

Curricular Affairs Committee AY2005-2006 Report

The Curricular Affairs Committee met eight times in AY2005-2006 to conduct business pertaining to its responsibilities under the School of Pharmacy Bylaws and to consider charges from the Dean.

With respect to Dean's charges:

- The committee was asked to develop a new policy regarding academic dishonesty. The charge was discussed and developed over numerous meetings and had significant student input. A new "Policy for Academic Integrity" was written and submitted to faculty for approval at the May 2006 faculty meeting. The policy was approved with one amendment.
- The committee was asked to determine if Outcomes Assessment results identify any holes in the committee. David Allen, in his role as Dean of Students and Curriculum met with the Outcomes Assessment Committee chair. He assured CAC that the Assessment results indicate that there are no noteworthy deficiencies.
- The CAC also initiated a 2 year process of curricular renewal. A retreat was held in September 2005, in conjunction with preparation for accreditation. At the retreat the process of curricular renewal, a list of curricular issues, and a timeline was presented to the faculty. CAC met several times to discuss curricular renewal and to discuss input from the faculty. Critical issues were focused. A report detailing progress on curricular renewal in AY2005-2006 is attached (Appendix 1).

With regard to responsibilities under the Bylaws:

- Periodic review of existing classes. Formal review was deferred this year because committee members felt the courses would be more appropriately reviewed as part of curricular renewal. Committee members received copies of post-course reviews for their examination. No concerns were voiced by members.
- CAC was informed that the course catalog did not require P2 standing as a prerequisite for students to enroll in Pharmacotherapy 2153 (Blood & Reticuloendothelium). The committee recommended this prerequisite be made and other P2 courses checked for their prerequisite status.
- The committee received a proposal for a new elective, Spanish II. The rationale for the course is that students taking Spanish I are too heterogeneous with respect to Spanish-language experience. The committee approved the syllabus with minor changes and forwarded the proposal to the entire faculty for approval. The course was approved at the December 2005 faculty meeting.
- The committee received a proposal for a new interdisciplinary elective "Understanding Alzheimer's Disease and Related Dementias". As new course, the committee recommended approval as a Special Topics course under the guidelines of SOP OP 79.P.04.
- The committee received several requests to consider guidelines for the use of technology in teaching. Among the questions are, what is the relationship of asynchronous content delivery to contact time? Does one hour of video equal one hour of contact time? How many lectures can asynchronous video replace? What is the maximal fraction of instructional time that should comprise asynchronous video? What active learning strategies are required to complement asynchronous activities and what fraction of total instructional time should they comprise? Will students still be required to meet in class at defined times? The committee had several discussions on this topic but did not reach any conclusions. The committee tried to determine if THECB has specific guidelines regarding contact hours and face-to-face contact. There appear to be no set guidelines. There are no hard and fast answers to these questions and the answers may require empirical evaluations of SOP classes using these new technologies. The issue of guidelines for the use of technology in teaching remains open for future committees.

Appendix 1.

Curricular Renewal

May 2006

This is a summary document of progress made to date on curricular renewal. Its purpose is to distill the comments and debate into a more coherent package in order to facilitate further analysis and evaluation. The proposals below are presented in the spirit of generating discussion. None of the proposals are in final, approved form.

Based on CAC discussions and faculty input, the most significant issues in curricular renewal are listed as follows (in no particular order). The goal of curricular renewal is to improve student learning and outcomes.

- Increase the admission prerequisite to require 3 years undergraduate experience.
- Enhance the way we teach drugs throughout the curriculum to facilitate long-term retention of drug knowledge. This includes revising Principles of Drug Action to a more traditional pharmacology course
- Revision and resequencing of Pharmacotherapy series.
- Revision of P2 Pharmaceutical Care courses
- Addition of P4 capstone course.
- Expansion of ethics/professionalism teaching.

Each of these items will be discussed in further detail.

1. Admission Prerequisite

Previous discussion in CAC as well as informal discussion with SOP faculty indicated there is widespread support for the idea of requiring a full three years of undergraduate credits in order to qualify for admission to Texas Tech Univ HSC. The advantages of the increased requirement are that students would be better prepared for the educational rigors of the program and that the students would be more mature. The drawback is that we may lose good applicants to pharmacy schools with only two years requirement. The following statement was approved, in principle, at the April 28, 2006 CAC meeting.

The Curricular Affairs Committee recommends, as part of curricular renewal, that Student Affairs Committee consider increasing the prerequisites for admission to the PharmD program. CAC recommends the following additional prerequisite courses:

1. a molecular-based biomedical course such as biochemistry, molecular biology or cell physiology,
2. a human biology course such as anatomy and physiology,
3. a business management or administration course.

Further, SAC should investigate whether the additional requirements justify an increase requirement of three years of undergraduate credits.

2. Drug knowledge

The self-study surveys suggested that drug knowledge is a limiting factor in our students. However, the ACPE accreditation site visit team did not find that this was a significant issue. In addition, if one examines the curriculum, the drug knowledge content is present. This would suggest that teaching/learning of drugs is not optimum, rather than insufficient. One of the biggest concerns is widespread use in the School of teaching/learning strategies that favor “cram and dump” types of learning (i.e., memorization) as opposed to long-term understanding and retention. Another concern is that we have not adequately defined what drug knowledge we want our students to have. There are inconsistencies between faculty members and courses as to what is sufficient and/or necessary, which leads to the appearance of poor drug knowledge.

Therefore, the faculty, with the assistance of preceptors and alumni, should standardize, in some fashion, the requirements for drug knowledge across courses, especially the pharmacotherapy series. Perhaps a standard format (MOA, ADME, doses, etc) could be used between courses. It may also be necessary to come to a schoolwide consensus as to which drugs should be covered in the pharmacotherapy series. Also, where are biotech drugs taught?

Then, the drugs should be taught in fashion that facilitates long-term retention, not memorization. The students should be held accountable for critical drug knowledge across the curriculum. Once an essential drug is introduced in the curriculum, students should be responsible for that knowledge for the remainder their time at Texas Tech (and, of course, their career).

A number of colleagues, both Pharm Practice and Pharm Sci, have indicated their understanding of drugs uses cognitive maps based on drug classes. One suggestion to utilize this learning strategy involves revising the current Principles of Drug Action class to one more closely resembling a traditional Pharmacology course. The concepts of drug classes

would be introduced in this course, perhaps using autonomic pharmacology as a model. In order to create the space in the course, pharmacokinetics would be moved to P2 and split into basic pharmacokinetics and clinical pharmacokinetics. The latter course would be more real-world oriented and have as one goal, preparation of the students for clerkships. This latter idea is based on faculty input suggesting improved pharmacokinetic background for students entering clerkships. It was also suggested to add more pharmacokinetics emphasis in Case Studies I.

Long-term retention of drug knowledge will also be enhanced by the two proposals to resequence the Pharmacotherapy series and revise the P2 Pharm care courses.

As a first step to standardization of required drug knowledge, I propose that the School initiate a wiki on the network for Top 200 and other need-to-know drugs. Individual faculty would edit the entries to include information students need in their courses. The wiki would be a resource for all students from the day they enter the SOP. I make this proposal in the spirit that drug knowledge is the essence of pharmacist training and should be a constant part of the whole education, not restricted to individual courses.

For the following topics, a revised curriculum was created that incorporated the changes suggested in the proposals and is included at the end. This is one possible curricular solution and is presented simply to initiate discussion.

3. Pharmacotherapy resequencing

Dr. Seifert submitted a proposal to resequence the pharmacotherapy series. This revised series would enhance student learning by grouping similar topics (“modules”, e.g., CV, renal, respiratory) into one course. As per Dr. Seifert’s proposal:

- Each course would be semester long.
- Each course would have a cumulative final exam covering material from each module.
- The order of each module is as listed.
- Students must achieve a passing grade for each module. Consequences for failure of a single module would need to be determined.
- Pharmacogenetics is no longer in the series. The course content will be covered in Pharmacology in Spring P1.
- One advantage of grouped modules is that similar material can be integrated between modules, thus exposing students to similar material in different contexts, a process that enhances learning.
- Integration and cumulative exams will facilitate long-term retention.

There are several questions to be answered regarding this proposal. Are the module groupings appropriate? (For example, is it too burdensome to teach ID and neuro/psych in the same semester?) Are module missing or superfluous? Given that it has been ten years since the Pharmacotherapy series was first developed we need to check for unnecessary overlaps that may have arisen. For example, stroke is covered in both cardiovascular and neurosensory. Is there unnecessary duplication here? The pharmacotherapy series also needs to be reevaluated and updated to be sure the appropriate disease states are covered and critical drugs are discussed.

(FYI: When the Pharmacotherapy series was first developed, the whole faculty came together to prioritize disease states and drugs. Absolutely essential disease states are covered in the Pharmacotherapy series. Lower priority disease states were assigned to Case Studies and Clerkships. It might be a good time to repeat this exercise.)

4. P2 Pharmaceutical Care courses

Dr. MacCall submitted a proposal to revise the P2 Pharm Care courses, 2202, 2203 and 3240. Currently all are 2 SCH courses. 2202 and 2203 are in the fall, 3240 is in the spring. The courses would be merged into two 3 SCH classes.

- Course content would be revised to synchronize the Pharm Care series and patient assessment with the P2 pharmacotherapy series.
- Related topics of clinical laboratory medicine, Top 200 drugs, and physical assessment would be taught in integrated blocks.
- Top 200 drugs would be spread over 2 semesters allowing more time for learning. However, exams would be cumulative to discourage “bulimic” learning strategies.

5. P4 Capstone course

Dr. Raehl has suggested a course in the P4 year to help integrate sciences and practice and underscore life-long learning. Some ideas for the course include:

- discussion of new developments in the sciences, practice, legal and ethical issues.
- taught in seminar style (active discussion between participants, small groups)?
- would serve to integrate the sciences and profession at current cutting edge issues.
- include drug review in preparation for the NAPLEX.

- include Grand Rounds? This might involve a true Grand Rounds where all clinical faculty attend and occasionally present.
- include joint Case Studies with medical and/or allied health students?
- have students serve as educational assistants for previous science and practice classes in the curriculum. They could lead discussion groups or help with other active learning strategies in the class. This would refresh student's memories of curricular content long ago and reinforce critical concepts they may have forgotten. P4's would serve as role models in the professional setting of a classroom.

To create space for this course, a P4 clerkship would have to be dropped. An elective clerkship was dropped arbitrarily.

6. **Ethics/professionalism**

It is necessary to improve our exposure of students to formal training in ethics and professionalism. Where to add ethics content is a tough choice but when to add should be as early as possible (P1). One suggestion is to introduce ethics in bootcamp along with discussion of the academic integrity policy. The time in bootcamp should be expanded, perhaps one hour/day over the entire period. This would certainly underscore its significance. Discussion of ethics could be continued in Intro to Pharm Practice. Ethics is best taught in a case study/role play/discussion format in a fashion that models behaviour and forces students to decide what they would do when confronted with a (theoretical) ethical challenge. If we choose common real world cases, students would already know how they would act when they subsequently encounter a similar situation.

One possible curriculum

Fall P1 year

1300	Pharmacy Practice, Education and Science	3
1131	Clinical Immunization & Administration	1
1170	Drug Information Clerkship	1
1231	Pharmaceutical Care Systems	2
1320	Immunology	3
1321	Drug Delivery Systems I	3
1414	Anatomy & Cell Biology	4
1512	Biochemistry	5
	Total	22

Spring P1 year

1101	Intro to Pharmacy Practice	1
1221	Principles of Disease	2
1241	Clinical Research and Literature Eval.	2
2322	Drug Delivery System II (w/lab)	3
1301	Pharmaceutical Care I <i>Pharmacology</i> ¹	3 4
2513	Physiology	5
	Total	20

Fall P2 Year

	<i>Pharmacotherapy I</i>	
	<i>Cardiovascular</i>	3
	<i>Renal</i>	2
	<i>Respiratory</i>	2
2202	<i>Pharmaceutical Care II</i>	3
2231	Practice Management: Law	2
2104	Parenterals (w/lab)	1
2223	Drug Delivery Systems III	2
2340	<i>Basic Pharmacokinetics</i> ²	3
	Total	18

Spring P2 Year

	<i>Pharmacotherapy II</i>	
	<i>GI & Hepatic</i>	2
	<i>Nutrition</i>	1
	<i>Herbals</i>	1
	<i>Pharmacotherapy III</i>	
	<i>Integumentary</i>	1
	<i>Bone & Joint</i>	1
	<i>Endocrine</i>	2
	<i>Reproductive</i>	1
3240	<i>Pharmaceutical Care III</i>	3
	<i>Clinical Pharmacokinetics</i> ³	1
3232	Practice Management: Personnel Mgmt	2
3361	Case Studies I	3
2101	Intro to Pharmacy Practice II	1
	Total	19

Fall P3 Year

	<i>Pharmacotherapy IV</i>	4
	<i>Neurosensory</i>	
	<i>Psychiatry</i>	
	<i>Pharmacotherapy V</i>	3
	<i>Infectious diseases</i>	
3462	Case Studies II	4
4270	Community Pharmacy Clerkship (Fall or Spring)	2
4274	Institutional Pharmacy Clerkship (F or S)	2
4233	Practice Management: Financial Management	2
	Electives (three total- spring or fall)	2
	Total	19

Spring P3 Year

	<i>Pharmacotherapy VI</i>	3
	<i>Blood & Reticuloendothelium</i>	
	<i>Oncology</i>	
	<i>Pharmacotherapy VII</i>	3
	<i>Special Populations</i>	
	<i>Clinical Toxicology</i>	
4275	Ambulatory Clinical Skills ⁶ (F or S)	2
4276	Inpatient Clinical Skills ⁶ (F or S)	2
4234/ 4235	Institutional/Community	2
	Electives (three total- spring or fall)	4
	Case Studies III	4
	Total	20

P4 Year

4675	Adult Medicine	6
4677	Pediatrics	6
4678	Geriatrics	6
4676	General Primary Care	6
4681	Rural Practice (Underserved populations?) ⁴	6
	Elective Rotation	6
4673/ 4674	Choose one: Advanced Community Pharmacy Clerkship, or Advanced Institutional Pharmacy Clerkship	6
	<i>Capstone Course</i> ⁵ (5 SCH each fall and spring)	10

* Changes from current curriculum are *in italics*.

¹ Pharmacology would be revised from the current 'Principles of Drug Action'. Modifications include removal of pharmacokinetics portion, addition of pharmacogenetics (similar to 4166), discussion of autonomics and introduction of the concept of drug classes.

² This is a merger of pharmacokinetics from 2325 (PDA) and the existing course. It covers theoretical and basic aspects of PK. Clinical aspects are covered in P2-Spring.

³ The clinical aspects of 2340 are moved and taught separately.

⁴ Change name to reflect the fact that Dallas is urban?

⁵ Capstone includes Grand Rounds and deletes one elective clerkship.

⁶ From faculty input, a suggestion was made to merge Ambulatory and Inpatient Clinical Skills since that faculty member felt there is redundancy between the two.

Submitted Electronically by Committee Chair (James Stoll, Ph.D.)

5/22/06