

## PROJECT DOCUMENTATION

**PROJECT:** Grinnell College  
Noyce Science Center Phase II  
Grinnell Iowa

**COMMISSION NO.:** 14233-32  
**DATE:** August 12, 2002

**DESCRIPTION:** A series of meetings were held at Grinnell College on July 25 and 26, 2002 to bring closure to the Programming Phase of the work and to kick-off the Schematic Design Phase. The following items were discussed and actions taken.

**DISTRIBUTION:** Stephanie Peterson  
Chris Harrison-Weitz Co.  
Rick Heinz-RFD  
Lee Tapper  
H&R

### ITEM ACTION

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- 1.0 J. Swartz presented an overview of the project to date and described the process and schedule for the remaining phases.
- 1.1 The immediate goal is to complete schematic Design in time to present to the Board of Trustees in February of 2003.
- 2.0 A meeting was held with the architects of the new student dormitories, the new Campus Center, the new science building and representatives of the campus utility piping/facilities project to review and discuss common issues and identify potential problems.
- 2.1 Location and number of parking spaces available was a common concern raised. Parking for the science building is limited due to the constraints of the site. Parking for maintenance staff, short term parking for loading vans and for off-campus persons serving as subjects in the psychology labs and handicap parking will need to be provided on the site of the science building. Parking for all projects will need to be addressed as part of an overall campus study by the college.
- 2.2 The service entry for the Campus Center and the Science Building face each other across 8<sup>th</sup> Street, however, the curb cuts do not align. If the Campus Center service drive could be adjusted to align with that of the Science Building, access to both drives would improve.
- 2.3 It was agreed that the current pedestrian traffic flow from the new dormitories to the academic buildings would be altered by the placement of the Science Building. The existing pedestrian crossing of the rail tracks, just east of the Science Building, will be significantly altered by the Phase II project. Further study is required.

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- 2.4 The flow of students across 8<sup>th</sup> Street, between and west of the Science Building to the new Campus Center, will require the existing sidewalks in the area to be improved and enlarged.
- 2.5 Currently the proposed entry locations of the Science Building and the Campus Center seem to be working with each other.
- GC 2.6 The College agreed to forward plans and specifications of the utility infrastructure to H&R and CPA for coordination purposes. In addition, the design teams will be provided with the heating and cooling loads assumed by the Central plant designers.
- 3.0 A meeting with representatives of the Biology department was held to review the program for the CERA. A response to the initial program from Vince Eckhart is attached for reference.
- 3.1 Three structures were identified for the CERA program:
- 3.1.1 Teaching Lab Building that could be a renovation of the existing facility. Program requirements include:
- 3.1.1.1 A teaching lab for 24 students
  - 3.1.1.2 A functional HVAC system
  - 3.1.1.3 Toilet rooms
  - 3.1.1.4 Field equipment storage
  - 3.1.1.5 Lab support space
- 3.1.2 Machine Shed located at or near the existing storage barn. Program requirements include:
- 3.1.2.1 Tractor storage
  - 3.1.2.2 ATV storage
  - 3.1.2.3 Hay rake storage
  - 3.1.2.4 Tool Storage
  - 3.1.2.5 Herbicide storage
  - 3.1.2.6 CERA managers office
  - 3.1.2.7 Student technicians office
  - 3.1.2.8 Repair shop
  - 3.1.2.9 Greenhouse
  - 3.1.2.10 Toilet/locker/shower facilities.
- 3.1.3 Environmental Education Center located near the entry to the grounds. Program requirements include:
- 3.1.3.1 Classroom for 24 students
  - 3.1.3.2 Kitchen facility
  - 3.1.3.3 Storage
  - 3.1.3.4 Covered porch
  - 3.1.3.5 Toilet/janitor closet

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- 4.0 A meeting with the building committee resulted in the following comments:
- 4.1 Criteria needs to be established for the acoustical requirements of teaching labs. Existing labs that have acoustical problems need to be reviewed as part of Phase II scope of work.
  - 4.2 Attention needs to be given to increased security concerns related to animal facilities and the storage and distribution of chemicals.
  - 4.3 Additional College representatives that may need to be included in the building committee at various times during the process include:
    - 4.3.1 Facilities representatives
    - 4.3.2 Teaching technology personnel
    - 4.3.3 Representatives of the campus phone and computer network.
    - 4.3.4 Students
    - 4.3.5 Interested faculty not a part of the science division
- 5.0 A meeting to review classroom needs was held to review the overall classroom needs of the College. Bill Francis (Director of Information Technology), Gerry Adams (Registrar), Helen Scott (Associate Dean) and Marci Sorter (Associate Dean) were present to represent the College.
- 5.1 It was agreed that the College has many classrooms across campus that do not work well because of physical or technology constraints.
  - 5.2 New classrooms should be planned with access to natural light, integrated teaching technology, and secure storage for AV equipment.
  - 5.3 Space within the Science facility should be provided to allow persons teaching within the building who come from another building on campus, a place to store equipment and other teaching devices they may use as well as a place to put their belongings while using the facility. Such space would make the classrooms in the science building more desirable to the faculty outside the Science Division.
  - 5.4 The Registrar suggested that room names for teaching spaces that do not infer ownership by a particular department would make them more likely to be used by non-science faculty.
  - 5.5 The College would like to re-visit the classroom scheduling completed during programming. To assist in this process, H&R forwarded the classroom schedule templates to the College. The College will schedule four semesters of classes within the identified spaces.
- 6.0 A review of the science library program with representatives of the library resulted in no changes to the program.

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- 7.0 A meeting was held with Mark Godar representing the Facilities Department. The following was discussed:
- 7.1 H&R distributed a draft contract for the College to review.
  - 7.2 The College intends to contract with an independent commissioning agent to conduct Building Commissioning for the project.
  - 7.3 The College agreed to forward any survey information on the site they may have to H&R.
  - 7.4 The College is considering making LEED certification a requirement for all building projects on campus.
  - 7.5 It was directed that all buildings maintain their own stand-by/emergency power generators.
  - 7.6 A final decision has not been made regarding a delivery method for the project; however, the College is leaning toward a negotiated GMP type of approach.
- 8.0 The Chemistry department distributed an outline of their review of the Chemistry program. A copy is attached.
- 8.1 The appropriate location for the Bio-Chem teaching lab was discussed. The department felt that due to adjacency requirements with other Chemistry Department equipment, the lab should be located as close to other Chemistry spaces as possible, with a vertical integration with the Biology Department that is likely to be located on the floor below.
  - 8.2 The chemistry department is currently (2002-2003) teaching the number of sections of most courses predicted with 15% growth of the College in the future. It seems likely the number of sections of these courses may need to grow, though not at a level which would require more spaces to be built than the department had in the plan. This means chemistry would fill more chemistry spaces and make more use of shared classroom spaces than we had calculated earlier. The chemistry department will prepare a document including the current course schedule and a new 15% growth, including rooms they anticipate the courses will be taught in.
- 9.0 A meeting with the Computer Science Department resulted in the following comments:
- 9.1 The classrooms planned for math/computer science (Co06a, Co06b, Co06c) should be increased to 36-seat capacity from the current plan of 32.
  - 9.2 The department identified a need for three large faculty research labs (program designation CS06).
  - 9.3 Faculty research spaces should be designed to be multiples of office spaces so that one could be easily converted into the other.
  - 9.4 Natural light was requested in each of the computer classrooms.
- 10.0 A meeting with representatives of the Physics Department resulted in the following

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comments:

- 10.1 If a conference room space for 10-12 persons could be provided, then the existing Physics Seminar Room could be included into the shared space and be better utilized by the Registrar.
- 10.2 There are water seepage issues associated with the existing structure in the areas of the Physics Workshop and in rooms adjacent to the Woodshop.
- 10.3 The lighting in the existing student gathering areas in the basement of the existing building needs to be studied.
- 10.4 The acoustics in the courtyard should be reviewed.

11.0

A meeting with the Psychology Department resulted in the following comments:

- 11.1 A new curriculum was approved. Copies of an outline of the curriculum and requirements for the Psychology major are attached.
- 11.2 The approved FTE for the department is now six (from 5).
- 11.3 The current introductory lab (General Psychology Core Laboratory) shall be changed from a lab for 20 to a combined lecture/lab classroom for 30 students with 15 workstations or breakout spaces. Breakout spaces shall be equipped with tables. All breakout spaces are to be within the line of sight of the instructor. A storage/animal staging area shall be provided equipped with a sink and appropriate air handling.
- 11.4 The lab technician s office shall have an additional small seminar space.
- 11.5 A drop-off/parking area near the psychology department spaces is necessary for study subjects.
- 11.6 The square footage for PS 32 will be reallocated to include an observation room.
- 11.7 The department requested to enlarge the cognitive lab, if possible.

12.0

A meeting with the Biology department resulted in the following comments:

- 12.1 There are no changes to the program in terms of square footage allocations.
- 12.2 One faculty member has been added in the department since the programming phase.
- 12.3 An area for unloading equipment that is separate from the loading dock area should be provided.
- 12.4 Offices should be grouped.
- 12.5 Research spaces shall be intermixed with teaching spaces; research/teaching adjacencies are more important than office/research adjacencies.
- 12.6 The faculty is taking a workshop approach to teaching; intro labs and lecture rooms

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should be close, the intro labs should be located near stockroom.

12.7 A new freight elevator is to be large enough to accommodate equipment.  
(Approximately 4000-4500 lbs.)

12.8 Design and location of the greenhouse may be integrated into the plan for CERA.

12.9 The current (Phase I) teaching labs are loud.

12.10 Acoustics in the current (Phase I) teaching labs should be reviewed.

13.0 A meeting with the Math Department resulted in the following comments:

13.1 Co09a capacity of 21 shall be increased to 24. H&R will study several layouts for desks within this space.

13.2 Space for two additional carrels shall be provided within the Math Commons.

13.3 An additional tutorial space shall be incorporated into the program.

The preceding notes constitute Holabird & Root's understanding of the matters addressed. If your understanding differs, please notify Dennis Vovos within five working days of your receipt of this document.

**HOLABIRD&ROOT LLP**

Dennis Vovos  
Project Manager

DV/eb

Date: 11 January 2002  
From: Vince Eckhart  
To: James Swartz  
Re: Holabird and Root's description of the Conard Environmental Research Area

Here are some responses to Holabird and Root's proposal for CERA. As you'll see, Larissa Mottl's input was invaluable in composing these comments.

I'm pleased that Holabird and Root's description generally satisfies the 1998 CERA needs list that Jackie Brown, Kathy Jacobson, and I prepared and distributed. Let me make the following additional comments.

1) A modest utility greenhouse has now been constructed at CERA. Thus a greenhouse has become part of the existing facility that should be retained (or, preferably, upgraded), rather than a brand new space to be programmed. A potting shed remains on the list of needs, however, and a greenhouse with active HVAC would be preferable to the current "three-season" greenhouse.

2) The equipment shed was, unfortunately, overlooked by both the biology faculty and the planners. CERA Manager Larissa Mottl, who is in the best position to assess what is necessary to maximize the utility of this space, gave me a thorough evaluation. The recommendation immediately below is hers.

Replace the current shed with a larger, cement-floored one that includes (i) generous space for major equipment (tractor, ATV, and hayrake), (ii) space for enclosed storage of hand tools and fire equipment (pumps, rakes, flappers, helmets, fire-suits), and (iii) space for storage cabinets containing herbicides, gasoline, and kerosene. In this way, the equipment shed space would accommodate some of the needs (e.g., herbicide storage) that presently conflict with teaching in the current lab building. Larissa also suggested that interior rooms of the new equipment shed might be able to accommodate other identified needs, such as: cold storage for seeds; the potting area (which would mean that the greenhouse would be re-located there); climate-controlled office space for the manager, the technician, and interns; a restroom; a heated shop and indoor work area; and an exterior water source for the greenhouse and filling fire-fighting equipment and herbicide tanks. I think that her architectural idea is worth considering, as it would free the existing lab from having to perform both teaching and land restoration/management functions. It also would return the apartment's garage to the tenants' use.

3) Larissa also proposed an architectural solution to the need for additional academic/outreach program space (i.e., the multipurpose classroom and seminar room): construct an entirely separate building in a scenic, upland location at CERA, away from the current lab. This would facilitate use of CERA by more than one group at once (e.g., a biology class plus an elementary school group, or a biology class plus a tutorial). This idea is also worth considering, among other options.

In short, Holabird and Root's description looks good so far. I look forward to considering architectural solutions that meet CERA's needs.

## **New Psychology Major Requirements**

### **The Major**

**A minimum of 32 credits in Psychology including:**

- **Psychology 113 Introduction to Psychology**
- **Psychology 225 Research Methods**
- **Psychology 495 Senior Seminar**
- **Twelve additional credits from core courses at the 200 level with at least 1 course from Group A and 1 course from Group B.**
  - **Group A**
    - **Psychology 243 Behavior Analysis**
    - **Psychology 246 Physiological Psychology**
    - **Psychology 260 Cognitive Psychology**
  - **Group B**
    - **Psychology 214 Social Psychology**
    - **Psychology 233 Developmental Psychology**
    - **Psychology 248 Abnormal Psychology**
- **Eight additional credits at the 300 level.**
- **At least 2 courses above the 100 level must be laboratory courses.**

**Also required:**

- **Mathematics/Social Studies 115 Introduction to Statistics or Mathematics 209 Applied Statistics.**

**Graduation with honors requires:**

- **Departmental Recommendation**
- **Grade point requirements for honors**

**Recommended:**

- **Independent research and departmental service.**

### New Psychology Curriculum

Number	Course Area, Name, and	Lab	Potential Lab Course	Core Course	New Course	Frequency
<b>General</b>						
113:	Introduction to Psychology <sup>13</sup>	x				5 x Annual
<b>Behavioral</b>						
222:	Industrial Psychology					Biennial
243:	Behavior Analysis with Lab <sup>14</sup>	x		x		Annual
348:	Behavioral Medicine		x			Biennial
<b>Cognitive</b>						
260:	Cognitive Psychology with Lab	x		x		Annual
360:	Advanced Cognitive Psychology		x		x	Biennial
355:	Psychology of Language		x			Biennial
220:	Decision Making					Biennial
<b>Developmental</b>						
233:	Developmental Psychology with Lab	x		x		Annual
3xx:	Advanced Developmental Psychology		x		x	Biennial
334:	Adult Development		x			Biennial
<b>Physiological</b>						
246:	Physiological Psychology			x		Annual
346:	Psychopharmacology with Lab	x				Biennial
3xx:	Advanced Behavioral Neuroscience <sup>15</sup>	x				Biennial
<b>Social-Personality</b>						
214:	Social Psychology with Lab	x		x		Annual
3xx:	Advanced Social Psychology		x		x	Biennial
3xx:	Personality Psychology <sup>16</sup>					Biennial
<b>Clinical</b>						
248:	Abnormal Psychology			x		Annual
3xx:	Advanced Clinical Psychology		x		x	Biennial
337:	Psychological Measurement with Lab	x				Biennial
<b>Methods</b>						
235:	Research Methods				x	Annual
<b>Theory</b>						
311:	History of Psychological Theories <sup>17</sup>					Biennial
<b>Other</b>						
4xx:	Senior Seminar				x	2 x Annual

<sup>13</sup> This is a new name for the existing General Psychology course.

<sup>14</sup> This is a new name for the existing Learning and Motivation course.

<sup>15</sup> This existing course is renumbered.

<sup>16</sup> This existing course is renumbered.

<sup>17</sup> This existing course is renumbered.

X-Sender: lyons@exchange server.grinnell.edu  
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From: "Leslie J. Lyons" <lyons@grinnell.edu>  
Subject: Building meeting preparation  
Cc: marzluff@grinnell.edu  
X-OriginalArrivalTime: 24 Jul 2002 21:06:37.0095 (UTC) FILETIME=[FF75EB70:01C23355]

Hi Folks,

Elaine and I reviewed our chemistry documents in preparation for the building meeting on Thurs. and Fri. and have identified the following issues to discuss on Friday:

1) Enrollment growth and intro./org sections planned.

In our planning previously we had calculated 15% growth of our program from two years ago to plan for sections of CHEM 129, 130, 221, and 222. We are currently teaching the number of sections we predicted with 1500 students at the College in the future. It seems likely the number of sections of these courses may need to grow, though not at a level which would require more spaces to be built than we have in the plan. This means chemistry would fill more 'chemistry spaces' and make more use of shared classroom spaces than we had calculated earlier. If other departments will also make more use of shared space than the sum of all these demands may create more space demands.

2) Stockroom.

Our external review recommended improvements in the lighting and ventilation of the stockroom. Also, new security demands should remove the penthouse access for mechanical work from the stockroom.

3) There is no detailed plan for the classroom adjoining the workshop lab space.

4) BiolChem issues.

Where will BCM 262 be taught? If the class is 20 students the computer/discussion room could be used, while if it is larger, then 2022 could be used. As a new class in the science division, we were not sure where to put it in our space lists 2 years ago.

5) Staff Growth.

We did not plan on any staff growth two years ago. Mike will retire over the lifetime of the next addition so if he is replaced by two people, then we will need to build in the office space to accommodate that growth.

6) Specific room designs.

We will need to confirm the size, configuration, connectivity, services of all our new proposed spaces. On a first glance, there may not be enough bench space in the new instrumental lab. I don't think we addressed connectivity issues at all last time.

So, that's what we came up with for Friday. I have the binders and report in my office if you would like to borrow them before our meetings. See you at 9 in Sci 1022.

Leslie

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## CHEMISTRY ROOM UTILIZATION TABLES

update July 29, 2002

**(Note: this assumes one dept tutorial will be taught elsewhere)**

15% growth reflecting new curriculum

**Utilization of Spaces**

The first number is number of times per week, the second is hours per time. Hence 1x3 is one meeting time for 3 hours and 3x1 is 3 meeting times of 1 hour each. Tentative time slots are given to each course.

Room: Ch 03 “Workshop Chem Lab/Class”—new space request: 5 useable blocks of time in schedule: 3 on MWF, 2 on Tu,Th

Fall		Spring	
		Chm 100.01—24	2x3 TTh AM
Chm 129.01—24	3x2 MWF 8-10	Chm 129.01—24	3x2 MWF 8-10
Chm 129.02—24	3x2 MWF 10-12	Chm 129.02—24	3x2 MWF 10-12
Chm 100.02—24	2x3 TuTh PM	Chm 130.01—24	3x2 MWF 1-3
		Chm 100.02—24	2x3 TTh PM

\* This room will need enough open time during the day (8am-4pm) (1-2hrs/day average) for setup and takedown of laboratory experiments

Room: Ch 04 “Intro Chemistry Teaching Lab”—maps to existing introductory lab (2134)

Fall		Spring	
Chm129L.03—24	1x3 Tu AM**	Chm 129L.03	1x3 M PM
Chm 129L.04—24	1x3 Th AM **	Chm 129L.04	1x3 T PM
Chm129L.05—24	1x3 Tu PM	Chm 130L.01	1x3 Th PM
Chm 130L.01—24	1x3 Th PM		

\* This room will need enough open time during the day (8am-4pm) (1-2hrs/day average) for setup and takedown of laboratory experiments \*\*These are planned in morning to match that one course must be taught in afternoon in 2022 (Co 01). We have had good luck running morning introductory labs in the past.

Room: Ch 05 “Biochem teaching”—new space maps to existing biochem lab (2102)

Fall		Spring	
CHM330(1)L.01—12	1x3	BCM262L.01 – 14	1x3
		BCM262L.02—14	1x3

\* This room will need enough open time during the day (8am-4pm) (1-2hrs/day average) for setup and takedown of laboratory experiments. It will also be used for biochemistry research.

Room: Ch 06 “Instr/Physical Chemistry”—maps to existing analy lab (2105)

Fall		Spring	
Chm363L.01-10	1x3 Tu AM	Chm358L.01-10	2x3 T,TH PM
Chm363L.02-10	1x3 W PM	Chm364L.01-10	1x3 W PM
Chm363L.03-10	1x3 Th PM		

\* This room will need enough open time during the day (8am-4pm) (0.5 hrs/day average) for setup and takedown of laboratory experiments

Room: Ch 07 “Org Chemistry Teaching Lab”—maps to existing organic lab (2134)

Fall		Spring	
Chm221L.01-18	1x3 M PM	Chm222L.01-18	1x3 M PM
Chm221L.02-18	1x3 T PM	Chm222L.02-18	1x3 T PM
Chm221L.03-18	1x3 W PM	Chm222L.03-18	1x3 W PM
Chm221L.04—18	1x3 Th PM	Chm222L.04-18	1x3 Th PM
Chm221L.05-18	1x3 F PM**		

\* This room will need enough open time during the day (8am-4pm) (1hrs/day average) for setup and takedown of laboratory experiments. \*\*one of these could be in morning but then one must deal with length of laboratory issues!

Room: Ch 08 “Adv Syn Lab”—new space maps to existing student research lab (2101)

Fall		Spring	
Chm325L.01-10	1x3	Chm 423L.01-10	1x3

\* This room is also designated and designed to meet student research needs. Past numbers estimate 4 students total working 1x3 hours each throughout the semester.

This room will need enough open time during the day (8am-4pm) (2 hrs/week average) for setup and takedown of laboratory experiments

Room: Co 11 “Chemistry 1<sup>st</sup> seminar”—maps to existing seminar room (2024)

Fall		Spring	
Chm 325.01-10	3x1 9-10 MWF		
Tut100.01-12	2x2 8-10 TTh	Chm423.01-10	3x1 11 MWF
Chm390.01-5	1x3 FPM	Chm364.01-10	3x1 10 MWF
Chm 330.01-16	1x3 10 MWF	Chm358.01-10	2x2 TTh 10-12

\* This room is also used extensively in the evenings and on weekends for mentor sessions.

Room: Co 01 “Chemistry 1<sup>st</sup> Lecture”—maps to existing classroom (2022)

Fall		Spring	
Chm129.03-24	3x1 MWF 3	Chm129.02--24	3x1 MWF 8
Chm129.04—24	3x1 MWF 2	Chm130.02—24	3x1 MWF 9
Chm130.01-24	3x1 MWF 11-12	Chm222.01—30	2x2 TTh 8-10
Chm221.01—24	3x1MWF 9-10	Chm222.02—30	3x1 MWF 10
Chm221.02-24	2x2 TTh 8-10	Bcm262.01--24	3x1 MWF 11
Chm221.03-24	3x1 MWF 8-9	Chm222L	4x1** M-Th 1-2
Chm 221.04—24	2x2 TTh 10-12		
Chm363.01-30	3x1 MWF 10-11		
Chm221L	5x1** M-F 1-2		

\*This room is also used in the evening for seminars and review sessions.

\*It is important to note that most of these classes meet most easily in morning slots. However, we put the 129 in afternoon slots with morning labs because they will most likely be the easiest to accommodate in morning labs—with ONE CATCH—the TUTORIAL TIME SLOT!

\*\*Schedule 1:15-2:05 M-F in Fall, M-R in Spring

#### SOME THOUGHTS ON COMBINING INSTRUMENTAL/PCHEM.

One issue we wished to think about is the possibility of losing flexibility by combining two separate laboratories into 1. Possibilities as our curriculum grows and changes might mean that as many as 3 pchem labs, 2 instrumental labs and 1 biophysical chemistry lab need to use this space. This is a total of 6 labs in a room with 7 total slot (I am not including MWF mornings as real slots due to scheduling). This should be ok as it is highly likely that pchem may wish to offer 1 morning lab as one of the three offerings as our experience with morning labs in the past has been favorable. This would not preclude students co-enrolling in pchem 1 and instrumental as students choose one of 3 labs for pchem.

## Beyond the Numbers: Chemistry Curricular Change REVISITED

Updated July 29, 2002

Starting with the academic year 2000-2001 we changed our introductory curriculum to reorganize in a way to accommodate a new biological chemistry major. In 2001-2002 these changes continued at the 2<sup>nd</sup> year level, reflecting a reorganization of the organic curriculum and the introduction of a new course, BCM 262, "Introduction to Biological Chemistry". There are two separate tables included with this document. *The first is our current course schedule*; an aggregate of a "typical" year, based on the last year and this year.

*The second is a straight 15% growth calculation*, assuming same size classes and laboratories as we currently teach. This would require the addition of 2 faculty members.

Notably, at the introductory level, we have already realized the number of 129/130 sections predicted in Jan. 2001 assuming 15% growth! We have had no indication that these numbers will decrease and in fact we have been running many of these larger than we would like due to staffing issues. At the organic level we are already offering 3 sections to continue to support class sizes of about 25-30+ and a 4<sup>th</sup> lab. We are at maximum capacity in the laboratory with 4 labs.

With 15% growth, at the upper level, the only envisioned change is a 3<sup>rd</sup> physical chemistry laboratory. Ideally we would like to be able to offer 2 sections of chemistry 100 and 2 tutorials (currently difficult for us to staff). Then we will definitely need a 5<sup>th</sup> organic laboratory, for example. The interest in non-majors courses may indicate adding a 3<sup>rd</sup> such course (perhaps more specialized).

We have included in this list our plans of where these courses would be taught after Phase II. Because of the nature of our curriculum year to year there is little variation in our offerings. A KEY POINT is that while our anticipated course offerings have increased dramatically our space needs are not different, we will merely anticipate utilizing more fully our planned spaces.

This reassessment also indicates we have planned appropriately for an increase in faculty, though we have not addressed the issue of MAP compensation or other types of course releases.

**Current Courses Offered/Planned/ (2001-2003)**

Fall			Spring		
Course	#sections	location	Course	# sections	Location
			<i>100</i>	<i>1</i>	<i>2022</i>
129	3	2 in 2022, 1 2132	129	2	2022
129L	5	2134 (intro lab)/2132 (comp disc room)	129L	3	2134/2132
<i>130</i>	<i>1</i>	<i>2022</i>	130	2	2022
<i>130L</i>	<i>1</i>	<i>2132/2134</i>	130L	2	2134/2132
221	3	2022	222	2	2022
221L	4	2134 (organic lab)	222L	3	2134 (organic lab)
325	1	2024	262	1	2132
325L	1	current "research" lab	262L	2	Biochemistry lab
330(1)	1	2024	358	1	2024
330(1)L	1	biochemistry lab	358L	2	Inst lab
363	1	2132	364	1	2132 or 2024
363L	2	current pchem lab	364L	1	Pchem lab
Tut	1	2024; ARH?	423	1	2024
390	1	2024	423L	1	Current "research" lab
Courses: 11+15/2=18.5			Courses: 11+14/2=18		

Chem 330/331 are offered in alternate years so listed once. Course in italics planned for next year but not offered this year due to leaves. Total courses of 36.5 are covered currently by 7.3 FTE

**Above with 15% growth and NEW Building spaces!**

Fall			Spring		
Course	#sections	location	Course	# sections	Location
100	1	wkshp	100	2	wkshp
129	4	2 in 2022, 2 wkshp	129	3	1 2022, 2 wkshp
129L	5	3 2134 (intro lab)2 /wkshp	129L	4	2134/wkshp
130	1	2022	130	2	1 2022/ 1 wkshp
130L	1	2132/2134	130L	2	2134/ wkshp
221	4	2022	222	2	2022
221L	5	2134 (organic lab)	222L	4	2134 (organic lab)
325	1	2024	262	1	2022
325L	1	New adv lab	262L	2	Biochemistry lab
330(1)	1	2024/2132	358	1	2024/2132
330(1)L	1	biochemistry lab	358L	2	New instr/pchem lab
363	1	2022	364	1	2132 or 2024
363L	3	New intrs/pchem lab	364L	1	New instr/pchem lab
Tut	2	2024; ARH?	423	1	2024
390	1	2024	423L	1	New adv lab
Courses: $15+17/2=23.5$			Courses: $13+16/2=21$		

Chem 330/331 are offered in alternate years so listed once. Total courses of 44.5 would require 9 FTE to teach or an expansion of the department by two.