

## **Educational Space Task Force**

### 1. Introduction:

The educational space assessment task force is a School of Pharmacy and Pharmaceutical Sciences strategic plan directive. The task force consists of the following members:

Judy Chen, PHPR  
Larry Fusaro, University Architect  
Greg Knipp, IPPH  
Keith Murray, SMAS  
Chris Rochet, MCMP  
Kevin M. Sowinski, PHPR  
Val Watts, MCMP and Associate Dean for Research

The task force was charged to identify current and anticipated educational space needs for the School. The task force operated under the following considerations: 1) consider any space within the school as it relates to education, 2) consider space as it relates to the undergraduate, graduate and professional programs; 3) consider where if possible resources could be shared with other programs on campus and 4) assume that there would be no substantial changes in class size in the Pharm.D. and BSPS programs. Dean Svensson asked the task force to consider both immediate needs and longer term space needs.

The task force solicited feedback from selected faculty, members of the curriculum committee (faculty, staff and students), respective departments in the School, the Assistant Dean for Graduate Programs/BSPS Task Force Chair and staff of the Office of Student Services. The task force solicited building plans of existing facilities (Auburn University Harrison School of Pharmacy, Rutgers University School of Pharmacy, Ohio Northern University College of Pharmacy), newly completed facilities (University of Kentucky College of Pharmacy, University of Georgia College of Pharmacy) and facilities under construction (University of Tennessee College of Pharmacy and University at Buffalo School of Pharmacy and Pharmaceutical Sciences) of Schools/Colleges of Pharmacy. The task force also considered existing facilities on campus as it relates to the planning of educational facilities in the School.

## **Description and Assessment of Current Educational Space**

### 1. Description of Educational Space

#### A. Overview

The educational facilities of the School of Pharmacy and Pharmaceutical Sciences are centered in the Robert E. Heine Pharmacy Building (RHPH). The School's teaching laboratories are located, for the most part, within RHPH, but the School does share two teaching laboratories (used for Nuclear Pharmacy) with the School of Health Sciences. These laboratories are located in the Civil Engineering building. The School also maintains a television studio and control room in the Johnson Hall of Nursing. Only the space specifically used for educational activities

was reviewed. The Task Force was charged with evaluating space in the professional, graduate and undergraduate programs. After discussions with the Assistant Dean for Graduate Programs the Task Force focused their evaluations on the professional program. It was the consensus of the Task Force and Dr. Barker that the educational space needs of the graduate and undergraduate programs could be met within the constructs of the space needs for the professional program. The one exception to that is the evaluation of the IPPH manufacturing labs which serve the educational needs of some students in the BSPS program and the IPPH graduate program. Finally, although the Purdue Pharmacy is clearly an important part of the professional program in terms of educational space, we were not asked to evaluate it as part of our charge.

## B. Classrooms/Lecture Rooms

The primary classroom space utilized by the School of Pharmacy is located within RHPH. These three classrooms are managed centrally by SMAS.

- 1) RHPH 172 is a large lecture room that seats 191 students in fixed seating and 2 ADA wheelchairs at tables. The classroom was newly renovated and used for the first time in the new configuration in the spring 2010 semester. This is the only classroom available in RHPH with sufficient capacity for the professional program.
- 2) RHPH 164 is a medium-sized lecture room that seats 70 students in fixed seating.
- 3) RHPH 162 is a small classroom that seats 48 students with movable desks.
- 4) There are several conference rooms in RHPH which are used primarily for School meetings and research group activities. They are not used extensively in the undergraduate or professional programs

### Other classroom space outside of RHPH

- 1) Classroom space in buildings close to RHPH is used for smaller size elective offerings.
- 2) The pre-pharmacy organic chemistry classes (taught by MCMP faculty) require rooms that seat 250-300 students. These courses in recent years have been taught in PHYS 114, EE 129, and LILY 1-105.

## C. Teaching Laboratory Space

- |    |           |                              |                 |
|----|-----------|------------------------------|-----------------|
| 1) | RHPH G16  | Pharmacy Practice Laboratory | (1,968 sq feet) |
| 2) | RHPH 418  | Integrated Laboratory        | (1,404 sq feet) |
| 3) | RHPH 418A | Parenterals Laboratory       | (244 sq feet)   |
| 4) | CIVL      | Nuclear Pharmacy Laboratory  | (1,652 sq feet) |
| 5) | RHPH 316  | Computer Laboratory          | (1,048 sq feet) |
| 6) | RHPH 416  | Organic Chemistry Laboratory | (1,390 sq feet) |
| 7) | RHPH      | Manufacturing Laboratory     | (1,701 sq feet) |

## D. Student Space

- 1) RHPH G55 Student Study Lounge, Conference Area and computer stations
- 2) RHPH G51 Student Recreation Room
- 2) RHPH Benches located outside of RHPH 172
- 3) RHPH Pharmacy Library

## E. Other space

- 1) Hook Telecommunication Studio
2. Review of other schools

The task force solicited plans from several schools of pharmacy, with existing facilities (Auburn University Harrison School of Pharmacy, Rutgers University School of Pharmacy, Ohio Northern University College of Pharmacy), newly completed facilities (University of Kentucky College of Pharmacy, University of Georgia College of Pharmacy) and facilities under construction (University of Tennessee College of Pharmacy and University at Buffalo School of Pharmacy and Pharmaceutical Sciences). The task force reviewed multimedia applications when available. Some schools provided complete plans and others supplied only partial or conceptual plans. The task force also considered existing facilities on campus as it relates to the planning of educational facilities in the school.

A summary of five of these buildings is illustrated in the table below. Each School space is divided into classroom space, computer labs, teaching laboratories and student meeting space. It should be noted that limited information was available for some schools and is presented as such. The plans are all available for review if desired.

|                                                                                                |
|------------------------------------------------------------------------------------------------|
| <p>Auburn University, School of Pharmacy (New Construction of Primarily Educational Space)</p> |
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|                      |
|----------------------|
| <p>1) Classrooms</p> |
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|                                           |
|-------------------------------------------|
| <p>Lecture Halls (2): ~ 150-200 seats</p> |
|-------------------------------------------|

|                                |
|--------------------------------|
| <p>Classroom (1): 32 seats</p> |
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|                                                             |
|-------------------------------------------------------------|
| <p>Small group space (configurable): 37 rooms * 8 seats</p> |
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|                                                               |
|---------------------------------------------------------------|
| <p>Large group Space (configurable): 7 rooms *12-16 seats</p> |
|---------------------------------------------------------------|

|                                                                                                              |
|--------------------------------------------------------------------------------------------------------------|
| <p>Configurable: flexible spaces and can be configured to a variety of classroom seating configurations.</p> |
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|----------------------------------------|
| <p>2) Computer Labs: not described</p> |
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|                                 |
|---------------------------------|
| <p>3) Teaching Laboratories</p> |
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|                                                                                   |
|-----------------------------------------------------------------------------------|
| <p>Skills Lab (IV admixture, compounding, parenteral, dispensing) 1059 sq ft.</p> |
|-----------------------------------------------------------------------------------|

|                                                    |
|----------------------------------------------------|
| <p>Pharmacotherapy Care Clinic: 4310 sq. feet.</p> |
|----------------------------------------------------|

|                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------|
| <p>(Examination rooms 10, Dispensary, Reception/Waiting Room, Patient Education Rooms (2) Nursing station and Clinical Lab)</p> |
|---------------------------------------------------------------------------------------------------------------------------------|

|                                 |
|---------------------------------|
| <p>4) Student meeting space</p> |
|---------------------------------|

|                                                            |
|------------------------------------------------------------|
| <p>Student commons area, limited information available</p> |
|------------------------------------------------------------|

University of Georgia, (New Construction of Primarily Education Space)

Please note that there also remains educational space in an adjacent building

Summary

1) Classrooms

Lecture Halls (2): 204 seats and 204 seats;

Classrooms (3): 32 seats

Classroom (1): 16 seats

2) Computer Labs: Not described

3) Teaching Laboratories

Pharmacotherapy Care Center (6600 sq feet), (Necessary space for drug compounding, IV preparation, patient examination rooms)

Pharmacy Educational Resource Center (4300 sq feet)

4) Student meeting space (1335 sq feet)

University at Buffalo, SUNY (Renovated Existing Building, Research and Educational Space)

Summary (LIMITED PLANS MADE AVAILABLE)

1) Classrooms

Lecture Halls (2): 180 seats and 280 seats

Divisible Classrooms (2): max 80 with capability for each to breakdown into classes of 40 seats

Classroom: 50 seats

Breakout Teaching Space: 32 seats

2) Computer Labs: (2)

3) Teaching Laboratories

Patient Assessment Rooms: 12 rooms with video monitoring capability

Pharmacotherapy Learning Center and Model Pharmacy

Compounding Lab: 75 stations (with associated prep and grading areas)

4) Student meeting space: Atrium and café (sq footage not described)

University of Kentucky (New Construction of Research and Educational Space)

1) Classrooms

Lecture Halls (2): 219 seats and 219 seats

Classrooms (1): 54 seats

Classrooms (1): 110 seats

Group Learning Rooms (9): 14-16 seats

2) Computer Labs: not described

3) Teaching Laboratories

Student Patient Care Laboratories

Patient Interaction/Discussion Room (3,039 sq feet)

Compounding/Dispensing Laboratory (2,932 sq feet)

Patient Assessment Laboratory (3,554 sq feet)

Sterile Compounding (2,334 sq feet)

Basic Science Teaching Laboratory is not described

4) Student space

Student commons (6290 sq feet), canteen and building lobby

Study Area (320 sq feet)

Student Lockers (1,489 sq feet)

University of Tennessee Health Science Center (New Construction of Research and Educational Space)

1) Classrooms

Lecture Halls (2): 275 seats and 142 seats

Classrooms (1): 50 seats

Classrooms (1): 100 seats

Group Learning Rooms (9): 10-20 seats

2) Computer Labs: not described

3) Teaching Laboratories:

Pharmacy technology laboratory (4000 sq feet located in another facility across street from new facility)

Multipurpose teaching area (1319 sq feet)

Didactic Instruction Area (562 sq feet)

4) Student meeting space: Student lounge, atrium and canteen area (sq footage not provided)

3. Assessment of Educational Space

A. Overview

B. Assessment of Classroom Space

Each of the three RHPH classrooms is equipped with computers and overhead (both digital and physical) projection, and blackboards. The two large classrooms have dual screen projection and wireless microphone capability.

RHPH 172

The classroom is essentially occupied by students in the professional program for the entire weekly schedule. This classroom is newly renovated as of January 2010 with new seating and continuous table tops. This classroom lacks power connections for students utilizing laptops for note taking. Internet connectivity is provided by wireless technology through PAL 2.0 via ITAP. Before the renovation students frequently complained the room was cramped and provided very little space for the storage or personal belongings, including coats, backpacks, bags, etc. While work space will be enhanced in the new room configuration, the other problems associated with the room will likely remain as the physical space is the same. Current classroom space in RHPH 172 is cramped and ineffective for student learning and allows for very little interaction between faculty and students. There is no available breakout space available and with fixed seating, breaking into groups, while possible is difficult. The use of this large space for the discussion of cases and other problem-based learning activities is challenging.

RHPH 162

The classroom is utilized for graduate program seminars, professional program elective offerings and help sessions. Due to the movable seating configuration the classroom is also utilized heavily during the third professional program for integrated laboratories in which small breakout groups are utilized.

The classroom is not optimal for integrated laboratories as it lacks efficient resources for drug information, both in printed and electronic form. Perhaps the largest deficiency is it lacks rooms for patient assessment (BP, etc.), patient counseling exercises which are performed in the P3

year. There are no computers available for simulation exercises in pharmacokinetics, etc requiring the use of the RHPH ITAP computer laboratory for such exercises. Finally, during the integrated laboratories rooms for student presentations are located at various locations in RHPH and other buildings as RHPH 162 is not sufficient for such activities.

#### RHPH 164

The classroom is utilized for graduate program seminars, professional program elective offerings and help sessions. The room is also used for School of Pharmacy faculty meetings. Further, the room is utilized by other Schools/College on campus. Due to its size it does not allow for extensive use in the professional program.

#### Summary of Assessment

Current classroom space limits flexibility in the implementation of the professional curriculum as only one large classroom is available in RHPH. Availability of a second and state of the art lecture space would enable flexibility in the scheduling of the classrooms in the pharmacy building. Availability of two large lecture halls may eliminate the need for evening examinations in other buildings. Creative scheduling may allow examinations to be scheduled during the daytime hours.

Most of the recently constructed (or those buildings under construction) Schools/College of Pharmacy building plans that we reviewed provide for two large lecture halls. This allows these programs to hold two classes of the full professional program at the same time. This allows these programs considerable flexibility with regard to scheduling. The Task Force's recommendation is for two large classrooms, each with sufficient space for one class of the professional program. This configuration would not allow for pre-pharmacy classes to be taught in RHPH, as the space required would be 250-300 seats. An alternative configuration would be one large classroom seating 250-300 and another large classroom seating 200-250. Finally, another alternative is one large classroom (of ~ 400 seats) that is designed such that it could easily be divided into two rooms of 200 students.

While classroom space has not been a limitation in implementing the professional pharmacy curriculum, the current space could not be viewed as state of the art or desirable for classroom instruction and does limit the ability to use case-based discussions effectively. It was the consensus of all (Task Force members and the faculty and students whom we engaged in this discussion) that one of the largest deficiencies of our education space is that our program lacks effective and utilizable breakout space. RHPH has no effective and utilizable space for breakout sessions. There are conference rooms available in RHPH, but these are utilized for meetings by School faculty and staff and are not located in close proximity to lecture halls or in a way that would allow instructors to circulate among the rooms. This is one of the most pressing issues in terms of educational space needs. Most existing (recently constructed) and designed building plans for Schools of Pharmacy have accounted for the need for substantial amounts of breakout space. Most of these plans provide for small group rooms in close proximity to lecture halls to allow breakout of an entire professional programs class. In theory this would allow an instructor to break out into multiple groups of 20-30 during a lecture allowing for more effective discussion of cases or problems. The task force views this as both an immediate and longer term need. In fact, the need for increased (and flexible) small group space will likely increase as our new curriculum evolves.

Finally, these breakout rooms would serve the dual purpose of access by the professional program during class hours as well as small group study rooms, organizational meetings, etc, when classes are not in session (nights and weekends).

### C. Assessment of Teaching Laboratories

#### Computer Laboratories

One instructional computing laboratory is available within RHPH that is managed by ITAP. This space is administered with essentially the same policies that are used by SMAS. This room contains 35 PCs, 2 printers and one scanner with standard ITAP configurations. The current laboratory is appropriate for professional program activities. Several concerns were discussed. First, the capacity of the current laboratory is small and does not always allow a full section of an Integrated Laboratory to utilize the lab. Second, the standard ITAP configuration while effective in providing standard software does not have advanced software such as molecular modeling, pharmacokinetic modeling, etc. This limits the benefit of the labs for Integrated Laboratory sessions. Third, given the number of students in the professional, undergraduate and graduate programs the number of PCs available is small. The Task Force is cognizant of the fact that many students have their own PCs; future discussion should balance the need for every student to have a PC with computer lab expansion. Fourth, when a lab is occupied by an integrated laboratory section, student access to computers in RHPH is limited to the student lounge. The task force recommends at a minimum that 2 computer laboratories be available, each with approximately 40 PCs, one containing standard ITAP configurations and the other allowing for software flexibility. Future discussion will need to focus on the need of our students to purchase computers. If this becomes a requirement of our students than the need for computer laboratories may be reduced. Finally, additional access to printers is required in RHPH. Ideally this would be located outside of the computing laboratory to allow access to printers during times when computing laboratories are being used for full classes.

#### Pharmacy Practice Laboratory

G16, the recently renovated pharmacy practice laboratory is a state of the art facility for contemporary pharmacy practice exercises. The laboratory contains a large central room and 6 smaller rooms. While the lab has been newly renovated and is in general currently meeting the needs of the curriculum there are several issues. Much of the renovation was done with limited space availability. Because of limited space availability, the goal of the renovation was to maximize the space in the lab to allow for flexibility for course and school needs. As a result, the space does not always fit the needs, requiring laboratories to be modified to space constraints. The laboratory is small by current standards and allows for roughly 30-40 students, with very little extra room. The room has limited storage capabilities. As the use of the space increases with each passing year, storage continues to be a challenge. The laboratory does not contain an area for sterile products compounding or patient assessment and simulated patient hospital rooms. In addition, computer access is limited both by the number of computers, as well as wireless capability. Most newly designed buildings allow for these accommodations. The 6 smaller rooms are used for patient counseling in the laboratories. At times, there are not enough rooms for this activity decreasing the efficiency for the 32 students in a typical laboratory section. Although the 6 smaller rooms can be used for patient counseling, presentations, and related activities, space is limited within each room. In some cases, there have not been enough rooms

for group activities requiring multiple groups to meet in the large central room. If larger groups are desired for the course activity, the space is not accommodating. Larger groups, at times, would decrease the need for instructors. In these cases, lab management is complicated due to the lack of manpower and space. As our curriculum evolves, the need for additional experiences in this pharmacy practice laboratory will only increase. As contemporary pharmacy practice evolves the need for spaces to provide patient assessment, evaluate patients, provide patient education, perform sterile compounding, etc. will evolve. Plans for new schools of pharmacy have accounted for these needs in the pharmacy practice laboratories. The plans for these schools have included substantially more space than our current laboratories and include between 5,000 – 10,000 sq. feet compared to our current space of approximately 2,200 sq. feet.

#### Organic Chemistry Laboratory

RHPH 416 is used exclusively for laboratory sections of MCMP 204-205, which is the prepharmacy organic chemistry course. This is included as part of our evaluation because the course is taught by MCMP faculty and is populated solely by prepharmacy students. The laboratory has 24 individual stations. This laboratory is not state of the art and lacks sufficient resources including appropriate hoods and ventilation for a state of the art curriculum. This laboratory is in need of significant renovation. There is also a need for appropriate chemical storage (e.g. for flammables) and handling space (e.g. for balances) in order to allow the development of more innovative laboratory exercises. A new and innovative undergraduate curriculum for general chemistry, organic chemistry and biochemistry is being proposed. The laboratory component of the curriculum will involve an increase in the number of laboratories that use CASPiE [Center for Authentic Science Practice in Education], a research-based model rather than the traditional laboratory model. The intent is to extend this model for laboratory instruction into the Organic Chemistry course. In order for this transition to occur significant renovation to the laboratories will be required. A full discussion of this program and its rationale is available at: [http://people.pnhs.purdue.edu/~loudonm/loudlaf\\_files/HHMI\\_EXPERIMENT GRANT/PROPOSAL/HHMI Experiment Proposal.pdf](http://people.pnhs.purdue.edu/~loudonm/loudlaf_files/HHMI_EXPERIMENT_GRANT/PROPOSAL/HHMI_Experiment_Proposal.pdf)

#### Integrated Laboratory

RHPH 418 and 418A are utilized in the Integrated Laboratories in the P1 and P2 years. As above these laboratories are not state of the art and at the very least require renovation. The sterile products laboratory (418A) has eight biological safety cabinets. Ideally the sterile products compounding laboratory would be contained in the pharmacy practice laboratory as this is certainly contemporary practice activity.

#### Nuclear Pharmacy Laboratories

The Division of Nuclear Pharmacy offers a series of one required and four elective courses that meet the didactic training requirements set forth by the Nuclear Regulatory Commission to prepare students for the specialty practice of nuclear pharmacy. Currently, three of the courses contain a laboratory component. Rooms for the nuclear pharmacy laboratory are located in the Civil Engineering Building (CIVL) across a pedestrian mall to the east of RHPH. The laboratories facilities are also shared with a variety of Health Science courses offered in the School of Health Sciences. The laboratory courses of the nuclear pharmacy professional curriculum are taught in shared teaching laboratories that are equipped with standard equipment and currently serve the needs of the curriculum. The design could certainly be improved, but

what currently exists is satisfactory for both present and future needs, assuming no major curricular changes. Maintaining state-of-the-art equipment has been assisted materially by the use of program revenue from the very successful Nuclear Pharmacy Certificate Program.

### Manufacturing Laboratories

The existing facility is approximately 30 years old and is located in basement of RHPH in rooms G008 (275 sq. ft.) and G010 (570 sq. ft.), with additional storage of chemicals and other materials in Rooms G007 (344 sq. ft.), G007A (93 sq. ft.) and G009 (93. sq. ft). Total functional laboratory area then is 845 sq. ft., with an additional 530 sq. ft. for storage. The laboratories were designed in a “closed” format, with ~18 x 20 ft. labs serving as the basic design module. Five equipment bays house pharmaceutical processing equipment (Rooms G008A, G010A, G010B, G010C, G010D, G010E). Wood folding doors separate the bays from the rest of each laboratory and provide a degree of dust control. Each typical laboratory bay of approximately 400 sq. ft. has either a 4’ or 6’ chemical fume hood. The existing segmented laboratory layout does not allow for interconnectivity and is not conducive to current and proposed future functions and processes required to train our students for the modern manufacturing environment. The manufacturing equipment is also very dated and in dire need of upgrading. In addition, a part of the manufacturing facilities is slated to be converted for teaching bioprocessing and biotechnology formulation training of our students. Significantly better air handling and the use of P1000 HEPA filters to reduce airborne particles will also be essential in the bays used for biological processing and manufacturing.

### Summary

There are several other issues related to laboratories that are more appropriately discussed together. First, there is no central location for laboratories, as described they are located in the RHPH basement, fourth floor and in CIVL. Second, none of the laboratories has the means for pre-lab activities to be performed in a classroom prior to commencing the laboratory activities. This results in inefficient communication of laboratory activities in rooms not designed for lecture. The pharmacy practice laboratory has dealt with the use of camera based technology. A prelab classroom in close proximity to the teaching laboratories would be of great benefit to the Laboratory sequence.

Finally, the task force thought that ideally, these laboratories be designed such that they are in close proximity to one another and if possible share resources. This would allow the use of resources that are required by each and perhaps centralize the administration of the laboratories. In our current space in RHPH, this would be difficult to accomplish.

### D. Assessment of Student Space

The student lounge in the RHPH basement was renovated in 2006. The room includes a study lounge, two small conference rooms and a student recreation room. There is a small 4 workstation computer laboratory. There is a microwave in the student recreation room. The student space is well appointed and useful, although the space is rather small. The area is not utilized for quiet study.

The pharmacy library is the primary space for quiet study. With the change from the use of print based technology to electronic based technology concepts for educational space perhaps should focus on availability of electronic resources instead of physical space for library activities. Several new spaces at schools/college of pharmacy have incorporated electronic resource spaces in pharmacy practice laboratory spaces.

Overall, there is not adequate student space in RHPH. First, there is no dedicated space for student organizational needs. Most meeting are scheduled in classrooms or lecture halls. Second, there are no lockers for storage of student personal belongings. With the cramped nature of RHPH 172 and teaching laboratories, storage of personal belongings is challenging. There is very little space for group study in RHPH; the student lounge has two small conference rooms with seating for approximately 8 students each. There is limited space for student congregation in RHPH. These student space issues limit daily interaction between classes in the first three years of the professional program. The students that were questioned by the task force noted that quiet study space and group study space were at a premium in the pharmacy building. Additional space for both activities was noted as essential both now and in the future.

More student space is required for the success of all of the Schools programs. Space is required for student organizations offices, student commons area with tables and chairs, quiet study, group study rooms and individual student lockers. The recently complete school of pharmacy at the University of Kentucky includes lockers for all professional students, four student organizational space offices, a student's commons area including approximately 12-15 tables and 160 seats in a atrium lobby outside the large lecture halls, with food service capabilities. In addition, there are group study rooms and quiet study areas in the building. The current space in RHPH does not allow for much, if any, expansion in student space, but there is a critical need for such space and student amenities. Other designs at Schools of Pharmacy account for similar arrangements.

Finally, space for TA instruction is not available in RHPH. The expansion of small and large group space in the school with accommodate some of these needs. The availability of two small group rooms of approximately 16-20 people for TA office hours would enhance interaction between TAs and students. Ideally these spaces would be located in close proximity to the student commons area. Student services offices were also not considered educational space but ideally should be located in close proximity to the student spaces.

#### 4. Recommendations

The following are recommendations from the Task Force as to the needs for educational space in the School of Pharmacy and Pharmaceutical Sciences. It should be noted that these are conceptual recommendations that depend most importantly on how the professional programs curriculum is finalized. It is the consensus of the Task Force that all of these recommendations could not be met within the confines of the current building, due to space and configuration constraints.

Similarly, while certain parts of these recommendations exist on campus there are no buildings on campus which fit all of the recommendations presented here. Due to the time constraints under which the Task Force was working, these recommendations should be viewed as conceptual, rather than providing specifics about each room or concept.

One consideration not highlighted in this report is distance education. Pharmacy practice faculty currently travel from Indianapolis to provide instruction in the professional and graduate program. This results in a large budget burden for PPHP. Use of non-traditional teaching via video conferencing should be explored in all courses that these faculty are involved in. This would lessen the travel burden but also increase student contact with faculty in other courses aside from therapeutics.

### 1) Lecture/classroom facilities and computer laboratories

| Description                                                                                                                      | Recommended Needed Space                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Large lecture halls<br/><u>Current 191 seats</u></p>                                                                          | <p>Two lecture halls of 200-250 seats each. Both classrooms would be equipped with proper A/V technology. Ideally, constructed back to back on main floor of building. Ideally, constructed with the ability for video-conferencing technology.</p> <p>There was considerable discussion about the size of each room. Rooms of 200-250 the rooms would only accommodate the professional program, not the pre-pharmacy program. Alternatively the rooms could be designed as one 200-250 seat lecture hall and one larger lecture 250-300 seat hall to accommodate the pre-pharmacy program (this configuration causes some SMAS concerns relative to the larger room)</p> <p>Several alternatives exist and further discussion is required to chose the appropriate model.</p>                                                                                                                                      |
| <p>Small Group<br/>Space/Breakout Space<br/><u>Current: None</u><br/><u>specifically designated</u><br/><u>for education</u></p> | <p>Configurable to meet the needs of one professional program class of 200 seats</p> <p>These rooms would be at least partially configurable and immediately adjacent to large lecture halls. The configuration details would likely involve rooms with conference tables or moveable desks. All rooms would have appropriate A/V equipment. The concept would allow for one professional program class to break out of large lecture hall for discussion of cases, problems etc. Ideally they would be configurable (i.e. 20 rooms with 10 seats or 10 rooms with 20 seats, etc.), depending on the situation.</p> <p>The rooms would be available to student organizations, meetings and groups study during non-class hours.</p> <p>The rooms would be secondarily available to school faculty and staff for graduate student conferencing, although this is not related to educational needs discussed here.</p> |
| <p>Classrooms<br/><u>Current 70 and 48 seats</u></p>                                                                             | <p>Two classrooms of 80 seats each. As above, they would be properly equipped with A/V technology and modern amenities. These classrooms would be utilized for professional program electives, graduate seminars, undergraduate and graduate courses. Another option discussed was to allow these rooms to be configurable (i.e. 2 X 40 seats)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**2) Teaching laboratories**

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Laboratories                        | The concept for the teaching laboratories is that all be located on the same floor within proximity to one another.                                                                                                                                                                                                                                                                                                   |
| Computer Labs                       | Two computer laboratories seating 40 students each.<br>1) Standard ITAP machines<br>2) Flexible software applications to allow for PK, MCMP, etc. computer based laboratory exercises<br>3) See information room below                                                                                                                                                                                                |
| Pharmacy Practice Laboratory        | 40 station laboratory<br>Compounding/Dispensing laboratory ( <u>current 1968 sq feet</u> )<br>IV admixture/parenterals laboratory with 16 hoods. ( <u>current 244 sq feet</u> )<br>Patient examination / physical assessment room(s)<br>Patient education rooms<br>Hospital simulation room(s)<br>“Information” room (Allow for drug information resources from computer work stations). Shared with all laboratories |
| Basic Science/Integrated Laboratory | 40 station basic science laboratory for education. Designed as a state of the art laboratory for instruction in Organic Chemistry. It is likely that if the integrated laboratory in the new curriculum (Skills lab) has some wet lab activities a second adjacent laboratory with similar numbers of stations would be required.<br>Current: 1404 + 1390 sq feet                                                     |
| Nuclear Pharmacy Laboratory         | Properly equipped and designed modern nuclear pharmacy facility ( <u>Current 1652 sq feet</u> )                                                                                                                                                                                                                                                                                                                       |
| Manufacturing Laboratory            | Properly equipped and designed modern manufacturing laboratory. Considerable renovations and improvements need to be made to improve air handling, safety of the students, upgrading the work bays, provide flexible space that can be used for small molecular and biological manufacturing and improving the equipment available. (Current 1701 sq. feet)                                                           |
| Pre-lab Lecture Classroom           | 50 seats, As above, properly equipped with A/V technology and modern amenities. This classroom would be primarily utilized for prelab activities.<br><br>Secondarily to be utilized by School for Seminars, Courses, etc.                                                                                                                                                                                             |

**3) Student and TA space**

|                      |                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Student commons area | Locker space for all professional program students and BSPS students<br>2 small group classrooms seating of 20 students for TA office hours and help sessions. These rooms should be flexible in configuration.<br>Food service canteen area<br>Student collaboration area for social and professional interaction<br>Student organizational area (Rooms sufficient for storage, mail and work areas) |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|