	210 (60%)	213 (69%)	223 (80%)	223 (80%)
Math	211 (61%)	212 (61%)	218 (75%)	224 (81%)	220 (77%)
Verbal	208 (56%)	202 (51%)	215 (67%)	209 (61%)	215 (67%)
Reading	208 (62%)	204 (55%)	212 (69%)	215 (74%)	213 (71%)
Internal PCAT	215	215	218	221	220
External PCAT	210	206	215	219	222
FSU Qualified Apps	47 (20%)	46 (21%)	85 (27%)	97 (21%)	112 (20%)
FSU Students Admits†	40 (33/85%)	33 (28/72%)	39 (32/46%)	41 (32/42%)	56 (39/50%)
Honors Stud Admits	20 (17%)	12 (10%)	20 (17%)	27 (21%)	26 (18%)
External Stud Admits	80 (67%)	87 (72%)	81 (68%)	89 (68%)	86 (61%)
Comm College Admits	20 (17%)	57 (48%)	34 (28%)	37 (28%)	32 (23%)

	Class of 2000	Class of 2001	Class of 2002	Class of 2003	Class of 2004	Totals
Initial Admits	120	120	120	130	(142)	490
Added from previous class	2	28	13	2 + 5	2	52
Dropped/Dismissed	-6	-7 – 9	-2 - 8	-1 - 3	0	-36
Class Attrition Rate	12.3%	8.3%	6.7%	2.3%		7.3%
Remediators	-28	-13	-2 - 5	-2	0	51 + 2
Transfer Students	0	0	1	0	0	1
Standard Track	70 (3.16 GPA)	56 (2.97 GPA)	68 (2.67 GPA)	75 (2.73 GPA)	n/a	
Accelerated Track	18 (3.04 GPA)	63 (2.93 GPA)	49 (2.98 GPA)	56 (2.95 GPA)	n/a	
Total	88 (3.13 GPA)	119	117	131	(144)	455
Graduated	18+ 70	0	0	0	0	88
Currently Enrolled	0	100 + 19	108 + 9	125 + 1 + 5	(142 + 2)	367

Retention and GPA Comparison

	First Professional-Year Enrollment			Total School Enrollment	Residency of Entering Students			Mean GPA	Age Range	Application to Enrollment Ratio
	Male	Female	Total		In-State	Out-of-State	Foreign			
Ferris State	52 (40%)	78 (60%)	130	439	115 (88%)	6 (4.6%)	9 (6.4%)	3.53	19-45	5.3:1
National Average*	39 (33%)	80 (67%)	119	479	90 (76%)	26 (22%)	2 (1.5%)	3.46	16-61	4.6:1

*Source: AACP

FSU vs National Average

College of Pharmacy
Department of Pharmaceutical Sciences
Proposed Faculty Workload Policy

Governing Documents and Assumptions

Sections I and II detail the workload policy for the faculty in the Department of Pharmaceutical Sciences in the College of Pharmacy.

SECTION I

1. Section 7, WORKING CONDITIONS, of the 2002 – 2006 FSU/FFA Contract in subsection 7.1A, Professional Responsibilities, recognizes that: "The primary professional responsibilities of members are teaching and the provision of counseling, library, and other educational services."

2. Subsection 7.1B states that: "Further, members of the bargaining unit have professional responsibilities which may include advising students; orientation; registration of students; participation in University committees; keeping regular posted office hours, which are scheduled at times convenient for students; and participation in traditional functions which have academic significance. Members shall not be asked to spend an excessive or unreasonable amount of time on such services."

3. Subsection 7.1C, states that: "The nature of FSU as an educational institution is such that the performance of teaching faculty duties extends beyond classroom responsibilities and cannot be restricted to a fixed amount of time or points in time. Therefore, this Agreement shall not be construed either to require a specific number of hours of service to the University, nor to give any member the right to additional compensation based on the number of hours of service performed, except as elsewhere provided in this Agreement."

4. Subsection 7.1D, includes the following: "Subject to the satisfactory performance of academic and/or professional duties, members may engage in other activities for financial consideration that do not conflict with professional duties, providing, however, that prior permission to engage in duties that might reasonably impinge upon professional and/or academic duties is first obtained."

5. Section 7.2, Workload, in subsection 7.2.A.1.b.iii (a) defines twenty-four (24) semester credit hours per academic year as a standard workload and that it is equivalent to thirty-six (36) contact hours or seven hundred twenty (720) student contact hours.

6. Subsection 7.2.A.1.b.iii (b) allows for the inclusion of "Occupational and professional standards for the discipline, course content, course difficulty, class size, course development, program coordination, research and other relevant factors." in determining workload policies.

7. The professional nature of the program and the terminal degree status of the faculty, recognize that workload calculations must also allow for professional service, scholarship (discovery, integration, application and teaching) and other professional duties. In addition, it should be recognized that the pharmacy program is unique because of the accelerated program, which requires double teaching of required courses in the summer, offering of summer electives and summer remediation as necessary for student progression.

8. In accordance with other academic units on campus, graduate/professional credits are weighted as 4/3 credit hours.

9. The mission of the College of Pharmacy, in conjunction with accreditation standards, requires unique expertise among some faculty members resulting in a reduced teaching component.

10. It is the responsibility of the administration in the College of Pharmacy to assign workload in an equitable fashion based on expertise and in accordance with this document. A faculty member shall not be held responsible for not reaching the standard teaching workload under certain conditions such as:

    a. Circumstances beyond their own control (example: cancellation of course offering).

    b. During the first year of employment.

    c. When the faculty member elects Reduced Work Load Status in accordance with Section 16 – REDUCED WORK LOAD STATUS FOR FACULTY of the FSU/FFA Contract.

SECTION II – Factors for Calculation of Workload

1. A standard of 720-820 student contact hours equivalents (SCHEs) will be the teaching workload units generated per year by each member in the Department.

2. Didactic/Recitation teaching workload units will be calculated as follows:
   SCHE = # students x # credits x fraction taught x 4/3

3. Laboratory workload units will be calculated as follows:
   SCHE = # students x # credits x fraction taught x 2.5 [Note – this reflects the more hands-on nature of a laboratory course.]

4. Any course whose enrollment is less than 20 will be calculated as follows:
   SCHE = (20) x # credits x fraction taught x 4/3

5. Independent study workload units will be calculated as follows. SCHE = # of students x credits x fraction taught x 2.5 [Note – this reflects the more hands-on nature of an independent study.]

6. Faculty members whose student contact hour equivalents total more than 820 annually shall receive overload pay in accordance with past practices as allowed under Section 18 – OVERLOAD, of the 2002-2006 FSU/FFA Contract.

7. In the event that a faculty member is asked to teach courses that are not a part of their permanently assigned teaching load, which could occur in the event of a sabbatical or illness, the faculty member shall receive overload for those lectures taught even if their teaching load does not exceed the established 820 student contact hour equivalents.

8. Because of certain unique factors, a faculty member may volunteer to teach a combination of lectures and labs that exceeds 820 annual student contact hour equivalents without it being considered an overload.

9. In the event that a specialty group's combined annual workload is 410 student credit hour equivalents above 820 student contact hour equivalents base per member, the department head shall initiate a request for an additional faculty position in that specialty group.

10. For team-taught courses, the faculty course coordinator will allocate the faculty teaching percentages to represent their own involvement in syllabus development; examination writing, coordination, grading; course coordination and classroom monitoring time. This may mean the allocation of percentages may not be based simply on the number of lectures or labs.

11. In certain situations where activities beyond teaching require a large commitment of time, faculty may add the time spent working on these activities to their workload in agreement with the Department Head and with consultation of their specialty group. Any such adjustment must be proportional to the actual time commitment of the activity.

12. This policy will be reviewed by the Department Faculty after the first year and subsequently thereafter every two years; or upon ratification of a new Union contract. This review will occur at the end of the academic year. Changes require approval by a majority of the Department Faculty as well as the appropriate Administrative approval.

Effective date: 2003-2004 academic year

FERRIS STATE UNIVERSITY
COLLEGE OF PHARMACY

PHARMACY PRACTICE DEPARTMENT

Policy Governing Faculty Workload
-Adopted November 19, 2003-

The following policy is developed by the Pharmacy Practice Department to further delineate the assignment and calculation of workload as outlined in sections 7.1 and 7.2 of the 2002 FFA/FSU Agreement (hereafter referred to as "Agreement"). The Pharmacy Practice Department has established the following policy to govern all workload assignments and discussions within the Department.

SECTION I – Principles and Assumptions

1. Instruction in didactic and experiential coursework, in conjunction with development and maintenance of supporting clinical practices, is the principle mission of the Department and its Faculty. Additionally, a sustained record of scholarly activity and service is a required component of each faculty member's continual development as a tenure-track/tenured faculty member within the Department and the College.
2. Section 7.2.A.1.b.iii (a) of the Agreement defines twenty-four (24) semester credit hours per academic year, excluding summer, as a standard workload while recognizing the differences that exist between the Colleges and between departments within Colleges. For equivalency purposes, 24 semester hours is equivalent to thirty-six (36) contact hours or seven hundred twenty (720) student credit hours.
3. Section 7.2.A.1.b.iii (b) of the Agreement further allows for the inclusion of "Occupational and professional standards for the discipline, course content, course difficulty, class size, course development, program coordination, research and other relevant factors" in determining workload practices and policies.
4. Workload policy has been developed in a manner consistent with the FFA/FSU Agreement, with consideration of the accreditation guidelines developed by the American Council on Pharmaceutical Education which clearly state that "The faculty/student ratio for the professional experience area of the curriculum in pharmacy should be adequate so as to provide individualized instruction, guidance, and evaluative supervision by pharmacy faculty. Important factors to be considered to assure these goals are the number of students each faculty member is assigned during the Introductory Pharmacy Practice Experiences, and, particularly, during the Advanced Pharmacy Practice Experiences, the nature of the practice setting, and the character of instructional delivery." Further, the Pharmacy Practice Department recognizes the absolute importance of supervision and assessment of students' clinical interventions to ensure patient safety and accurate dissemination of drug information.
5. Workload calculations should reflect a "graduate/professional" factor of 4/3 for all courses in the doctor of pharmacy curriculum.
6. The guidelines provided in the Agreement, although of use in performing workload calculations for conventional didactic courses, fail to recognize the unique

responsibilities of the Pharmacy Practice faculty that include both didactic instruction, often in team-taught courses, and extensive responsibilities for clinical instruction and maintenance of a clinical practice.

7. In general, workload within the Department will be evenly distributed among all members. It is recognized however, that in some cases a unique expertise may be required that will result in reduced or expanded teaching responsibilities, deviating from the Department's norm.
8. Course assignments will be based on the practice interests and clinical expertise of the faculty and will be made, whenever possible, through a faculty developed selection process. In the event course coverage is not achieved through faculty selection, the Department Head will assign lecture/course responsibilities.
9. Adjunct faculty involvement, in didactic and experiential courses, will be sought when a unique perspective or practice expertise is required. These adjunct faculty members will be selected by the course coordinators and Department Head and will be reviewed regularly to ensure that all instructional standards are maintained.

SECTION II – Workload Calculations

1. **Didactic Instruction.** For the purposes of this policy, the **lecture hour** will be used in calculation of didactic workload data.
    a. **Lecture Hour calculations** – Consistent with calculations in other academic units, contact-hours generated in graduate/professional level courses will be calculated as follows:

    Lecture Hour = (lecture length (mins)/50 (mins)) X 4/3

    b. **Lectures** – Lecture hours will be calculated based on a 50-minute lecture period. Lectures delivered simultaneously via distance-learning technology to multiple sites will be considered a single lecture for the purposes of workload calculation.
    c. **Laboratory** – Calculation of workload for laboratory-based courses or laboratory-components of courses will consist of one-half of lecture hours in the laboratory period, recognizing the instructor's role as a *facilitator*, rather than *lecturer* in the laboratory course. Each laboratory section will be counted separately in calculating contact hours.
    d. **Course Coordination** – Course coordination is recognized as a significant responsibility. Lecture hours for coordination will derive from the tests scheduled for the course, with all testing credited to the course coordinator. In the event the course is offered without specified testing periods, the department head will determine credit for course coordination with input from the department faculty.
    e. **Annual Workload-Didactic Instruction** – Standard didactic workload for the Department is defined as a total of 32 lecture hours in a year. The workload will be modified during the first two years of appointment with 16 lecture hours standard in the first year and 24 lecture hours standard in the second year. In the third year of appointment, the faculty member will be responsible for a standard workload. For department members with a minimum of three years faculty experience prior to joining the College of Pharmacy, 16 lecture hours will be standard in the first year of appointment with 32 lecture hours standard in

subsequent years of appointment. Faculty members will select overload hours based on seniority within the Department. Additional policy relating to overload assignment and payment is outlined in the Agreement.

2. **Experiential Instruction.** For the purposes of this policy, **experiential hours** will be used in the calculation of experiential workload.
   a. Student contact hours will be calculated as follows:

1 Student Clerkship Month = 4 Student Credit Hours = 60 Contact Hours (X 4/3)= 80 Experiential Hours

   b. **Assignment of Advanced Pharmacy Practice Experiences (APPEs)** – Faculty members, in discussion with the Experiential Coordinator and the Department Head, will identify specific APPE's for which they will be responsible. APPE's precepted must reflect the specialized training and expertise of the faculty member. Adjunct faculty will be utilized to supplement APPE offerings when inadequate based on student demand.
   c. **APPE Calendar-Faculty** – Faculty will be responsible for instruction of APPE's during no more than ten (10) months each year.
   d. **Assignment of Students** – At no time will more than four students be assigned to the direct preceptorship of a single faculty member.
   e. **Annual Workload-Experiential Instruction** – Maximum workload for the Department will be defined as a total of 2880 experiential hours (144 student credit hours). The maximum workload will be modified during the first year of the appointment to 1440 experiential hours (72 student credit hours). Assignment of students will generally be delayed for 4-6 months following the appointment to allow for establishment of the clerkship and a supporting clinical practice.
3. **Annual Instructional Workload Totals.** Department members will be responsible for a standard workload that consists of **32 lecture hours (didactic)** and **2880 experiential hours** during a calendar year. Adjustments will be considered based on individual faculty member's expertise and responsibilities within the curriculum. This calculation will be used within the Pharmacy Practice Department; for University reporting purposes, the Student Credit Hour will be used as the reporting dimension.
4. **Advising.** Advising of students will be recognized as a component of workload, complementing standard didactic and experiential instruction activities. Faculty will be assigned student advisees and will be expected to contact the students on a regular basis, generally considered to be annually as a minimum.
5. **Scholarly Activities.** Scholarly activities will be recognized as a component of workload, complementing standard didactic and experiential instruction activities outlined above. Recognizing the wide range of scholarly activities engaged in by department members, each faculty member is required to maintain a professional portfolio that includes a description of their scholarly activities. This portfolio, or copies of portions of it, will be made available to the Department Head upon request.
6. **Service Activities.** Service activities will be recognized as a component of workload, complimenting standard didactic and experiential instruction activities as outlined above. Service activities will include activities related to clinical practice as well as professional service including service to the 1) College/University; 2) clinical practice site; 3)

profession, and 4) community. Each faculty member is required to maintain a professional portfolio that includes a description of their service activities. This portfolio, or copies of portions of it, will be made available to the Department Head upon request.

7. **Departmental Responsibilities**. Departmental responsibilities will include activities related to professional development (individual and department), faculty mentoring, College and Departmental Committees, student advising, and coordination responsibilities as assigned by the Department Head.

Library Services - Off -campus

Location/Practice Site	Student Access/Hours	Pharmacy Specific Journal Holdings	On-Line Searching Access	Journal/Test Holdings/Additional Comments
Grand Rapids Spectrum – Butterworth	Students on rotation have 24-hour access with badges. Other students may obtain 24-hour access through security. Staffing provided during open hours: Monday – Thursday 8:30 am – 8:00 pm; Friday 8:30 am – 5 pm	Pharmacy-related journals and resources are housed within the Pharmacy Offices. Reference texts are also located with the Pharmacy department. Some pharmacy specific journals and texts are also available in the library	Students access to the following databases is provided: ▪ Complete internet access ▪ OVID ✓ Medline ✓ All EBM reviews (Cochrane DSR, ACP Journal Club, DARE, CCTR) ✓ Healthstar ✓ CINAHL ✓ Psych Info ▪ Embase ▪ Science Direct ▪ FirstSearch ▪ Micromedex ▪ MD Consult ▪ NORD Rare Diseases ▪ Infotrac ▪ Harrison's Online ▪ Scientific American Medicine ▪ Stat Ref Document Delivery is provided if necessary.	~6,500 bound journals; ~320 current subscriptions; ~3,200 texts and references. A variety of patient resources are available at the Consumer Health Library.

Grand Rapids Spectrum – Blodgett	Students on rotation have 24-hour access with badges. Other students may obtain 24-hour access	Pharmacy-related journals and resources are housed within the Pharmacy	Students access to the following databases is provided: ▪ Complete Internet access ▪ PubMed

	through security. Staffing provided during open hours: Monday – Friday 8:30 am – 5:00 pm	Offices. Reference texts are also located with the Pharmacy department. Some pharmacy specific journals and texts are also available in the library	▪ OVID ✓ Medline ✓ All EBM reviews (Cochrane DSR, ACP Journal Club, DARE, CCTR) ✓ Healthstar ✓ CINAHL ✓ Psych Info ▪ Embase ▪ Science Direct ▪ FirstSearch ▪ Micromedex ▪ MD Consult ▪ NORD Rare Diseases ▪ Infotrac ▪ Harrison's Online ▪ Scientific American Medicine ▪ Stat Ref Document Delivery is provided if necessary
Grand Rapids St. Mary's Hospital	Student access provided around the clock. Staffing provided during open hours: Monday – Friday 8:00 am – 4:30 pm	Pharmacy-related journals and resources are housed in the pharmacy. Some pharmacy specific journals and texts are also available in the library. Micromedex is available on the intranet.	Student access to the following databases is provided: ▪ Complete Internet access ▪ Trinity Health Intranet ▪ Micromedex ▪ PubMed ▪ FirstSearch CINAHL ▪ NetLirbary (need Michigan driver's license) Document Delivery is provided if necessary
Kalamazoo KCMS Medical and Drug Information Center (MDIC)	Student access is provided Monday – Friday 9:00 am – 5 pm	Pharmacy-specific references are housed in the MDIC	Student access to the following databases is provided while in the MDIC: ▪ Complete Internet access ▪ Access to Ferris Databases Document Delivery is provided if necessary
Kalamazoo Bronson Methodist Hospital Health Sciences Library	Student access provided around the clock. Staffing available during open hours: Monday	Pharmacy-specific journals and some references are housed in the	Student access to the following databases: ▪ Complete Internet access ▪ PubMed

	– Friday 8:00 am – 5:00 pm	pharmacy resident area. Some specific holdings are located in the library. Micromedex available on the Hospital Mainframe	▪ MDConsult ▪ OVID ▪ STAT!Ref ▪ Cochrane Database ▪ Scientific American Medicine ▪ InfoTrack Health Information ▪ Micromedex Document Delivery is available through the National Library of Medicine

Library/Physical Resources
Current Pharmacy-Related Databases Accessible through FLITE

Academic Press IDEAL Journals (via ScienceDirect)	Lexis-Nexis Academic Universe
CINAHL	Lexis-Nexis Statistical Universe
Drug Facts & Comparisons	Medline
Health and Wellness Resource Center	
Health Reference Center	Natural Medicines Comprehensive Database
IDIS	STAT!Ref: Electronic Medical Library
International Pharmaceutical Abstracts	VisionNet

A complete listing of electronic databases accessible to Ferris authorized users can be found on the FLITE website at http://library.ferris.edu/alphabetical.html.

Library/Physical Resources
Current Computer Technologies Available to Students

Adaptive Technologies Lab	Library Tutorial
Borrowing Materials	Multimedia Equipment
Faxing Documents	Research Guides
Find a Periodical	Seminar & Conference Rooms
Interlibrary Loan	

A complete listing of computer technologies available to students as Ferris authorized users can be found on the FLITE website at http://www.ferris.edu/library/StudentServices/homepage.html.

Library/Physical Resources
Current Computer Technologies Available To Faculty

Adaptive Technologies Lab	Library Liaisons to Academic Departments
Book Recommendation	Instruction Classes for Your Students
Copyright Resources	Media Production
Distance Education Library Services	Reserves Guide
Interlibrary Loan	Seminar & Conference Rooms

A complete listing of computer technologies accessible to Ferris Faculty can be found on the FLITE website at http://www.ferris.edu/library/FacultyServices/homepage.html.

Library/Physical Resources
Current Computer Technologies Available To Off-site Students

Find Books/Articles	Class Instruction
Document Delivery	Research Guides
Off-Campus Database Access	Chat Live with a Librarian
	Link to information about Off-Campus Sites

A complete listing of computer technologies accessible to Ferris authorized users can be found on the FLITE website at http://www.ferris.edu/library/distanceed/homepage.html.

Library/Physical Resources
Database Resources - Alphabetical List

Academic Press IDEAL Journals (via ScienceDirect)	AGRICOLA
America: History and Life	American Chemical Society Journals
American Periodicals Series: 1740-1900	AncestryPlus (Limited features available off campus)
Applied Science & Technology Abstracts	Art Abstracts
Article First	Basic BIOSIS
BioDigest	Biography Index
Biography Reference Bank	Biological and Agricultural Index
Books in Print Plus	Book Review Digest
Business Newsbank	CINAHL
CollegeSource (Not available off campus)	Contemporary Women's Issues
Criminal Justice Abstracts	Criminal Justice Periodicals Index
Dissertation Abstracts	Drug Facts & Comparisons
EconLit	Education Abstracts
Emerald Journals	ERIC
Ethnic Newswatch	Facts on File
FirstSearch	Focus II (FSU students call 591-2685 for login information)
General Business File	General Reference Center Gold
General Science Abstracts	GEOBASE
The Gerritsen Collection: Women's History Online, 1543-1945	GPO Monthly Catalog
Health and Wellness Resource Center	Health Reference Center
Historical Abstracts	Humanities Abstracts
IDIS (Please call 591-3602 for password)	InfoTrac OneFile
International Pharmaceutical Abstracts	JSTOR
LearnATest	LegalTrac
Lexis-Nexis Academic Universe	Lexis-Nexis Statistical Universe
Library Literature	Literature Resource Center (Includes MLA)
Medline	Mergent Online
MLA International Bibliography	National Criminal Justice Reference Service
National Trade Data Bank	Natural Medicines Comprehensive Database
Newsbank Newsfile	Newspapers (Full-text)
PAIS International	PsycINFO (Note: large database, may load slowly)
Reader's Guide Abstracts	Reader's Guide Retrospective
Reference USA Business	SIRSResearcher
Social Science Abstracts	Social Work Abstracts
STAT!Ref Electronic Medical Library	Standard & Poor's NetAdvantage
State of the Nation	VisionNet
Westlaw Campus	Wilson Business
Wilson Select Plus	WorldCAT

A complete listing of educational databases available to faculty and students is available at http://library.ferris.edu/alphabetical.html.

ADMINISTRATIVE PROGRAM REVIEW 2003

Program/Department: Pharmacy

Purposes of Administrative Program Review:

1. to make deans and department heads/chairs aware of important quantitative and qualitative information about the programs in their colleges
2. to make the Vice President for Academic Affairs' Office aware of important quantitative and qualitative programmatic information from across the University
3. to document annual information that will be useful in the University's accreditation efforts
4. to provide information for the Academic Program Review Council to use in its deliberations

Please provide the following information:

Enrollment

	Fall 1999	Fall 2000	Fall 2001	Fall 2002	Fall 2003
Tenure Track FTE					
Overload/Supplemental FTEF					
Adjunct/Clinical FTEF (unpaid)					
Enrollment on-campus total*					
Junior BS	141				
Pre-Senior BS	129	148			
Senior BS	128	106	131		
Doctoral – New Program					
First Professional Year – P1		122	129	124	133
Second Professional Year – P2			108	122	120
Third Professional Year – P3				95	114
Fourth Professional Year – P4					78
Doctoral – Old Program	40	36	41	26	0
Enrollment off-campus*					
Traverse City					
Grand Rapids					
Southwest					
Southeast					

*Use official count (7-day)

If there has been a change in enrollment, explain why:

Ten more students were added to the total number of new students entering the first professional year.

Capacity:

Estimate program capacity considering current number of faculty, laboratory capacity, current equipment, and current levels of S&E.

130 students

What factors limit program capacity?

Laboratory space, experiential site availability and number of faculty.

Financial

Expenditures*	FY 99	FY 00	FY 01	FY 02	FY 03
Supply & Expense	370,342	505,103	484,009	499,745	684,385
Faculty Prof. Development					
General Fund				29,044	18,932
Non-General Fund				12,653	4,297
UCEL Incentives					
FSU-GR Incentives					
Equipment					
Voc. Ed. Funds					
General Fund	50,423	34,122	83,497	154,408	437,877
Non-General Fund		45,084	9,593	47,365	48,799
UCEL Incentives					
FSU-GR Incentives					

*Use end of fiscal year expenditures.

If you spent UCEL and FSU-GR incentive money for initiatives/items other than faculty professional development and equipment, what were they? Explain briefly. Please also include amounts spent on each initiative/item.

N/A

Revenues	FY 99	FY 00	FY 01	FY 02	FY 03
Net Clinic Revenue					
Scholarship Donations	11,000	21,150	13,600	16,100	25,550
Gifts, Grants, & Cash Donations	120,047	154,971	147,600	242,053	198,505
Endowment Earnings					
Institute Programs/Services					
In-Kind					

Other

	AY 98-99	AY 99-00	AY 00-01	AY 01-02	AY 02-03
Number of Graduates* - Total	125	145	120	144	43
- On campus					
- Off campus					
Placement of Graduates					
Average Starting Salary					
Productivity - Academic Year Average					
- Summer					
Summer Enrollment					

* Use total for full year (S, F, W)

1. a) Areas of Strength:

Full accreditation (June 1999) of B.S. and Pharm.D. programs.
Very high placement of graduates.
Highly competitive admissions process with large applicant pool.

b) Areas of Concern and Proposed Actions to Address Them:

Expansion of student enrollment.

Resources are being sought to procure the necessary personnel, facilities and equipment for the proposed increased student enrollment within the college. These include the addition of both Basic Science and Pharmacy Practice faculty, and laboratory space equipped with computer equipment. The procurement of additional funds for scholarships to balance the high tuition level continues to be a priority.

Additional off-campus externship/clerkship sites need to be identified and enlisted for the third and fourth years of the program.

Efforts are underway to complete the expansion plans and identify the remaining clerkships sites that are needed to fully implement the new Pharm.D. program.

2. Future goals (please give time frame):

Full implementation of new Pharm.D. program by the end of the 2003-2004 academic year. Continuing the expansion of the program by ten students per year until we enroll 150 students in the fall of 2005.

3. Other Recommendations:

4. Does the program have an advisory committee?

a) If yes, when did it last meet?
September 19, 2003

b) If no, why not? By what other means do faculty receive advice from employers and outside professionals?

c) When were new members last appointed?
September 19, 2003

d) What is the composition of the committee (how many alumni, workplace representatives, academic representatives)?

The Committee consists of 12 members, 1 from academia and 11 are workplace representatives. Ten members are FSU College of Pharmacy Alumni, although their primary role on the Committee is to represent their respective areas of occupational expertise.

e) Please attach the advisory committee charge, if there is one. (See attached.)

5. Does the program have an internship or other cooperative or experiential learning course?

a) If yes, is the internship required or recommended?
Required

b) If no, what is the reason for not requiring such an experience?

c) How many internships take place per year? What percentage of majors has internships?
All students are required to participate in two structured practice experiences in the third year and eight in the fourth year of the program.

6. Does the program offer courses through the web?

a) Please list the web-based courses (those delivered primarily through the internet) the program offered last year?

b) Please list the web-assisted courses the program offered last year.

PHAD310 - The Profession of Pharmacy
PHAD360 - Institutional Pharmacy
PHAD424 - Pharmacy Law and Ethics
PHAD490 - Pharmacoeconomics
PHAD502 - Sociopharmacy
PHAR326 - Pharmaceutics 2
PHAR440 - Pharmacokinetics
PHAR446 - Novel Drug Delivery
PHCH320 - Medical Biochemistry
PHCH427 - Medicinal Chemistry I
PHCH428 - Medicinal Chemistry II
PHCH430 - Chemotherapeutic Agents
PHCH330 - Introduction to Drug Action
PHCL352 - Selected Topics in Pathophysiology
PHCL424 - Pharmacology 2
PHPR303 - Integrated Lab 1
PHPR304 - Integrated Lab 2
PHPR411 - Integrated Lab 3
PHPR412 - Integrated Lab 4
PHPR501 - Integrated Lab 5
PHPR502 - Integrated Lab 6
PHPR514 - Clinical Communications
PHPR521 - Pharmacotherapeutics – Toxicology/Nutrition/Nervous System
PHPR522 - Pharmacotherapeutics – Cardiovascular/Renal
PHPR523 - Pharmacotherapeutics – Infectious Diseases/Immunology/Oncology
PHPR524 - Pharmacotherapeutics – Cardiovascular/Renal
PHPR550 - Drug Literature Evaluation/Study Design
PHPR556 - Advanced Topics in Infectious Disease
PHPR566 - Applications of Pharmaceutical Care in Community Practice
PHPR570 - Medical Research: Methods and Design
PHPR576 - Advance Cardiac Life Support
PHPR600 - Internal Medicine 1
PHPR601 - Internal Medicine 2
PHPR602 - Ambulatory Care Clerkship 1
PHPR611 - Advanced Community Pharmacy Experience
PHPR680 - Clinical Seminar

7. What is unique about this program?

a) For what distinctive characteristics is it known, or should it be known, in the state or nation?
Our program is nationally accredited by the American Council on Pharmaceutical Education (ACPE). We have a national reputation as a school that produces high-quality community pharmacy practitioners.

b) What are some strategies that could lead to (greater) recognition?

8. Is the program accredited? By whom? If not, why? When is the next review?

Yes, by the American Council on Pharmaceutical Education (ACPE). The next full review will be in 2004-2005 cycle.

9. What have been some major achievements by students and/or graduates of the program? By faculty in the program?

Student - Charlie Mollein - 2nd place finish in the American Pharmaceutical Association – Academy of Students of Pharmacy National Patient Counseling Competition.

Faculty - See Attached

Alumni - Mike Collins - the recipient of the APhA Academy of Pharmacy Practice and Management (APhA-APPM) Distinguished Achievement Award in Specialized Pharmaceutical Services
Jolaine Drugalis - American Association of College of Pharmacy (AACP) Teacher of the Year, Elected as AACP President.
Steve Ehardt - Stephen Ehardt, member of the Michigan House of Representatives, is the recipient of the 2003 APhA Hubert H. Humphrey Award.
Andrew Young - Recipient of the Linwood F. Tice Friend of the APhA Academy of Students of Pharmacy (APhA-ASP) Award
Bruce Field - President of APhA-APPM.
Gary Kadlec - APhA Foundation's Jacob W. Miller Award.

10. Questions about Program Outcomes Assessment/Assessment of Student Learning at the Program Level (Attach additional sheets, if necessary.)

a) What are the program's learning outcomes?

1. Knowledge proficiency in the biomedical sciences, pharmaceutical sciences, and behavioral/social and administrative sciences.
2. Manage Patient-Specific Drug Therapy - The student shall formulate, implement, document and communicate a pharmaceutical care plan.
3. Manage the Pharmacy and Medication Use Systems - The student shall specify, develop and implement systems for the purchase of pharmaceuticals and other supplies, for inventory control, and for the preparation, dispensing, distribution and administration of medications. The student shall manage pharmacy operations, human resources, and fiscal resources. The student shall participate in a process for reporting and managing medication errors and adverse drug reactions, performing drug use evaluations, and participating in the development and implementation of a formulary system.
4. Health Promotion/Disease Prevention - The student shall provide emergency care on a limited basis and promote public awareness of health and disease.
5. Provide Drug Information and Education - The student shall provide pharmaceutical information and education on health-related topics to health professionals and the general public. The student shall retrieve, evaluate and manage professional information and literature.
6. Critical Thinking - The student shall find, understand, analyze, evaluate, and synthesize information and shall make informed, rational, and ethical decisions.
7. Communication - The student shall read, write, speak, listen and use data, media and computers to communicate effectively with various audiences for a variety of purposes.
8. Law, Ethics and Professionalism - The student shall articulate the influence of values on ideas and actions and shall demonstrate the ability and inclination to take responsibility for ethical conduct in personal and professional settings. The student shall demonstrate the ability and inclination to learn on one's own, to pursue new knowledge, to self-assess, to respond appropriately to assessment by others, and to modify one's ideas in light of new discoveries.
9. Social Awareness - The student shall demonstrate an understanding of self, the strengths and challenges of cultural diversity and the historic responses of society in times of rapid change. The student shall demonstrate effective interpersonal and intergroup behaviors in a variety of situations and circumstances.

b) What assessment measures are used, both direct and indirect?

The following matrix is awaiting approval by the faculty. We anticipate a phased implementation over a three-year period.

Method/Course	Time	Type	Population	Standards
1. Prerequisite pre-pharmacy curriculum.	Entrance to professional program	N/A	Total	Minimum 2.5 GPA
2. Pharmacy College Admissions Test	Entrance to professional program	Standard	Total	Only admissions requirement at this point
3. Critical thinking examination	Admission + yr. 3	Standard	Total	To be determined
4. Writing communication skills	Admission, cumulative	Essay, portfolio	Total	To be determined
5. Oral communication skills	Admission, cumulative, senior seminar	Required presentations	Total	To be determined
6. Course-based competency evaluation	All required curricular courses	Objective/ essay	Total	Minimum 2.0 GPA
7. D/F Rates	All required curricular courses	Objective		To be determined
8. Medical Terminology	First professional year	Standard	Total	Minimum 70%
9. Pharmacy Calculations	First professional year	Standard	Total	Minimum 70%
10. Immunization Certification	Third professional year	Standard	Total	N/A
11. Standardized patient assessment	Year 3	Skills	Total	Minimum 70%
12. Student Focus Group Input	Years 1-3	Survey	Total	N/A
13. Patient encounters	Year 4	Skills	Total	To be determined
14. Senior survey	Preceding graduation	Survey	Total	To be determined
15. NABLEX	Post-graduation	Standard	Total	To be determined
16. Employer survey	6 months post graduation	Survey	Sample	To be determined
17. Alumni survey	1 and 5 years post graduation	Survey	Sample	To be determined

c) What are the standards for assessment results?

See above matrix.

d) What were the assessment results for 2002-03?

i). See attached SAI Trend Analysis.
ii). See attached 2003 Admissions Profile
iii). See attached Multi-State Jurisprudence Exam results
iv). See North American Pharmacy Licensure Exam results below

NABPLEX Results

	May-August 2003			
First Time Candidates = 23	Score	Area-1[A]	Area-2[B]	Area-3[C]
School average	**105.17**	**12.7**	**11.8**	**12.3**
State average	102.18	12.4	11.7	12.0
National average	103.38	12.3	12.0	12.2
School pass rate	**95.65**			
State pass rate	94.81			
National pass rate	96.54			
Total Candidates = 31				
School average	**98.94**	**12.2**	**11.3**	**11.9**
State average	98.75	12.1	11.6	11.7
National average	101.41	12.2	11.9	12.0
School pass rate	**80.65**			
State pass rate	90.53			
National pass rate	93.84			

[A] Area-1 directly relates to learning outcome #2.
[B] Area-2 directly relates to learning outcome #1.
[C] Area-3 directly relates to learning outcomes #4 and #5.

e) How will / how have the results been used for pedagogical or curricular change?
The Pharmacy Law and Ethics course has been revised significantly in response to recent outcome trends.

11. Questions about Course Outcomes Assessment:

a) Do all multi-sectioned courses have common outcomes?

Yes

b) If not, how do you plan to address discrepancies?

c) Do you keep all course syllabi on file in a central location?

Yes

*If you have questions about the outcomes assessment portions of this survey, please contact Laurie Chesley (x2713).

Form Completed by Rodney Larson, Assistant Dean of Admissions and Academic Affairs / Feb 13, 2004
Name and Title / Date

Reviewed by Associate Dean Stephen Durst / Feb 13, 2004
Name / Date

Comments by Dean:

Program Review Panel Evaluation Form

(PRP: complete this form and include with your report)

Program: Doctor of Pharmacy n=4

Instructions: Circle the number which most closely describes t he program you are evaluating.

1. Student Perception of Instruction **Average Score** 3.25

5 4 3 2 1

Currently enrolled students rate instructional effectiveness as extremely high.

Currently enrolled students rate the instructional effectiveness as below average.

2. Student Satisfaction with Program **Average Score** 3

5 4 3 2 1

Currently enrolled students are very satisfied with the program faculty, equipment, facilities, and curriculum.

Currently enrolled students are not satisfied with program faculty, equipment, facilities, or curriculum.

3. Advisory Committee Perceptions of Program **Average Score** 3.25

5 4 3 2 1

Advisory committee members perceive the program curriculum, facilities, and equipment to be of the highest quality.

Advisory committee members perceive the program curriculum, facilities, and equipment needs improvement.

4. Demand for Graduates **Average Score** 4

5 4 3 2 1

Graduates easily find employment in field.

Graduates are sometimes forced to find positions out of their field.

5 4 3 2 1

5. Use of Information on Labor Market **Average Score** 3.25

The faculty and administrators use current data on labor market needs and emerging trends in job openings to systematically develop and evaluate the program.

The faculty and administrators do not use labor market data in planning or evaluating the program.

Program Review Panel Evaluation Form (page 3)

11. Facilities **Average Score** 3.75

5 4 3 2 1

Present facilities are sufficient to support a high quality program.

Present facilities are a major problem for program quality.

12. Scheduling of Instructional Facilities **Average Score** 3.5

5 4 3 2 1

Scheduling of facilities and equipment for this program is planned to maximize use and be consistent with quality instruction.

Facilities and equipment for this are significantly under-or-over scheduled.

13. Equipment **Average Score** 3.5

5 4 3 2 1

Present equipment is sufficient to support a high quality program.

Present equipment is not adequate and represents a threat to program quality.

14. Adaption of Instruction **Average Score** 3

5 4 3 2 1

Instruction in all courses required for this program recognizes and responds to individual student interests, learning styles, skills, and abilities through a variety of instructional methods (such as, small group or individualized instruction, laboratory or "hands on" experiences, credit by examination).

Instructional approaches in this program do no consider individual student differences.

15. Adequate and Availability of Instructional Materials and Supplies **Average Score** 3.5

5 4 3 2 1

Faculty rate that the instructional materials and supplies as being readily available and in sufficient quantity to support quality instruction.

Faculty rate that the instructional materials are limited in amount, generally outdated, and lack relevance to program and student needs.