

To: Sciences Faculty and Staff  
From: Casey C. Raymond, Chair SPC  
Date: 21 September 2006

We had 17 faculty, 2 staff, 1 student, 2 deans, and the Physics PKAL consultant attend the SPC workshop on Saturday, 16 September. Every department and constituent group was represented. I have included a transcript of the written comments from the breakout group sessions as an attachment. However, I wanted to highlight some of the major topics discussed, so that everyone can consider the ideas when meeting with the consultants and architects in the coming weeks:

- Class sizes for science majors courses should be less than 50.

- Science Resource Room

This could be in the model of a science library, but it was suggested that it also include a media center. The media center might be a place to house science information we generate and/or be a place where presentations could be prepared and practiced. I recently had a conversation with Chris Hebblethwaite, in which he indicated the library has begun to discuss outreach programs. He described it as on-site office hours for librarians. Basically, he would plan to be in the science building(s), probably with a laptop, available to help students and faculty find science-related information.

- General Education Courses

Although it was recognized that the Math and Computer Science have general education courses, the conversations focused on the Natural Sciences general education requirement. Two different breakout groups came to similar conclusions: we need to discuss creative ways to incorporate a laboratory experience and we may need to develop an interdisciplinary natural science general education course. This new course might serve as an introduction to all the areas of science and the existing courses would serve the role of the second course in the natural sciences. We need to assemble a small group to discuss the ideas presented.

- Facilities

Providing students access to laboratories and facilities was stated to be important and the idea of key cards was presented. In addition to this general topic, three main facilities were discussed: a 3-D visualization room, a Computational room, and team project rooms. I believe that departments should consider how they might use these types of facilities in their research and teaching. If you are not sure what this might entail, propose something or get in touch with your departmental SPC representative for ideas.

## SPC WORKSHOP, SEPTEMBER 16, 2006

### Breakout Session I

*What will be the future approaches to teaching science majors and how should space be designed to support this? (e.g., studio approaches, interdisciplinary approaches)*

Lab clusters/common area/pre-lab space  
Environmental issues (light, temp., etc.)  
Laptops for all and wireless for all (impact on traditional computer space)  
Library space = common  
Variable room size/flexibility

#### Teaching Science Majors

50 person max per classroom  
Flexible lab room for multiple use (studio vs. traditional lab)  
Wireless Technology throughout  
Natural light good, but some classes need occasional darkness  
Labs need adjacent and lockable storage rooms.  
Keep wet and dry labs separate.  
Publicly visible lab space.  
Science "news" media center  
Coat space/cubbies/lockers for coats/books in labs and classes

*What will be the future approaches to teaching non-science majors (Gen Ed) and how should space be designed to support this? (Should instructional space allow for some lab work?)*

Maybe a required Gen Ed Science with lab/hands on experience  
Would require 1–1½ hr. lab experience  
Possibly in conjunction with current Gen Ed course.  
Or create a new Gen Science course required of all students.  
3-4 weeks of a topic in depth (each area) 4–5 areas with lab/hands on experience  
Maybe use the quarter course system for different sessions/topics: A–B–C–D

Need to take Math and CS Gen Ed courses into consideration.  
Need a clear directive from Gen Ed Committee to what will be required.  
If a lab is required, need to define space in addition to what is already needed.  
Idea of interdisciplinary Gen Ed Course, "What is Science?"  
Need to infuse the implication of Math into Natural Science.

## Breakout Session II

*What shared facilities for teaching and research (i.e. facilities that serve more than one department) should we plan for? For example, are there opportunities for shared (and well maintained) computational facilities? Microscopy? 3-D visualization room?*

Shared facilities

Multi-purpose “computerless” computer lab (includes wireless access to printers, scanners, projectors, speakers and servers for discipline-specific software.

Separate T3 line for Natural Sciences.

Lake studies and Environmental Studies (are shared facilities possible?)

Microscopes (shared possible?)

De-ionized water as shared research/teaching resource.

Immersive 3D visualization room for Natural Science and others?

Growing trend

New Planetarium software allows 3D VR input

Perhaps larger dome room and Planetarium projector and computers and Imax-like movie generic projector.  
(~50/50 time use)

Support Staff: #'s must increase as facilities increase and sharing budgetary responsibility

Outreach...Seminar Facility

Field Sample Prep/Display/Storage

*How should space be configured to support faculty and students research?*

Faculty and Student Research

Common inviting space for faculty/students Poster/meeting

Presentation seminar room (large and small)

Public visible labs

Research space close to faculty

Flexible infrastructure

Common Library/Journal Space?

Security card access to rooms/labs

Common Computing Labs

Flood/Water Protection

Flexible open lab space

Common Equipment labs/Ice

Hoods and chemical cabinets

Wi-Fi

Science/Math Lib. in house, inc. on-line journals.

24/7 access to research spaces, keycards, etc.

Research space in proximity to faculty offices/labs with dedicated student research space.

Team project rooms (non-equipment) with smart boards, blackboards, etc.

Pedagogy research space.