

## **University of Northern Iowa**

### **Applied Engineering Focus Working Group (AE-FWG) Committee Report on Space Allocation**

**Charge:** Propose a preliminary space allocation plan that would indicate Applied Engineering specific space, office assignments and shared spaces (i.e. classrooms, labs, meeting rooms, student space).

**Committee Members:** Drs. Scott Giese (Co-Chair), Jin Zhu (Co-Chair), Lee Geisinger, Julie Zhang, Srikant Revuru

**Proposal Parameters:** This proposal intends to serve as a conversation starter concerning space allocation decisions that will be finalized during the Project Management Team (PMT) discussions.

Space allocations for the AE department were proposed as per the given common parameters listed below:

1. To enhance visibility to prospective students across the state AETM will be divided into two departments: Construction Management and Applied Engineering officially launching on 1 July 2025.
2. Both departments will be housed in the Applied Engineering Building.
3. Applied Engineering will remain in the College of Humanities, Arts, and Sciences.
4. The UNI Foundry 4.0 will remain a part of Applied Engineering
5. Each department will have its own department head.

### **Aim and Scope**

The focus working group considered the parameters along with the courses and outreach service activities associated with manufacturing, electrical, and graphics faculty representing the program areas presently available for students. Programs included in these areas, identified using the nomenclature of Program (associated faculty serving as Program coordinator unless noted), are as follows: Automation Engineering Technology (manufacturing and electrical), Mechanical Engineering

Technology (manufacturing), Manufacturing Engineering Technology (manufacturing), Materials Engineering Technology (manufacturing), Materials Engineering (manufacturing), Electrical Engineering Technology (electrical), Graphics Technology (graphics), Technology Management (manufacturing), and Technology Engineering Education (no officially designated faculty member).

To serve as an illustrated guide to the proposed space allocation for Applied Engineering, Appendix 1 has the AEB floor plan layout and colored code as potential space allocation for both departments in addition to the proposed department head office space. There were areas that were not considered during the process such as project/collaboration/teaming space (i.e. AEB 1006), lobbies, and other public spaces because these areas were not fully contained structurally.

### **Department Offices and Supporting Space**

Considerations: Faculty and Support Staff were assessed solely based on the Applied Engineering Department needs and Construction Management Department personnel should be determined by that CM focus group.

#### **AE department head office**

- **Option 1:** The AE Head of the department office could be housed in rooms shown in purple on the map (AEB 1021, AEB 1022) for better visibility. The reception desk can then be shared and will be close to the department secretary's office, close to AE labs for better monitoring.
- **Option 2:** purple area AEB 1067, AEB 1068 could be CM department head office as they will be in immediate proximity to CM labs. AEB 1069 could be a reception/ secretary area. AEB 1024 could be the office for AE department head.
- **Option 3:** AEB 1032, AEB 1033 could be combined for a departmental office (AE or CM) and AEB 1035, AEB 1036 could potentially offices for secretary and recruitment coordinator/ advisor once those lines open up.
- Options 1 & 3 would have a shared reception area at the main entrance.

#### **Faculty and staff offices**

- Offices for existing 6 AE faculty members in addition to other office space for future expansion
- Office for Secretary / Administrative Assistant
- Office for Recruiter/Advisor
- Office for Lab Managers
- Office for MCC staff
- AEB 1034 Graduate Student Space
- Shared Office for adjunct faculty/visiting scholars

## **Lab and Instructional Space**

Space Designation Consideration: Space designation was identified according to course catalog codes specific to each department. Courses with codes beginning with TECH-CM are primarily allocated to the Department of Construction Management. Courses starting with TECH, ENGR, or TECH-TEE are assigned to the Department of Applied Engineering. Space allocation recommendations were based on the building's original design, intended to serve the associated programs. Occasional or infrequent use of spaces or equipment from other programs was not considered in these recommendations. Furthermore, having one or two pieces of equipment in a particular area did not justify designating the space as a shared resource.

External business outreach programs such as the UNI Foundry 4.0 defined in the proposal parameter were considered as Applied Engineering departmental lab and instructional space. Since Panther Products activities have historically used all of the equipment associated with the manufacturing and graphics programs and these have been designated as programs within the Applied Engineering departmental structure, this outreach service area was considered as the Applied Engineering departmental space allocation for the discussions. Additionally, equipment acquisitions and student employment opportunities through these outreach centers would directly benefit Applied Engineering students.

There may be instances where the Construction Management program would need to utilize the AE-designated lab spaces and area for student courses and projects. A centrally coordinated scheduling system would need to be developed to

accommodate these requests provided the Wilson College of Business would reciprocate with similar arrangements associated with their courses if the CM department is going to move to Wilson College of Business.

The following recommendations, based on the considerations, for the Department of Applied Engineering spaces, using the nomenclature identifying specific AE majors and business outreach programs, are as follows:

- AEB 1001(Graphics) (AE majors + Panther products)
- AEB 1002 (Robotics) (AE majors)
- AEB 1003 (Automation and PLC) (AE majors)
- AEB 1007 (Woods lab) (AE majors + Panther products)
- AEB 1007A (Painting) (AE majors + Panther products)
- AEB 1008 (Strengths) (AE majors)
- AEB 1009 (Metals) (AE majors + Panther products)
- AEB 1009 A(Welding) (AE majors + Panther products)
- AEB 1010 (Electronics) (AE majors)
- AEB 1011 (Computer lab) (AE majors)
- AEB 1041 (Computer lab) (AE majors)
- AEB 1050 (Classroom) (AE majors)\*
- AEB 1061 (Soldering) (AE majors)
- AEB 1066 (Power lab) (AE majors)
- AEB 1083 (Process design and simulation) (AE majors + MCC)
- AEB 1079 (Metrology) (AE majors)
- AEB 1080 (Micro CT) (AE majors)
- AEB 1070 through AEB 1074 (Foundry) (AE majors + MCC)

\*Classroom AEB 1050 is not colored in the plan layout since all classrooms are controlled by the Registrar's office but AE majors should have priority to schedule classes in the room since it is next to the AE labs.

### **Identified Shared Space**

- AEB 1004/AEB 1005 (Innovation/Integration) - area was originally designed to serve the UNI student community in addition to AE majors +

Panther products. It was unclear by the AE-FWG if the Construction Management degree of usage was adequate based on present usage.

- AEB 1096 and AEB 1096-A (shared project and storage). The original building designated an area for student projects and student organization space. AE majors + AE student clubs would be utilizing this space and anticipate Construction Management would be requiring an identical need.
- AEB 1031 (Work Room)
- AEB 1027 (Conference Room) and AEB 1060 (New conference room)
- The gated open court area next AEB 1074

### **Recommendations:**

- One additional conference room would be needed. It is recommended to convert AEB 1060 (original open project space) into another conference room (walls and door needed) during Phase 2 construction.
- Shared and project spaces and conference room reservations and usage need to be centrally coordinated.
- Additional classrooms such as CEE 115 may be needed for AE classes to account for anticipated enrollment growth.
- AEB 1003 (Automation/PLC lab) needs resources to purchase PLC equipment to make it functional based on the design intent to increase the academic structure for Industry 4.0 based curriculum.

### **Conclusions:**

The Applied Engineering Focus Working Group (AE-FWG) proposed a preliminary space allocation plan to facilitate the upcoming departmental division between Construction Management (CM) and Applied Engineering (AE). This plan prioritizes aligning space usage with the unique needs of each department while promoting shared resource use when applicable.

Key outcomes of the report include:

1. **Departmental Division and Visibility:** AE will remain part of the College of Humanities, Arts, and Sciences, while the CM department might move to the Wilson College of Business based email update # 4 from the Provost's office. AE's space allocation is designed to enhance visibility, accommodate

current and future faculty, and support outreach programs like UNI Foundry 4.0.

2. **Office and Department Head Allocations:** Several options were proposed for department head office locations, with a preference for shared reception areas to increase efficiency. AE faculty and support staff will have dedicated office spaces, including provisions for future expansion.
3. **Lab and Instructional Space:** Lab spaces were assigned based on specific course codes, ensuring a clear separation between AE and CM program needs. The proposal recommends that shared scheduling systems be developed for occasional CM use of AE-designated labs.
4. **Shared and Project Spaces:** Certain spaces, such as innovation/integration areas and project storage, will be shared between AE majors and CM students. Centralized coordination for conference rooms and project spaces is essential for effective use.
5. **Recommendations for Future Modifications:** The group recommends converting AEB 1060 into an additional conference room and suggests central scheduling of shared spaces. There is also a potential need for additional classrooms to accommodate AE course loads.

In summary, the proposed space allocation aims to optimize available resources, ensure departmental growth, and foster a collaborative environment through shared spaces while maintaining clear boundaries between the AE and CM departments.



PRINTED: 3/4/2022 2:53:49 PM

Updated 10/11/24 AE FWG

Legend:

- AE - [Blue Box]
- Shared - [Yellow Box]
- CM - [Green Box]
- Dept. Head - [Purple Box]

- GENERAL NOTES
- DIMENSIONS ARE MEASURED FACE-OF-FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING UNLESS NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.
  - FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS - TYPICAL FOR ALL DRAWINGS.
  - IN THE EVENT OF A DISCREPANCY BETWEEN ARCHITECTURAL AND CONSULTANT DRAWINGS, NOTIFY ARCHITECT IMMEDIATELY PRIOR TO COMMENCING WORK - TYPICAL FOR ALL DRAWINGS.
  - ALL PENETRATIONS IN FIRE RATED FLOORS AND WALLS MUST BE SEALED WITH APPROPRIATE FIRESTOPPING SYSTEM.
  - PATCH AND REPAIR EXISTING FLOOR SLABS AND WALL SURFACES DAMAGED FROM DEMOLITION.

**OPN ARCHITECTS**

24 1/2 Clinton St., Suite 1  
Iowa City, IA 52240  
P: 319-248-5667

[www.opnarchitects.com](http://www.opnarchitects.com)

All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by OPN Architects, Inc. are instruments of service and shall remain the property of OPN Architects, Inc. OPN Architects, Inc. shall retain all common law, statutory and other reserved rights, including the copyright therein.

© 2021 OPN Architects, Inc.

**UNI University of Northern Iowa**

UNIVERSITY OF NORTHERN IOWA

Project:

**APPLIED ENGINEERING BUILDING MODERNIZATION**

2900 Campus Street  
Cedar Falls, IA 50613

**TREANORHL**

TreanorHL  
211 N. Record Street, Ste. 450  
Dallas, TX 75202  
P: 214-510-1018

Civil Engineer

**VJ Engineering**

1501 Technology Pkwy., Ste. 100  
Cedar Falls, IA 50613  
P: 319-266-5829

Structural Engineer

**Raker Rhodes Engineering**

4717 Grand Avenue  
DES MOINES, IA 50312  
P: 515-277-0275

Mechanical Engineer

**IMEG Corp.**

623 26th Avenue  
Rock Island, IL 61201  
P: 309-788-0673

Electrical Engineer

**IMEG Corp.**

623 26th Avenue  
Rock Island, IL 61201  
P: 309-788-0673

Landscape Architect

**Confluence**

525 17th Street  
DES MOINES, IA 50309  
P: 515-288-4875

Construction Manager

**Knutson Construction**

2351 Scott Blvd SE  
Iowa City, IA  
P: 319-351-2040

KEY PLAN

Revision Description Date

OPN Project No. 20404000 UNP Project No. CP000282

Sheet Issue Date 100% CONSTRUCTION DOCUMENTS 03/04/2022

Sheet Name FIRST FLOOR COMPOSITE PLAN

Sheet Number A101



LEVEL 1 FLOOR PLAN COMPOSITE  
1/16" = 1'-0"