

Draft – 17 February 2001

**Concerns, Needs, and Dreams
for Lecture Halls 12A, 12, and 12B
with additional consideration of future renovations to CSC-130 & 132**

Due to the short time scale, we are posting this for all to see and contribute to, even though we recognize the draft is far from complete. Please feel free to e-mail your suggestions or concerns to any one of us, or come to our Tuesday, 9:00 am meeting in CSC-706. (Committee is composed of Ken Jordan, Eugene Wagner, and Joe Grabowski; Rebecca Claycamp participated in many of the discussions/activities of the committee.)

Charge to the Committee (in memo dated 1 Feb 2001):

"Your charge is to review the uses and inadequacies of Rooms 12, 12A, 12B, 130, and 132 and to recommend how these rooms should be modified to best serve our teaching needs. This will include a recommendation for seating in those rooms where replacement seating is needed. We are all aware that we need more and better projection capabilities in all of those rooms. We need good internet access and a technology that encourages the use of computers for presentations."

The complete "Charge to the Committee" memo can be found elsewhere. Importantly, it points out that: "Your first draft of the plan should be ready no later than March 10, 2001." Since then, we have learned that Facilities Management and Media Services are eager to have this project completed by the start of the Fall Semester and would like our "report" as of Feb 8, 2001. We are therefore working on an extremely tight time schedule. To assist in ensuring timely completion, we have decided on the following time schedule...

14 February 2001	Distribute initial material to all faculty (via web) and solicit input.
15 February 2001	Visit other classrooms.
19 February 2001	Communicate decision about chairs to Facilities Management
20 February 2001	Weekly committee meeting, 9:00 am in CSC-706 (open to all)
21 February 2001	Communicate decision about LECTURERS BENCHES to Facilities Management.
27 February 2001	Weekly committee meeting, 9:00 am in CSC-706 (open to all)
28 February 2001	Complete First Draft of report, circulate.
8 March 2001	Final Committee Meeting, 9:00 am in CSC-706 to consider all responses and to revise/redraft First Draft as appropriate.

How is this report organized?

Miscellaneous comments/issues/etc. – This section contains notes that do not fit elsewhere with how the report is current organized.

The "Miscellaneous" section is then followed by a series of bulleted items that each touches upon one issue. Each issue thus raised then has a comment (or a space for a comment) for each of the five classrooms being considered.

Miscellaneous comments/issues/etc.

- Committee Activities included...
 - 1st Committee Meeting, Tuesday, 6 Feb 2001, 9-10 am (KJ, EW, JG).
 - Met with Sam Conte (Registrar), Rich (Facilities), Mike Arenth (Media Services), and Ed Gyurisin (CIDDE Engineer) (EW, JG, RC) on Thursday, 8 Feb 2001.
 - 2nd Committee Meeting, Tuesday, 13 Feb 2001, 9-10 am.
 - Visited numerous Classrooms beginning 7:30 on Thursday, 2/15/01.
 - Posted revised Report Draft on web on 2/17.
- It is assumed that both the registrar and the department are aware that the three lecture halls are all simultaneously available only for construction work beginning with the end of the Spring term 2001 and continuing until the start of Fall term 2001. Furthermore, it is assumed that the renovations will be completed by the start of the Fall term 2001.
- We briefly discussed, but decided we did not have time to address in detail at this time, how the lecture hall renovations would hinder/help “**cheating**”.
- The renovation should ensure that adequate **temperature controls** are in place and always functioning (too many student complaints are currently received about the lecture halls being too hot or too cold).
- All **blackboards** surfaces must be replaced with brand new boards that can easily be seen by the most remote student. (Permanently mounted whiteboards and electronic whiteboards do not appear to be practical in 12A, 12B, or 12 at this time, though they may be appropriate for 130/132.) The total, simultaneously viewable chalkboard square footage should not be decreased over what is currently present in 12, 12A and 12B. The feasibility of replacing the electric driven movement by hand movement should be explored – several faculty favor hand movement of the boards.
- A checklist of **weekly maintenance** of all audiovisual equipment should be established and a workstudy student detailed to complete that checklist. List should include cleaning of optics and cases, checking for tangled or missing cables, ensuring all lamps are functioning, ensuring batteries are working and spares are on hand, as well as taking broken equipment to the correct unit for repair and/or replacement. Likewise weekly maintenance of the computers should be performed (e.g., cleaning up after the myriad of users that week), including upgrading and installing new software as requested by the lecturers.
- It is assumed that in 12A, 12, and 12B, the major **projection area** will be the wall above the chalkboards. This might necessitate removal of the sound baffling installed on those walls in 12A and 12B – but it should first be ascertain that removing the existing panels in 12A and 12B does not disturb the well-tuned acoustics in those two rooms. If removing the panels disturbs the acoustics, should we install a roll down screen immediately in front of the front wall acoustic panels?
- **Periodic tables** will be available via the data projector/computer hookup, using any of a number of excellent available over the web. Someone will have to be detailed to select the appropriate one and have it set up on each of the data systems in each of the lecture halls. Who will do that?
- We anticipate that increasingly, educators will need to **simultaneously** use several images as well as the blackboard.

- **Security** of all permanently installed, and all portable technology items must be carefully considered and correctly implemented.
- It is assumed that wireless mics, and all portable technology will be **available in the lecture halls** (obviating the requirement that mics used on the 1st floor must be obtained from the 2nd floor).
- **Audience response systems** for the lecture halls, if used, will be wireless (RF or IR) and are not further considered herein. We encourage the Department to seek funding to establish this capability in the appropriate scale for the number of students in 12.
- The **projector booths** at the back of each lecture hall may be used to house the data projector and possible other equipment. However (we have been told) use of the booths necessitates much more expensive data projectors (e.g., ca. \$40K) due to the long throw as compared to the those that would be acceptable if mounted with 65 feet of the screen (e.g., ca. \$20K).
- The **signage**, indicating where the various lecture halls are should be permanently increased and improved – obviating the necessity of the routine pasting of paper signs each term. This may include an appropriate sign just inside the lobby doors – perhaps on the doors to the Ashe Auditorium. On the exterior of each door into 12, 12A, and 12B from the lobby level must have a prominent sign that states: "Please enter from the rear of the hall if the lecture is already in session."
- The eventual move of the **JCC** from the its current location to Eberly Hall, and the "reclamation" of CSC-135 as a classroom was discussed.
- All class rooms should have several **pencil sharpeners installed** – these are absolutely necessary during many exams.
- A scheme must be devised so that the **chalkboards are cleaned after every lecture** class. Presumably a janitor, or workstudy student can be equipped with a rolling cart containing the buckets, solutions, squeegee, clean erasers and extra chalk to ensure a clean, dry board with usable erasers for the next lecturer.
- Currently, about 3 **microphone/transmitter** pairs (\$310/pair) are "lost" each year and a fourth is destroyed by accidental crushing. A solution to minimize this expense and frustration would be useful.
- This report takes into account **suggestions received from** the committee as well as: GW, PS, GB, GM, DPC

- ▶ What is the **current capacity** of the classroom and the **target capacity** after renovation?

	Current	Target
Lecture Hall 12	240	240 - 280
Lecture Hall 12A		remains the same
Lecture Hall 12B		remains the same
Classroom 130		
Classroom 132		

- ▶ What campus classrooms could we and did we **visit**?

Could	Did
Masonic Temple	
Thaw Hall 11	
Thaw Hall 102	Visited 2/15
Thaw Hall 104	Visited 2/15
Mervis 110	Visited 2/15
Mervis 75 (multimedia, distance)	Visited 2/15
Lawrence Hall 104, 120	Visited 2/15
Clapp L9	Visited 2/15
Langley small lecture halls	Visited 2/15
Law Building 107	
Engineering (Len's classroom)	
Cathedral G24	Visited 2/15

- ▶ What **acoustical problems** need to be fixed?

Lecture Hall 12	<p>“Leakage” of amplified voice into Lecture halls 12A & 12B. Inadequate sound system with lack of lecturer accessible controls. Microphone not stored in the Lecture hall. Fix echo (i.e., damp) in this hall like was done in 12A and 12B.</p>
Lecture Hall 12A	<p>“Leakage” of amplified voice from Lecture hall 12. Inadequate sound system with lack of lecturer accessible controls. Microphone not stored in the Lecture hall.</p>
Lecture Hall 12B	<p>“Leakage” of amplified voice from Lecture hall 12. Inadequate sound system with lack of lecturer accessible controls. Microphone not stored in the Lecture hall.</p>
Classroom 130	One of 130/132 has a really noisy fan – fix!
Classroom 132	One of 130/132 has a really noisy fan – fix!

► What aspects of the **room lighting** should be improved?

Lecture Hall 12	Rewire the 4x4 fluorescent light panels so that half of the tubes in any one panel can be turned on AND the panels in the front half of the classroom are controlled independently of the panels in the back half of the classroom. All lights (including board lights) must be controlled from one location. Retain the adjustable incandescent house lights.
Lecture Hall 12A	Front Spots are not useful as currently configured. Rewire the 4x4 fluorescent light panels so that half of the tubes in any one panel can be turned on AND the panels in the front half of the classroom are controlled independently of the panels in the back half of the classroom. All lights (including board lights) must be controlled from one location. Retain the adjustable incandescent house lights.
Lecture Hall 12B	Front Spots are not useful as currently configured. Rewire the 4x4 fluorescent light panels so that half of the tubes in any one panel can be turned on AND the panels in the front half of the classroom are controlled independently of the panels in the back half of the classroom. All lights (including board lights) must be controlled from one location. Retain the adjustable incandescent house lights.
Classroom 130	
Classroom 132	

- All existing lights need to be routinely maintained – too many burned out fluorescent tubes currently exist in (at least) 12A.
- Is it worth the expense to rewire the fluorescent 4x4 panels?

► What is the preferred **student workspace?**

	Current	Target
Lecture Hall 12	2-person table	Remove all tables and replace with tablet chairs, 15 chairs per row (see details as described below).
Lecture Hall 12A	tablet chairs	Replace in kind (see details as described below).
Lecture Hall 12B	tablet chairs	Replace in kind (see details as described below).
Classroom 130	1960's desk chairs	tables
Classroom 132	1960's desk chairs	Replace in kind

(We do not envision requesting electrical outlets or data ports for each student in any of the three lecture halls at this point. We do envision equipping either or both 130/132 with AC outlets and/or dataports or a wireless internet connection system.)

The current chair placement in 12 leads to too low a student density and with too many students too far from the lecturer for effective eye contact. Most faculty would like to see more students in the same space, and closer to the front. One oft-requested configuration is tables/chairs, but without all the aisles currently in 12. In all rooms with 3 foot deep risers that we visited on campus (12, 12A, and 12B all have 3' risers) there were only chairs with writing tablets that extend from the arm of the chair. Rooms with 4 foot deep risers that we visited on campus can accommodate bench tables and chairs. The only way to get a table/chair pair per student in 12 is to replace in kind (i.e., with each chair accessible from an aisle).

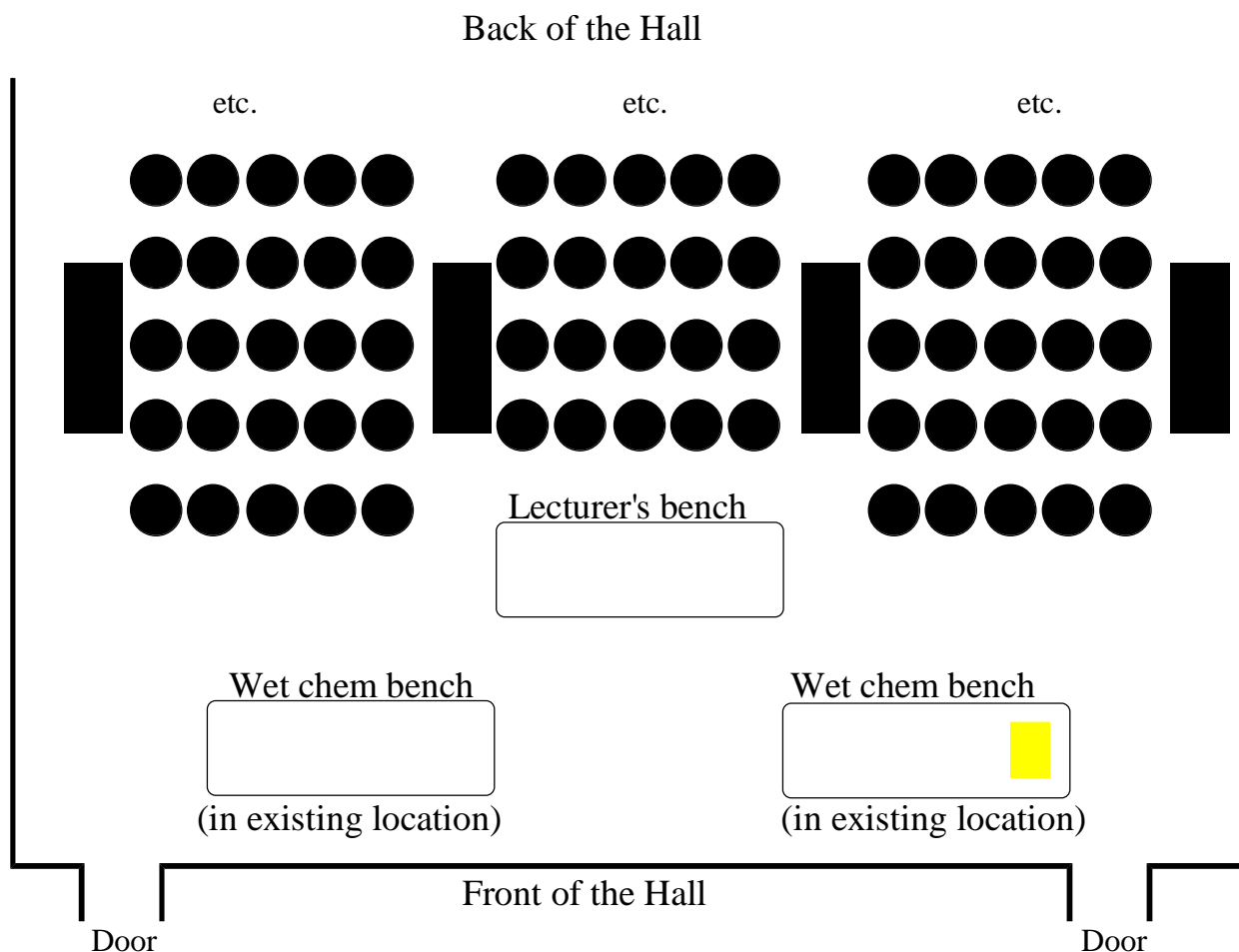
Essentially all tablet surface areas on the tablet chairs in most campus lecture halls that we visited are too small for the tasks we expect our students to accomplish in the lecture hall. Thaw 102, and 104 were the only rooms that had tablet areas of adequate size. We believe chairs with these sized-tablet areas would suffice for our needs in the chemistry department. However, there is some concern that taller students will be uncomfortable in chairs with such low backs.

Considering the above here is the recommendation:

Replace all chairs in 12A and 12B with tablet chairs similar to those in Thaw 102/104 with the most important constraints being the large tablet area the comfort of the chair. When the new chairs are installed, no gaps should be left (as there is currently for projection equipment).

Assuming that it is impossible to have tables/chairs in Lecture 12 in which 5 students are at a common bench (i.e., attaining a much higher student density than is currently available with the 2 students/common bench) leads to the following recommendation for Lecture Hall 12. Remove all tables and chairs in 12 and replace with the same type of tablet chairs described above for Halls 12A and 12B. In Lecture Hall 12, the first row of chairs which are currently mounted on the floor would be removed and NOT reinstalled. Each riser would be reconfigured to have 4 aisles (one on each exterior of the chair set and two interior aisle) flanking three sets of 5-chairs. The new first row would only contain 10 chairs (the center 5 would be omitted to account for the lecturer's bench which will block sight lines from those chairs). This configuration necessitates that some additional concrete be poured where three of the existing aisles are reconfigured to support a extra chair. This new configuration changes the number of seats in a row from 12 to 15

(excepting one row is completely lost and the new first row {old second row} only has 10 chairs) and could change the total seating capacity from 240 to 280. Someone will have to ensure such an increase is compatible with safety codes. Alternatively the last two rows of chairs could not be installed.



The above described new configuration is the best compromise for effective current and future (as good as our crystal balls can tell us anyway) teaching practices. It is far superior to the current configuration but not nearly as effective as what one would design from scratch today. A much less attractive Plan B (read Eugene's lips: much less attractive!) is to replace the seating in 12 in kind.

A regular (monthly?) maintenance schedule should be implemented to repair or replace broken chairs.

Because 130 and 132 are sometimes used in a manner in which a class is broken up into small groups, at least one of the 130/132 rooms should not have permanently installed (i.e., nonmovable) tables.

► What is the preferred **lecturer's benches**?

	Target
Lecture Hall 12	<p>Replace current tops. Paint or replace cabinets (aesthetic purposes mostly). Divide current bench into 3 separate benches. Leave outside 2 in current location – these serve as the wet chemistry demo benches. Move center section forward to serve as electronics area etc. (See separate sketch, 12-Benches). All bench tops in all lecture halls to be standard, wet chemistry, acid proof, bench tops.</p>
Lecture Hall 12A	<p>Replace current top. Divide top into two parts – wet area and electronics/notes area. Division is to include a physical "backsplash" type separation between the two halves. All bench tops in all lecture halls to be standard, wet chemistry, acid proof, bench tops.</p> <p>-- Consider keeping existing wet bench and adding third, forward electronics bench?</p>
Lecture Hall 12B	<p>Replace current top. Divide top into two parts – wet area and electronics/notes area. Division is to include a physical "backsplash" type separation between the two halves. All bench tops in all lecture halls to be standard, wet chemistry, acid proof, bench tops.</p> <p>-- Consider keeping existing wet bench and adding third, forward electronics bench?</p>
Classroom 130	Yet to be considered
Classroom 132	Yet to be considered

An important concern here is to clearly separate the wet chemistry bench from the electronics bench which also simultaneously eases the problem of "residue and spills" left from the previous lecturer's demos interfering with the next lecturer's use of the desktop for notes and electronic device usage.

It is important that adequate air and gas jets, and an increased number of electrical outlets be available for the wet demo benches.

► What **technology** should be permanently mounted/installed in each room?

	12A	12	12B	130	132
Campus Phone	•	•	•	•	•
Data Copy Stand (Elmo?) – image projected via the data projector. Will a permanently mounted device such as this serve the needs of many current uses of overhead projectors?					
Data projector capable of 3D images whose image fills the white wall above the chalkboard.	•	•	•		
2nd data projector for right half of screen area	•				
3rd data projector for right half of screen area	•				
PC (including CD & DVD playback capability; zip disk; sound output of computer must be wired into lecture hall sound system).	•	•	•		
Location/support for lecturer's portable	•	•	•	•	•
Video camera – projected via the data projector, to allow demo's to be displayed on the wall.	•		•		
Permanent internet access to installed PC	•	•	•	•	•
Second port for the lecturer's portable	•	•	•	•	•
Permanently installed slide projector		•	•		
VCR Playback Unit	•	•	•		
Cassette Deck					
Laser video disk player					

Can all of the electronics technology be mounted in the lecturer's bench rather than in the media closet?

► What **technology** should be available as a portable device for each room?

	12A	12	12B	130	132
Really good overhead projector	•	•	•	•	•
Slide projector	•			•	•

All portable technology must be stored in a secure location, that is accessible to faculty even after normal business hours.