

EYP/® minutes

To: Attendees
Project Name: Bull Run Hall Addition
Project No.: 1019004.01

Date of meeting: June 10, 2019
Time of meeting: 4:30-5:30
Location of meeting: Sci Tech, IABR, Conf Rm 1004
Meeting Number: 2

Meeting Purpose: Programming for Forensics

Attendees:

George Mason University:

- Kim Rule, Forensic Science
- Mary Ellen O'Toole, COS
- Tony Falsetti, COS-FRSC
- Carrie McVicker, COS
- Martha Wescoat-Andes, COS
- Kelly Knight, FRSC
- Paul Didier, EHS
- Laura Manno, Provost/Planning
- Colby Grant, Sci Tech Admin
- Debbie Brady, Facilities
- Virginia Steele, Facilities
- Joy Staulcup, Facilities
- LeAnn Pittman, CaLT/Learning Space Design

EYP:

- Melissa Burns, Academic Planner
- Brian Tucker, Lab Planner
- Rebecca Ross, Planner/Architect
- Suzanne Klein, Project Director

Minutes:

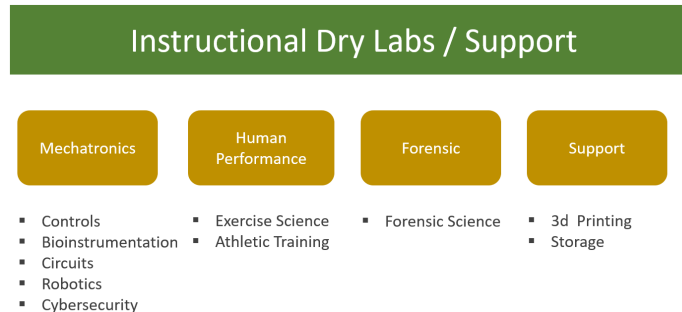
General Comments:

The group met on George Mason University's SciTech campus. The purpose of the meeting was to discuss each functional space type in more detail and to identify the following for each space:

- Number of students
- Type and style of teaching
- Timing of courses (Fall/Spring/Summer, Frequency, Time)
- Key adjacencies,
- Prep/Storage needs
- Major equipment

1. **Introductions:** Laura Manno introduced the meeting and provided a brief project overview to the group for new attendees that were not in the last programming meeting. She explained the process and purpose of the building and that there will be ongoing conversations on

scheduling, logistics and budget. There were diagrams on the wall which were presented at the last building committee meeting and were the starting point for this set of interviews.



The green bar represents a typology in the building and the gold groups represent a function of the type followed by a list of uses. The function could be representative of one or more spaces and are a way to think holistically and collaboratively about space within the building.

2. Forensics crosses multiple “buckets” of functional space types and typologies:
 - a. Wet Instructional Lab – Bio Chem Intensive
 - Tissue Engineering / DNA
 - Organic, synthetic, medicinal to meet other wet lab needs
3. **Forensic DNA (Wet Lab – Bio Intensive):**
 - a. Kelly Knight explained that contamination is a huge issue compared to other departments.
 - b. Courses have serology (identification of bodily fluids) and DNA components
 - Isolate DNA from bodily fluids or skin cells
 - Traditional biological extraction methods
 - Quantitate DNA
 - PCR room
 - Capillary electric freeze
 - Similar to other disciplines, but the human forensic aspect is what makes it very different.
 - c. DNA Profile – once the cells are isolated, they do not have to be BSL-2 anymore. (DNA Sequencing does not necessarily need to be BSL-2)
 - Traditional benchtop use
 - Extraction is best done in a Biosafety Cabinet (BSC) to keep the samples clean (BSC is protecting the sample more than the student). This is absolutely necessary in research, but for undergrad teaching it is not realistic.
 - Students will use the BSC if they are setting up entire plates. If each person individually uses the BSC it takes too long or need too many BSCs.
 - There is some level of contamination with undergrad students anyway, so not asking for 24 BSCs.
 - Bone needs to be in a BSC
 - Research students (for course work or thesis) will start extraction in the BSC. Usually 5 students per semester.

- d. Equipment:
 - Bio Safety Cabinet (1)
 - Fume hood (1)
 - PCR (in separate room)
 - Water bath
 - Incubator
 - Refrigerator / Freezer
 - 6' bench for two students
- e. # of Students: 24 students
 - 4 sections of undergrad
 - 1 section each of 5 courses in addition to 4 noted above
 - 2 graduate level sections each semester
 - 2 hour 45 min labs
- f. Melissa asked if there were separate laminar flow hoods; if Bioengineering and Forensics each had their own hood in the same lab, is there still risk of contamination?
 - Laura expressed concerns about zoning
 - Kelly would like to know more specifically what Bioengineering is doing in the lab.
- g. Students are gowned, gloved and wear hairnets inside of the lab.
- h. Kelly mentioned it is easier to share a sequencing room than an extraction lab.

4. **Forensic Dry Lab:**

- a. # of Students: 24 students
 - 12 classes / 1 section each (Anthropology, Skeletal Samples, Facial Reconstruction, Question documents, Fingerprint, Crime Scene)
 - Some courses run all semester, some are hybrid
 - 3-hour lab time
- b. Equipment: (mostly smaller supplies)
 - VSC (1) w/ computer, 6'
 - Esda (1) (storage)
 - Light Sources (storage)
 - Stereo Microscopes
 - Sketching
 - Casting
 - Tools Marks
 - Fingerprint supplies
- c. Lab Setup:
 - Need sink for cleanup purposes
 - Need Storage for facial reconstruction supplies (casting materials, clay, skulls)
 - High top tables on wheels – able to reconfigure, flexibility is important
 - Students move to different stations during lab time

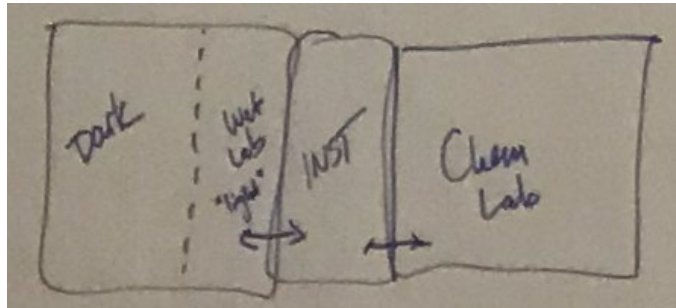
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5. Dark Lab:

- a. # of Students: 24 students
 - Forensic Photography course
- b. Equipment:
 - 20 cameras
 - Place to charge camera batteries
 - Forensic Drone (10)
- c. Adjacencies:
 - Ideally the Dark Lab is near, or part of, the Chemistry (wet) Lab for fingerprint processing and powders.
 - Could also be dual purpose with the Dry Lab if adjacent to the Chem Lab and set up flexibly.

6. Wet "Light" Lab : The group talked about an idea of a Wet "Light" Lab which could be a place to prep samples.

- Take scheduling burden off of the Chemistry Lab.
- Photography, Crime Scene, Physical Evidence, Trace Class
- Physical Evidence class bounces between wet lab and dark lab



b. Wet "Light" Lab Equipment:

- Fume hoods (3-4) – in a "wet-light" scenario
 - Microscopes (50)
 - High-top tables on wheels
 - FTIR
 - 3 dusting hoods
 - Super Glue chamber
 - Flammable cabinets
 - Corrosives
 - 2 Sinks
- c. Utilize full chemistry lab for drug/volatile components, corrosives, etc.
 - d. No windows; need the ability for the whole lab to go dark.

7. Forensic Space Summary:

- a. Wet Lab – Tissue DNA lab (Kelly)
- b. Wet "Light" Lab adjacent to the Dark Lab (Kim)
- c. Dark Lab (Kim)
- d. Dry Lab space (Kim)
- e. Sequencing Lab (Kelly) [requirements described in Wet Labs Bio Chem Intensive]

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DNA TEACHING 24 students

Bodily Fluids - isolate DNA - cell
Human = BSL2

Traditional benchtop
Extraction can be @ bench
(research students in BSC)
concern about contamination.

4 Sections Undergrad
PLUS
5 courses, one section each (100 or 500 level)
Grad course - needs dedicated BSC
2 per semester

PPE
- Goggles
- Masks

1 FH
1 BSC
1 PER
6' bench for 2 students
Water bath
incubator
Dropper
Freezer

Forensic Dry Lab

12 classes @ 3hr ea.
- some all semester
- some hybrid
right now 1 section ea.

Anthropology
Skeletal samples (heavy!)
Facial reconstruction
Question documents
Crime Scene class

Equipment
2 VSC w/ computer = 6'
1 Esda
light sources } Smaller, stored
Stereo Microscopes

Sketching
Casting

Tool Marks + Shoe
Finger print supplies

24 students
Sink
High top tables on wheels

Dark Lab
Forensic
Photography

2D cameras
charge batteries
Forensic Drone
10 drones

* Adjacent to
Chemistry Lab
Undergrad Crime
Scene
Physical Evidence

Combined Dark Lab +
Wet Lab Chemistry / Forensic

3-4 fume hoods - 6'
in multiple labs @ once ... scheduling!

Courses

- Photography
- UG Crime Scene
- Physical Evidence
- UG + G Trace Class

2 sinks
Microscopes (50)
High top tables on wheels
FTIR
3 dusting hoods
Super glue chamber
Flammable Cabinets
Corrosives

End of Meeting

The above constitutes my understanding of the items discussed and the decisions reached. If there are any additions or corrections, please, contact the undersigned.

Signed: Rebecca Ross / Brian Tucker

Cc: Attendees

Date: June 26, 2019

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