Program Verification
New Classroom Building
WSU - 120038

Prepared For: Wright State University
Facilities Planning & Development
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FINAL – November 2, 2012

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Executive Summary

Annette Miller Architects and our entire design team is excited about this project, and about what it will mean to Wright State University campus community.

This project will affect student retention by providing state of the art spaces for actively engaging students in learning, tutoring, independent work and study, testing and advising. These spaces will be inviting and welcoming, and will be clearly organized so that the process of seeking and receiving assistance is simple and not intimidating. The building will also provide many options for individual and group work, ranging from individual seats in a quiet niche, to places where a student and tutor can work together, to collaborative areas where groups can gather around a table or in more casual lounge seating. In this building, opportunities for learning will be provided in all spaces, from the formal classrooms and student success spaces, to the informal huddle rooms and gathering spaces. Students will have many options, allowing them to choose their own places to study and learn.

The quality of these spaces will impact how students feel about education; the support offered by the advising and tutoring functions of the Student Academic Success Center will provide students with the tools they need to learn, grow and succeed.

This project also provides state of the art active learning classrooms, where students will work in teams and engage in active problem-solving. Passive lectures will be replaced by prerequisite individual study, and will no longer be the focus of class time. Class time spent in active learning through hands-on problem solving activities creates a culture of learning that will prepare this next generation of students for a lifetime of learning.

This building forms a gateway to the Campus Academic Core. Students arriving on foot from housing and parking will be welcomed here. The structure and landscape will draw people in, providing an inviting entry to the building, and providing memorable exterior spaces for gathering, relaxing, and socializing. Inside the building, public space and learning environments alike will be filled with natural light, inviting colors and energy conducive to learning, appealing to students, faculty and staff alike.
Section 1: Building Type Information

Typical Building Type Functions:
Typical classroom buildings are functionally simple. Classrooms and learning laboratories comprise the majority of the programmed square footage. Offices are a typical function in a classroom building. Public space for student socialization, break-out spaces and building entrance lobbies act as unprogrammed connectors between the programmed spaces. Finally, restrooms, mechanical, required circulation and other support functions are included in a typical classroom building.

Typical Space Criteria:

<table>
<thead>
<tr>
<th>Typical Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
</tr>
<tr>
<td>Computer Labs</td>
</tr>
<tr>
<td>Open Offices</td>
</tr>
<tr>
<td>Offices</td>
</tr>
</tbody>
</table>

*nasf = net assignable space for the primary function and local circulation within the functional area

Typical Relationships of Functions:
The functional relationships in a typical classroom building are straightforward. Classrooms are arranged for efficient circulation due to the numbers of students. Offices are typically grouped together and not directly accessed from major building circulation like classrooms. Interaction between classrooms and offices is limited because of the self-contained nature of classrooms. Elevators and stairs are grouped in banks. Restrooms are stacked vertically.

Net to Gross Square Footage for Building Type:
The University Program of Requirements indicates a desired building efficiency of 65%. We believe that may be a little too stringent, given the need for public area collaboration, waiting and socializing spaces to enhance the student services functions in this building.

We proposed an efficiency of 62.5%, arrived at as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Component</th>
<th>Square Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>Walls and circulation</td>
<td>12,026 SF</td>
</tr>
<tr>
<td>8%</td>
<td>Mechanical</td>
<td>4,811 SF</td>
</tr>
<tr>
<td>5.5%</td>
<td>Public Space</td>
<td>3,307 SF</td>
</tr>
<tr>
<td>4%</td>
<td>Restrooms, vertical circulation, maintenance</td>
<td>2,405 SF</td>
</tr>
<tr>
<td>37.5%</td>
<td>Unprogrammed Total</td>
<td>22,549 SF</td>
</tr>
<tr>
<td>62.5%</td>
<td>Programmed Functions</td>
<td>37,582 SF</td>
</tr>
<tr>
<td>100%</td>
<td></td>
<td>60,131 SF</td>
</tr>
</tbody>
</table>

Typical Cost per SF for Building Type:
The 2009 RS Means Construction Cost Data, updated for 2012 construction, indicates the following cost per square foot for a college classroom and administration building type.

$214.89 / SF, 3/4 category including sitework

$214.89 / SF x 60,131 SF = $12,921,551

Typical Site Requirements for Building Type:
- A site location that does not cause harm to historic or environmentally sensitive areas.
- A site location that is not contaminated with hazardous materials.
- Sufficient acreage for the building footprint and the vehicular, pedestrian, and service needs of the building.
The University has selected a building site directly southwest of University Hall, bounded by University Blvd. This site meets all of the above noted basic criteria. Further, the site is located at a campus entry for pedestrian traffic from residence halls and parking, meeting goals for visibility and access.

**Technical, Mechanical, Electrical and Security Issues:**
Some of the unique MEP items for this building will be that primary voltage power, communication systems and fire alarm systems will be extended from an adjacent building. Domestic water and sanitary system will be extended from the existing campus loops. Emergency power for the building will be provided via new standalone generator. The generator will be diesel and will provide the code required emergency power for the building. Security considerations will include access control to the building and technology-rich classrooms. Theft-deterrent fasteners and cables and security system alarm switches should be considered for high-value devices in lecture halls and computer classrooms.

The MEP systems for the project will be affected by the building orientation and envelope. Existing ground conditions could also alter the building plumbing system if the site is wet and major foundation drain system would need to be installed. Insufficient capacity of campus systems including primary voltage power circuits and voice/data network infrastructure could affect the MEP system extensions to the proposed building.

- Conducive topography for building development that allows ample space for grading gradual slopes (aesthetically pleasing and maintainable), handicap accessibility, and vehicular, service, and pedestrian access.
- Suitable soil conditions to provide sufficient bearing capacity for the building structure.
- Utility availability to serve the building including but not limited to: storm drainage, sanitary sewer, potable & fire water service, gas, electric, and telecommunications.
Section 2: Project Goals & Objectives

Note: Italicized text is taken from the Wright State University Program of Requirements for this project.

University Goals:
In response to enrollment changes and the 2012 move from the academic quarter system to semesters, Wright State University has modified the time block and approach to the instructional scheduling. Additionally, WSU has recognized the need to adapt and modify instructional models to satisfy the needs of current and future students as the University continues to grow. With this information the university has analyzed the inventory of the classrooms in terms of total number of classrooms, type of classroom, and total seat count, and has determined the need for additional large scale classrooms that serve two different instructional models.

At Wright State University, the development of each project is recognized as an integral component of the process of creating the campus. A major goal of the campus master plan is to provide a setting that contributes to the accomplishments of the University’s mission and enhances the quality of life for students, faculty, staff, and visitors.

The new facility would serve two parallel goals of the University. The first is the creation of new high-end instructional space. These spaces will provide for the latest in technology to accommodate both traditional and active instructional models and provide an environment to support student learning. The second targeted goal of the building is to have a positive impact on student recruitment and student retention rates by providing facilities that support academic achievement and enhance the image of academic services provided to current students of WSU.

The building will house one tiered auditorium space similar in layout and character to the Gandhi Auditorium in White Hall, with a seating capacity of approximately 225. There will be four Active Learning classrooms, with seating capacities of approximately 108 (two rooms), 126, and 180.

In addition to formal instructional space, WSU recognizes the importance of student retention to the overall success of the University. WSU serves a diverse community of students with significant portions of the student body comprised of first-generation college students and academically at-risk students. The new building will provide space to support the academic achievement of these students as well as the campus as a whole by consolidating the current University College, Student Academic Success Center (SASC), and Athletic Tutoring to one location to maximize the effectiveness of the academic support provided by the University. The vision for the Student Success focus of the new building is to provide a union of the Student Academic Success Center with the other programs and services of the University College, including Developmental Education, First Year Programs, and Advising services.

Initial Costs vs. Long Range Costs:
Wright State University requires facilities that are built to last 60+ years. Creating this long usable life requires that buildings are constructed with quality materials and systems that are well detailed, and that are durable and maintainable over the life of the building. We also recognize the need for flexibility in functional spaces, and particularly in the technology system. The ability to reconfigure spaces is important in allowing different teaching methods and group sizes within a classroom, and is important in considering how a building may serve different functions over a lifetime. We expect that this new Classroom Building will continue to function as it is initially programmed for at least 20 years. However, we understand that technology must be able to be modified and updated over that time span; a flexible technology infrastructure is critical.

Beyond twenty years, the building may require new programmed functions. The use of a steel structure and interior non-load bearing partitions will provide building wide flexibility. The lifespan of the structure will greatly outlast all other components of the building and require minimal maintenance. As long as the building envelope’s integrity is maintained the structure will be a candidate for repurposing and reuse well over 100 years from now and can play a part in future sustainable design. MEP systems will be reviewed and selected based on the overall life cycle costs which include the initial cost and the maintenance costs. The HVAC system most common at WSU is a single duct VAV with hot water reheat. This is a system facilities personnel is familiar with and has the expertise to maintain;
however, other HVAC systems will be studied to confirm the preferred system is the best value for the University. MEP systems and equipment selections will be designed to incorporate all the latest industry-accepted "green" energy conservation techniques that fit within the project budget. MEP systems will also be designed for ease of operation, ease of maintenance, and long term durability. Over the next 20 years, the University will need to provide standard preventive maintenance on all MEP equipment. For example, on a quarterly basis, the air handling unit (AHU) filters will need to be replaced. All motors, fans, coils and belts will need to be serviced once a year. The electrical equipment should be checked annually to ensure connections are properly torqued, overcurrent and disconnecting devices are exercised, and thermal imaging of all cable and bus terminations is performed. Standby power systems have monthly and annual testing requirements and recommended preventive maintenance programs. Uninterruptable Power Supply (UPS) systems have regular battery maintenance requirements. Lighting systems will have 20,000 to 40,000-hour lamp-life expectancies and group lamp replacement programs should be considered to minimize overall lamp maintenance costs. The design team will coordinate with the University for Lighting Controls for the various spaces to ensure the University has the most cost effective lighting control system in the building. VAV terminal box replacement will become more frequent toward the end of the 20 year period. Trending of energy usage via the BAS system and re-verification of overall system performance should be performed every 5 years. Technology system infrastructure and peripheral components should be evaluated annually and planned replacement should be every 5 - 10 years to maintain consistency with peer universities.

Level of Quality Desired:
The stimulating, rewarding, and challenging qualities of learning can be reflected in the new building’s spaces by using durable, high-quality materials; designing the space to accommodate the current instructional models while allowing for potential transitions to alternative teaching methods and technology. The design of the rooms will allow for both independent and team-based learning, daylight, multiple lighting scenarios, and technology to support student learning. The spaces in the building will also support less formal, student to student learning by providing flexible huddle rooms for both scheduled and impromptu group meetings, and informal lounge space.

Sustainability:
The University has a commitment to sustainability, and intends to become a visible leader in the community. LEED certification for buildings is proof of that leadership and commitment. The University believes that LEED certification also provides intangible value to a building project, and can raise the University’s image. This will in turn assist the University with recruiting and retaining students. For these reasons, the University has committed to LEED certification for this project. One way the Classroom Building could be more sustainable is through passive design considerations. For example, instead of meeting the current Code envelope and systems requirements noted in ASHRAE 90.1 2007, the building should meet the more stringent ASHRAE 189.1 standards if budget allows. ASHRAE 189.1 requires increasing the thickness of insulation, creating a tighter building, and limiting and intelligently using large expanses of glass. The proposed Classroom building structure will be sustainable over its lifespan. Initially the construction materials are high in recycled content. Concrete is routinely made locally and uses fly ash and blast furnace slag which diverts these materials from landfills. Both the concrete reinforcing bars and the structural steel frame utilize post-consumer recycled content as matter of standard practice. Therefore there is little upcharge for a structure incorporating recycled materials.

Schedule Goals:
The switch to semesters in 2012 and the subsequent need for classrooms to accommodate the switch was one of the main factors necessitating the construction of the Classroom Building. Wright State University requires completion by April 2015, so that it is in use for the summer and Fall Semester 2015. Construction is expected to require fifteen months; our schedule indicates construction starts in 2013, and completion by January 2015. This allows two months for installation of furnishings and completion of technology by March 30, 2015.
Section 3: Space Requirements

The following pages outline a listing of the desired spaces and various criteria desired by the University. Included in the list are descriptions of general room layouts, proportions and other physical requirements.

Drawings indicate generic layouts and notes about materials, ceiling height, etc.

General Summary of Program Modifications

Active Learning Classrooms: The original PoR included (1) 90-seat, (2) 126-seat, and (1) 180-seat SCALE-UP classrooms. These classrooms have been modified to more closely match Registrar needs for seating capacity and University needs for flexibility. Final programmed configuration includes these approximate classroom capacities: (2) 108-seat, (1) 126-seat and (1) 180-seat. Each Active Learning classroom will be laid out using trapezoidal tables to seat 6 or 8 students per cluster. At these smaller tables, students are closer together than at traditional SCALE-UP tables, and more able to work together as a single unit. Classrooms will be planned for wireless technology, meaning that power and data will not need to be provided in the floor at each cluster. The layout of each space will become completely flexible. A wireless approach to the active learning classrooms also means that the method for achieving the connections between instructor station and student stations will be by way of software instead of hardware equipment. AMA will plan the layout of the 180-seat space so that it can be subdivided into (2) 90-seat spaces in the future.

The Student Academic Success Center includes the Study Skills Center, the University Writing Center (formerly named the SASC lab), and an unprogrammed Math Learning Center. The square footage for the University Math Center will be pulled from combining and downsizing the Study Skills Lab and slightly downsizing the University Writing Center. The SASC is accessed through the Tutor Scheduling Room, which includes workspace for classified staff. Offices of various directors and coordinators will be adjacent to the three centers.

The Math Studio requires 100+ computer stations. This room will be created from the combination of three programmed spaces: the Developmental Math Testing, the Developmental Math Computer Lab, and the Developmental Math Classroom. The square footage as programmed is 3,480 SF. AMA will evaluate the building square footages to maximize the number of seats in the Math Studio. The faculty related to the Math Studio will have offices adjacent to the Studio. See table below for square footage breakdown.

<table>
<thead>
<tr>
<th>Space</th>
<th>Existing SF</th>
<th>Programmed SF</th>
<th>Programmed Seats</th>
<th>Modified SF</th>
<th>Modified Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Skills Center</td>
<td>2,900 SF</td>
<td>3,000 SF</td>
<td>100</td>
<td>1,500 SF</td>
<td>66</td>
</tr>
<tr>
<td>University Writing Center</td>
<td>1,200 SF</td>
<td>1,220 SF</td>
<td>40</td>
<td>1,200 SF</td>
<td>43</td>
</tr>
<tr>
<td>Math Learning Center</td>
<td>1,100 SF</td>
<td>N/A</td>
<td>N/A</td>
<td>1,200 SF</td>
<td>44</td>
</tr>
<tr>
<td>Math Studio</td>
<td>2,100 SF</td>
<td>3,480 SF</td>
<td>110</td>
<td>4,040 SF</td>
<td>108</td>
</tr>
<tr>
<td>Placement Testing</td>
<td>-</td>
<td>240 SF</td>
<td>8-10</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>SASC Totals</td>
<td>7,300 SF</td>
<td>7,940 SF</td>
<td>258</td>
<td>7,940 SF</td>
<td>261</td>
</tr>
<tr>
<td>90 - seat Active Learning</td>
<td>N/A</td>
<td>2,500 SF</td>
<td>90</td>
<td>0 SF</td>
<td>0</td>
</tr>
<tr>
<td>108 - seat Active Learning</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>5,800 SF</td>
<td>216</td>
</tr>
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</table>
### Space Requirements Program

<table>
<thead>
<tr>
<th>Space</th>
<th>Quantity</th>
<th>Area</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classrooms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiered Auditorium for 225</td>
<td>1</td>
<td>5,650</td>
<td>5,650</td>
</tr>
<tr>
<td>Active Learning Classroom - 180 Seats</td>
<td>1</td>
<td>4,900</td>
<td>4,900</td>
</tr>
<tr>
<td>Active Learning Classroom - 126 Seats</td>
<td>1</td>
<td>3,500</td>
<td>3,500</td>
</tr>
<tr>
<td>Active Learning Classroom - 108 Seats</td>
<td>2</td>
<td>2,800</td>
<td>5,600</td>
</tr>
<tr>
<td>Huddle Room for 6-8</td>
<td>6</td>
<td>150</td>
<td>900</td>
</tr>
<tr>
<td>Huddle Room for 10-15</td>
<td>4</td>
<td>275</td>
<td>1,100</td>
</tr>
<tr>
<td><strong>Subtotal Classrooms</strong></td>
<td></td>
<td></td>
<td><strong>21,650</strong></td>
</tr>
<tr>
<td><strong>Student Success</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dean</td>
<td>1</td>
<td>230</td>
<td>230</td>
</tr>
<tr>
<td>Assistant Dean</td>
<td>2</td>
<td>160</td>
<td>320</td>
</tr>
<tr>
<td>Assistant</td>
<td>4</td>
<td>64</td>
<td>256</td>
</tr>
<tr>
<td>Classified Staff</td>
<td>4</td>
<td>64</td>
<td>256</td>
</tr>
<tr>
<td>Receptionist</td>
<td>1</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Student Worker</td>
<td>1</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Academic Advisor</td>
<td>15</td>
<td>130</td>
<td>1,950</td>
</tr>
<tr>
<td>Coordinator of First Year Experience</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Learning Communities</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Director - Writing Center</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Coordinator of Dev. Ed. Writing</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Dev. Ed. Adjuncts</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>FYR Program Coordinator - Support Instructor</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Coordinator of Tutoring Services</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Coordinator of Dev. Ed. Algebra</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Director - Math Learning Center</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Reception/Waiting</td>
<td>1</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Kitchenette</td>
<td>1</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>File</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Testing Instruction Office</td>
<td>1</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Tutor Scheduling</td>
<td>1</td>
<td>240</td>
<td>240</td>
</tr>
<tr>
<td>Study Skills Center</td>
<td>1</td>
<td>1,500</td>
<td>1,500</td>
</tr>
<tr>
<td>University Writing Center</td>
<td>1</td>
<td>1,200</td>
<td>1,200</td>
</tr>
<tr>
<td>Math Learning Center</td>
<td>1</td>
<td>1,200</td>
<td>1,200</td>
</tr>
<tr>
<td>Math Studio</td>
<td>1</td>
<td>4,040</td>
<td>4,040</td>
</tr>
<tr>
<td><strong>Subtotal University College</strong></td>
<td></td>
<td></td>
<td><strong>13,332</strong></td>
</tr>
<tr>
<td>Program Verification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Athletic Tutoring</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Athletic Study Room</td>
<td>1</td>
<td>1,200</td>
<td>1,200</td>
</tr>
<tr>
<td>Subtotal Athletic Tutoring</td>
<td></td>
<td></td>
<td>1,200</td>
</tr>
<tr>
<td><strong>Institute for Defense Studies and Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDSE Training Room</td>
<td>1</td>
<td>1,400</td>
<td>1,400</td>
</tr>
<tr>
<td>Subtotal IDSE</td>
<td></td>
<td></td>
<td>1,400</td>
</tr>
<tr>
<td><strong>Subtotal Student Success</strong></td>
<td></td>
<td></td>
<td>15,932</td>
</tr>
<tr>
<td><strong>Total NASF</strong></td>
<td></td>
<td></td>
<td>37,582</td>
</tr>
<tr>
<td><strong>Total Gross SF (62.5% Net to Gross)</strong></td>
<td></td>
<td></td>
<td>60,131</td>
</tr>
</tbody>
</table>

Other spaces required will be mechanical, electrical, communication closets, custodial closets, attic stock storage, a coffee bar, vending and rest rooms, and a family restroom. These rooms shall be sized efficiently to allow for maximum space use.
**Room Classification and Priority:**
Tiered Classroom- Priority 1

**Department:**
Registrar

**Number of Rooms Required:**
1

**Room Quantity, Net Assignable Square Feet:**
5,650

**Number of Occupants (FTE/Student):**
225 plus instructor

**Activities to Occur:**
Registrar Scheduled Lecture-Style Undergraduate Classes
Campus wide lectures and presentations

**Fixed Equipment Required:**
Tables to accommodate 225 students
Instructor’s Podium
Whiteboards
(3) Ceiling mounted projectors
(3) Projection screens positioned to show three independent images.

**Moveable Equipment Required:**
Classroom Chairs
Instructor’s table

**Services (Utilities) Required:**
Standard service, phone and data/network drop at instructor’s station
Audio to support lecture and projection
Wireless networking

**Special Requirements, adjacencies:**
The tiers of the classroom shall be wide enough to accommodate two rows of fixed tables with loose chairs per tier. This arrangement allows students to turn and gather at a single table for group work. The tiers shall also be arranged so that an ADA compliant ramp can access top, bottom tiers as well as intermediate tier(s).

10 rows of tables (5 tiers) is the maximum depth of the room per WSU.

Room should be easily accessible from major circulation paths and main building entrances.

Room requires lobby space for movement of people into and out of a function.

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**Finishes:**
Carpet flooring
Gyp board walls + Acoustic treatment
Acoustic ceiling
Ceiling height: 1-1/2 to 2 stories

**Other considerations:**
Natural Light
Sound control
Mechanical system
Wall construction
Sound Absorption
Decorative Wall / Ceiling treatment

5,660 SF
230 seats (5 wheelchair positions required)
Room Classification and Priority:
Active Learning Classroom 108 Seats- Priority 1

Department:
Registrar

Number of Rooms Required:
2

Room Quantity, Net Assignable Square Feet:
3,000 sf

Number of Occupants (FTE/Student):
108 students plus instructor

Activities to Occur:
Registrar Scheduled Interactive Undergraduate Classes

Fixed Equipment Required:
Instructor Station with equipment rack and resident computer
Smart board for instructor use
Maximum whiteboard space
Ceiling mounted projectors and electrically operated screens.
Technology program will be defined by Sextant.

Moveable Equipment Required:
Trapezoidal tables to seat 6 to 8 students
Classroom chairs

Services (Utilities) Required:
Standard service, phone and data/network drop at Instructor’s Station
Software based Active Learning system
Wireless network connection
Power at perimeter of room for charging laptops

Special Requirements, adjacencies:
Room should be easily accessible from major circulation paths and main building entrances.

See next page for layouts.
Program Verification

Finishes:
- Carpet or carpet tile flooring
- Gyp board walls
- Acoustic ceiling
- Ceiling height: 10’ – 12’

Other considerations:
- Natural Light
- Sound control
  - Mechanical system
  - Wall construction
  - Sound Absorption

2,800 SF
**Room Classification and Priority:**
Active Learning Classroom 126 Seats- Priority 1

**Department:**
Registrar

**Number of Rooms Required:**
1

**Room Quantity, Net Assignable Square Feet:**
3,500 sf

**Number of Occupants (FTE/Student):**
126 students plus instructor

**Activities to Occur:**
Registrar Scheduled Interactive Undergraduate Classes

**Fixed Equipment Required:**
Instructor Station with equipment rack and resident computer
Smart board for instructor use
Maximum whiteboard space
Ceiling mounted projectors and electrically operated screens. Technology program will be defined by Sextant.

**Moveable Equipment Required:**
Trapezoidal tables to seat 6 to 8 students
Classroom chairs

**Services (Utilities) Required:**
Standard service, phone and data/network drop at Instructor’s Station
Software based Active Learning system
Wireless network connection
Power at perimeter of room for charging laptops
Room should be easily accessible from major circulation paths and main building entrances.

**Finishes:**
Carpet or carpet tile flooring
Gyp board walls
Acoustic ceiling
Ceiling height: 12’ – 14’

**Other considerations:**
Natural Light
Sound control
Mechanical system
Wall construction
Sound Absorption
Room Classification and Priority:
Active Learning Classroom 180 Seats- Priority 1

Department:
Registrar

Number of Rooms Required:
1

Room Quantity, Net Assignable Square Feet:
4,500 sf

Number of Occupants (FTE/Student):
180 students plus instructor

Activities to Occur:
Registrar Scheduled Interactive Undergraduate Classes

Fixed Equipment Required:
Instructor Station with equipment rack and resident computer
Smart board for instructor use
Maximum whiteboard space
Ceiling mounted projectors and electrically operated screens.
Technology program will be defined by Sextant.

Moveable Equipment Required:
Trapezoidal tables to seat 6 to 8 students
Classroom chairs

Services (Utilities) Required:
Standard service, phone and data/network drop at Instructor’s Station
Software based Active Learning system
Wireless network connection
Power at perimeter of room for charging laptops

Special Requirements, adjacencies:
Room should be easily accessible from major circulation paths and main building entrances.

The 180-seat layout needs to be designed for division into (2) 90-seat rooms through the construction of a future hard wall.

Finishes:
Carpet or carpet tile flooring
Gyp board
Acoustic ceiling
Ceiling height: 14’ – 16’

Other considerations:
Natural Light
Sound control
Mechanical system
Wall construction
Sound Absorption

4,900 SF
Room Classification and Priority:
Huddle Room (Small) - Priority 1
Department:
General
Number of Rooms Required: 6
Room Quantity, Net Assignable Square Feet:
150 sf
Number of Occupants (FTE/Student):
6-8
Activities to Occur:
Informal student meeting and collaboration space
The room is unscheduled drop-in space.
These rooms are not intended to have a direct relationship to the Active Classrooms, but may serve as a
breakout space for those rooms.
Fixed Equipment Required:
Whiteboard or other writing surface; no technology required
Moveable Equipment Required:
Classroom chairs
Table to accommodate 6-8 seats. Some of these spaces may be designed with soft seating, in or near the
public space.
Services (Utilities) Required:
Wireless Networking, Convenience power outlets
CaTs may require wall mounted phones
Special Requirements, adjacencies:
Room should be in close proximity to classrooms and circulation paths. The room may not be an actual
room with hard walls, but a space accessed off of circulation.

Room Classification and Priority:
Huddle Room (Large) - Priority 1
Department:
General
Number of Rooms Required: 4
Room Quantity, Net Assignable Square Feet:
275 sf
Number of Occupants (FTE/Student):
10-12
Activities to Occur:
Informal student meeting and collaboration space
The room is unscheduled drop-in space.
These rooms are not intended to have a direct relationship to
breakout space for those rooms.
Fixed Equipment Required:
Whiteboard or other writing surface, no technology required
Moveable Equipment Required:
Classroom chairs
Table to accommodate 10-12 seats. Some of these spaces may be designed with soft seating, in or near the
public space.
Services (Utilities) Required:
Wireless Networking, Convenience power outlets
CaTs may require wall mounted phones
Special Requirements, adjacencies:
Room should be in close proximity to classrooms and circulation paths. The room may not be an actual
room with hard walls, but a space accessed off of circulation.
Room Classification and Priority:
Dean of University College - Priority 1
Department:
University College
Number of Rooms Required:
1
Room Quantity, Net Assignable Square Feet:
230 sf
Number of Occupants (FTE/Student):
1
Activities to Occur:
Private Office
Fixed Equipment Required:
Moveable Equipment Required:
Desk, credenza, computer stand, computer, chair, two file cabinets, conference table with four chairs, bookcase.
Services (Utilities) Required:
Standard service, phone and data/network drop
Special Requirements, adjacencies:
Location is preferred accessible to both the SASC and Advising. May require separation from the more active areas.

Room Classification and Priority:
Assistant Dean of University College - Priority 1
Department:
University College
Number of Rooms Required:
2
(1 – Assistant Dean for Programming)
(1 – Assistant Dean for Advising and Tutoring Services)
Room Quantity, Net Assignable Square Feet:
160 sf
Number of Occupants (FTE/Student):
1
Activities to Occur:
Private Office
Fixed Equipment Required:
Moveable Equipment Required:
Desk, credenza, computer stand, computer, chair, two guest chairs, two file cabinets, and bookcase
Services (Utilities) Required:
Standard service, phone and data/network drop
Special Requirements, adjacencies:
Assistant Dean for Programming: adjacent to SASC
Assistant Dean for Advising and Tutoring Services: adjacent to Academic Advisor offices
Room Classification and Priority:
Assistant to the Dean - Priority 1

Department:
University College

Number of Rooms Required:
1

Room Quantity, Net Assignable Square Feet:
64 sf

Number of Occupants (FTE/Student):
1

Activities to Occur:
Office functions

Fixed Equipment Required:

Moveable Equipment Required:
One systems furniture workstation

Services (Utilities) Required:
Standard service, phone and data/network drop at each workstation

Special Requirements, adjacencies:
Adjacent to the Dean

Room Classification and Priority:
Student Assistants - Priority 1

Department:
University College

Number of Rooms Required:
1

Room Quantity, Net Assignable Square Feet:
192 sf

Number of Occupants (FTE/Student):
3

Activities to Occur:
Office functions

Fixed Equipment Required:

Moveable Equipment Required:
Three systems furniture workstations

Services (Utilities) Required:
Standard service, phone and data/network drop at each workstation

Special Requirements, adjacencies:
Adjacent to the Academic Advisors offices. The student workers assist the Advising group.
Room Classification and Priority: Classified Staff Office
Department: University College
Number of Rooms Required: 1
Room Quantity, Net Assignable Square Feet: 256
Number of Occupants (FTE/Student): 4
Activities to Occur:
Office functions
Fixed Equipment Required:
Moveable Equipment Required:
Four systems furniture workstations
Services (Utilities) Required:
Standard service, phone and data/network drop at each workstation
Special Requirements, adjacencies:
One classified staff member serves the Academic Advising group. The other three staff members work in the SASC. One is assigned to First Year Programs, one is assigned to the Tutor Scheduling, and one is assigned to the University Writing and Math Centers.

Room Classification and Priority: Reception and Student Worker
Department: University College
Number of Rooms Required: 1
Room Quantity, Net Assignable Square Feet: 80 for Reception, 40 for student workers
Number of Occupants (FTE/Student):
1 Receptionist, 1 student workers
Activities to Occur:
Reception to University College
Fixed Equipment Required:
Moveable Equipment Required:
Two systems furniture workstations
Services (Utilities) Required:
Standard service, phone and data/network drop for each workstation
Special Requirements, adjacencies:
The reception / student worker is at the entrance to the Academic Advisors and the Dean’s areas.
Room Classification and Priority:  
Academic Advisor Office  
Department:  
University College  
Number of Rooms Required:  
15  
Room Quantity, Net Assignable Square Feet:  
130  
Number of Occupants (FTE/Student):  
1 full-time plus student visitors  
Activities to Occur:  
Office functions, student advising  
Fixed Equipment Required:  
Moveable Equipment Required:  
Desk with return, chair, 2 guest chairs, file cabinet and bookcase  
Services (Utilities) Required:  
Standard service, phone and data/network drop  
Special Requirements, adjacencies:  
Grouped together and more visible from circulation areas

Room Classification and Priority:  
Coordinator of First Year Experience Office  
Department:  
University College  
Number of Rooms Required:  
1  
Room Quantity, Net Assignable Square Feet:  
130  
Number of Occupants (FTE/Student):  
1 full-time plus student visitors  
Activities to Occur:  
Office functions  
Fixed Equipment Required:  
Moveable Equipment Required:  
Desk with return, chair, 2 guest chairs, file cabinet and bookcase  
Services (Utilities) Required:  
Standard service, phone and data/network drop  
Special Requirements, adjacencies:  
Near the SASC
Room Classification and Priority: Learning Communities Office
Department: University College
Number of Rooms Required: 1
Room Quantity, Net Assignable Square Feet: 130
Number of Occupants (FTE/Student): 1
Activities to Occur: Office functions
Fixed Equipment Required: Moveable Equipment Required: Desk with return, chair, 2 guest chairs, file cabinet and bookcase
Services (Utilities) Required: Standard service, phone and data/network drop
Special Requirements, adjacencies: Near the SASC

Room Classification and Priority: Director of the Writing Center
Department: University College
Number of Rooms Required: 1
Room Quantity, Net Assignable Square Feet: 130
Number of Occupants (FTE/Student): 1
Activities to Occur: Office functions
Fixed Equipment Required: Moveable Equipment Required: Desk with return, chair, 2 guest chairs, file cabinet and two bookcases
Services (Utilities) Required: Standard service, phone and data/network drop
Special Requirements, adjacencies: Adjacent to University Writing Center
Room Classification and Priority:
Coordinator of Dev. Ed. Writing

Department:
University College

Number of Rooms Required:
1

Room Quantity, Net Assignable Square Feet:
130

Number of Occupants (FTE/Student):
1

Activities to Occur:
Office functions

Fixed Equipment Required:

Moveable Equipment Required:
Desk with return, chair, 2 guest chairs, file cabinet and bookcase

Services (Utilities) Required:
Standard service, phone and data/network drop

Special Requirements, adjacencies:
Adjacent to University Writing Center

Room Classification and Priority:
Dev. Ed. Adjunct Office

Department:
University College

Number of Rooms Required:
1

Room Quantity, Net Assignable Square Feet:
130

Number of Occupants (FTE/Student):
1

Activities to Occur:
Office functions

Fixed Equipment Required:

Moveable Equipment Required:
Desk with return, chair, guest chair, file cabinet and bookcase

Services (Utilities) Required:
Standard service, phone and data/network drop

Special Requirements, adjacencies:
Adjacent to Study Skills Center
Room Classification and Priority:
First Year Program Coordinator – Supplemental Instructor Office
Department:
University College
Number of Rooms Required:
1
Room Quantity, Net Assignable Square Feet:
130
Number of Occupants (FTE/Student):
1
Activities to Occur:
Office functions
Fixed Equipment Required:
Moveable Equipment Required:
Desk with return, chair, 2 guest chairs, file cabinet and bookcase
Services (Utilities) Required:
Standard service, phone and data/network drop
Special Requirements, adjacencies:
Adjacent to Study Skills Center

Room Classification and Priority:
Coordinator of Tutoring Services Office
Department:
University College
Number of Rooms Required:
1
Room Quantity, Net Assignable Square Feet:
130
Number of Occupants (FTE/Student):
1
Activities to Occur:
Office functions
Fixed Equipment Required:
Moveable Equipment Required:
Desk with return, chair, 2 guest chairs, file cabinet and bookcase
Services (Utilities) Required:
Standard service, phone and data/network drop
Special Requirements, adjacencies:
Adjacent to Study Skills Center
Room Classification and Priority:
Coordinator of Dev. Ed. Algebra

Department:
University College

Number of Rooms Required:
1

Room Quantity, Net Assignable Square Feet:
130

Number of Occupants (FTE/Student):
1

Activities to Occur:
Office functions

Fixed Equipment Required:

Moveable Equipment Required:
Desk with return, chair, guest chair, file cabinet and bookcase

Services (Utilities) Required:
Standard service, phone and data/network drop

Special Requirements, adjacencies:
Adjacent to Math Studio

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Room Classification and Priority:
Math Learning Center Director

Department:
University College

Number of Rooms Required:
1

Room Quantity, Net Assignable Square Feet:
130

Number of Occupants (FTE/Student):
1

Activities to Occur:
Office functions

Fixed Equipment Required:

Moveable Equipment Required:
Desk with return, chair, 2 guest chairs, file cabinet and two bookcases

Services (Utilities) Required:
Standard service, phone and data/network drop

Special Requirements, adjacencies:
Adjacent to Math Learning Center
Room Classification and Priority: Waiting/Lounge
Department: University College
Number of Rooms Required: 1
Room Quantity, Net Assignable Square Feet: 500
Number of Occupants (FTE/Student): Varies
Activities to Occur: Waiting for Advising appointments, waiting for tutoring
Fixed Equipment Required:
Moveable Equipment Required:
Services (Utilities) Required:
Special Requirements, adjacencies:
Shared waiting/reception/commons for all student support services. At registration and orientations, the space may need to incorporate space from adjacent areas to meet the peak demand. A portion of the waiting area will be allocated to the Academic Advisors office area, while the remaining waiting will be assigned to the Tutor Scheduling waiting. The area is staffed by a receptionist and a student assistant.

Room Classification and Priority: Kitchenette
Department: General
Number of Rooms Required: 1
Room Quantity, Net Assignable Square Feet: 90
Number of Occupants (FTE/Student): N/A
Activities to Occur: Break area
Fixed Equipment Required:
Moveable Equipment Required:
Services (Utilities) Required:
Special Requirements, adjacencies:
Adjacent to Dean and other offices
Room Classification and Priority:
File Room

Department:
University College

Number of Rooms Required:
1

Room Quantity, Net Assignable Square Feet:
130

Number of Occupants (FTE/Student):
N/A

Activities to Occur:
Shared storage

Fixed Equipment Required:

Moveable Equipment Required:
Lateral file storage

Services (Utilities) Required:

Special Requirements, adjacencies:
Near Assistants, Classified staff, and other offices
Room Classification and Priority: Testing/Instruction Office
Department: University College
Number of Rooms Required: 1
Room Quantity, Net Assignable Square Feet: 130
Number of Occupants (FTE/Student): 1
Activities to Occur: Office functions
Fixed Equipment Required: (2) Tall Lateral Filing Cabinets for testing material storage
Moveable Equipment Required: Desk with return, chair, 2 guest chairs, file cabinet and bookcase
Services (Utilities) Required: Standard service, phone and data/network drop
Special Requirements, adjacencies: Adjacent to Placement Testing room and the Advising Area

Room Classification and Priority: Tutor Scheduling Room
Department: University College
Number of Rooms Required: 1
Room Quantity, Net Assignable Square Feet: 240
Number of Occupants (FTE/Student): 8-10
Activities to Occur: Home base for students providing tutoring services
Student check-in and scheduling for student services
Fixed Equipment Required: 8-10 lockers for tutor belongings
Moveable Equipment Required: Lounge chairs for student waiting area
Services (Utilities) Required: Power and data/network drop for each table
Special Requirements, adjacencies: Space may be incorporated into a common area near the Coordinator of Tutoring Services’ office. The space is intended to serve as an area where students could meet with their tutors and then move to study areas. This space includes a workstation / front desk for a Classified Staff member. Students check in here to meet their tutor. Tutors can be scheduled in this area and also online. The Tutor Scheduling Room is the first stop for the SASC, and is adjacent to the other SASC functions, including the Study Skills Center, the University Writing Center, and the Math Learning Center.
**Room Classification and Priority:**
Study Skills Center

**Department:**
University College

**Number of Rooms Required:**
1

**Room Quantity, Net Assignable Square Feet:**
1,500

**Number of Occupants (FTE/Student):**
Study area with 50 seats

**Activities to Occur:**
Individual and multiple study group stations
Students meet with tutors here for academic assistance.

**Fixed Equipment Required:**
Whiteboards – Scattered around room

**Moveable Equipment Required:**
2 and 4-person tables and chairs, more 2-seat options, 25% flexible lounge seating
Whiteboards w/ casters

**Services (Utilities) Required:**
Power and data/network drop for each table

**Special Requirements, adjacencies:**
Study Skills Center is adjacent to the Tutor Scheduling Room, the Math Learning Center and the University Writing Center. Offices for the Dev. Ed. Adjuncts and the FYR Program Coordinator are located directly off the Study Skills Center.
Room Classification and Priority:  
University Writing Center  

Department:  
University College

Number of Rooms Required:  
1

Room Quantity, Net Assignable Square Feet:  
1,200

Number of Occupants (FTE/Student):  
40

Activities to Occur:  
Drop-in lab for student writing study with tutor assistance.

Fixed Equipment Required:  

Moveable Equipment Required:  
2 and 4-person tables and chairs, lounge seating, computer tables at perimeter  
10 – 15 PCs

Services (Utilities) Required:  
Power for each computer  
CaTS phone  
Data/network connection to each computer

Special Requirements, adjacencies:  
The University Writing Center is adjacent to the Math Learning Center and the Study Skills Center. Offices for the Director of the Writing Center and the Coordinator of Dev. Ed. Writing will be directly accessed from the Writing Center.
**Room Classification and Priority:**
Math Learning Center

**Department:**
University College

**Number of Rooms Required:**
1

**Room Quantity, Net Assignable Square Feet:**
1,200

**Number of Occupants (FTE/Student):**
40

**Activities to Occur:**
Drop-in lab for student math study with tutor assistance

**Fixed Equipment Required:**
Whiteboards

**Moveable Equipment Required:**
2 and 4-person tables and chairs, lounge seating, computer tables at perimeter
5 PCs

**Services (Utilities) Required:**
Power for each computer
CaTS phone
Data/network connection to each computer

**Special Requirements, adjacencies:**
The Math Learning Center is accessed from the Tutor Scheduling space. It is adjacent to the University Writing Center and the Study Skills Center. The Director of the Math Learning Center’s office is off of the Math Learning Center.
**Room Classification and Priority:**
Math Studio

**Department:**
University College

**Number of Rooms Required:**
1

**Room Quantity, Net Assignable Square Feet:**
3,800

**Number of Occupants (FTE/Student):**
As many as will fit into available program area.

**Activities to Occur:**
Developmental mathematics study, coursework, and testing.
Individual work at individual pace, with proctor’s in space for general assistance

**Fixed Equipment Required:**

**Moveable Equipment Required:**
Tables and Chairs in clusters of 6. PC at each station.

**Services (Utilities) Required:**
Power for each computer
CaTS phone
Data/network connection to each computer

**Special Requirements, adjacencies:**
Math Studio includes the following previously programmed functions: Dev. Math Classroom, Dev. Math Testing, and Dev. Math Computer Lab. The Math Studio does not need to be directly adjacent to the SASC, but it is preferred. The Coordinator Dev. Ed. Algebra’s office is located adjacently to the Math Studio. The Placement Testing function also occurs in the Math Studio. Adjacent to the Math Studio is the Testing Instructor’s Office.

![Diagram of the Math Studio layout](image)

4,040 SF – 108 seats
Room Classification and Priority:
Student Athletic Study Room
Department:
Student Affairs
Number of Rooms Required:
1
Room Quantity, Net Assignable Square Feet:
1,200
Number of Occupants (FTE/Student):
Minimum of 30
Activities to Occur:
Monitored tutoring and study sessions to comply with NCAA guidelines
Fixed Equipment Required:
Moveable Equipment Required:
Tables and chairs w/ privacy dividers
Equal number of PCs to seats
Services (Utilities) Required:
Power for each computer
CaTS phone
Data/network connection to each computer
Special Requirements, adjacencies:
Study hall w/ individual study only, no tutors or groups.

1,200 SF – 60 seats


**Room Classification and Priority:**
Institute of Defense Studies and Education (IDSE) Training Room

**Department:**
IDSE

**Number of Rooms Required:**
1

**Room Quantity, Net Assignable Square Feet:**
1,400

**Number of Occupants (FTE/Student):**
28 plus instructor

**Activities to Occur:**
Eight hour sessions of executive education

**Fixed Equipment Required:**
- Tables for 28
- Buffet for serving
- Instructor’s podium
- Projector screen
- Ceiling mounted projector
- Whiteboards at the front of the room

**Moveable Equipment Required:**
- Executive style chairs
- PC for instructor
- (3) Mobile marker boards

**Services (Utilities) Required:**
- Power for each seat and instructor’s station
- CaTS phone
- Data/network connection to each seat and instructor’s station

**Special Requirements, adjacencies:**
Prefer the tables be arranged in a “U” shape. Large amounts of natural light. Need to have an adjacent storage closet with small refrigerator. Provide high quality and level of finishes. No kitchenette.

1,400 SF – 26 seats
Section 4: Building Planning & Design Criteria

Envelope Criteria:
Minimum R-values established in the OBC 2010 are adopted from ASHRAE 90.1-2007. The stated goal for the Classroom Building is to use best practices and LEED principles in order to increase the energy-efficiency and sustainability of the structure. With that in mind, the building envelope will be designed to meet ASHRAE 189.1 if the budget allows.

Envelope Materials:
The selection of envelope materials will be a product of multiple, sometimes contradictory factors. One factor is context. Through analysis of the existing buildings adjacent to the building site, decisions will be made about the Classroom Building either fitting in with the context or standing out from the context. Similarly, analysis will be done on the new buildings (Joshi, Diggs Laboratory, etc.) in order to understand the contemporary direction that has been taken on campus. Active academic buildings, especially for the students the building is being designed for, may influence the character of the envelope. Finally, the issue of durability, appropriateness, and maintainability will influence the design. Easily maintained envelopes decrease long-term costs while also maintaining the aesthetic approach. Sustainably produced, locally-sourced materials will also be considered.

Masonry veneer construction is durable and fits into the context of Wright State University. University Hall, Rike Hall, Hamilton Hall, and many other buildings around campus are built with a brick veneer. Stone is used as a base material on some buildings around campus. Some buildings also use metal as an accent material. This creates a possibility for not only metal (painted steel, galvanized, stainless steel, and zinc) as an accent but also as an envelope material. Complicating and enriching the design of the envelope is the fact that a portion of the Classroom Building will be engaged with the sloping ground plane. Because of the topographic change the design could manifest itself as a concrete or stone plinth, a durable base, or a stepped structure. Material selection will most likely respond to these concepts. Another accent option is wood, which is more difficult to maintain, but adds warmth and texture to a building.

Daylighting can be accomplished through a combination of curtain wall, storefront, windows, and roof sources such as skylights, light tubes and clerestories or monitors. Building entries are likely to be curtain wall to not only daylight the interior but create a presence at night through lighting. When necessary, shading will be designed for areas of fenestration to decrease solar heat gain. Blinds will also be provided.

Accessibility Requirements:
Today, more than forty-three million Americans have some type of impairment, either physical or mental. For many of these individuals, every day activities such as working, using public transportation, and having access to educational opportunities is hampered or even denied by physical and programmatic barriers. In 1990, the Americans with Disabilities Act (ADA) was enacted to ensure that no qualified individual with a disability shall be discriminated against or excluded from participation in the programs offered by a public entity, such as Wright State University. Wright State University has a national reputation for serving the physically impaired student.

The final design for this project will meet these current regulatory standards:
1. The Ohio Building Code has recently updated Section 11 on accessibility standards, and has incorporated ICC A117.1-2009 for all technical requirements.
2. Americans with Disabilities Act Architectural Guidelines
3. Wright State University standards may require additional design features to support the special needs of students, faculty, staff, and visitors of the university who have a disability.

Structure:
Design of the building structure will be controlled by considerations for both strength and serviceability. Both offices and classrooms are designed for no less than 50 pounds per square foot occupancy while larger multi-purpose spaces are planned for 100 pounds per square foot to permit maximum user flexibility. Additionally the design team utilizes American Society of Civil Engineers Design Guide 11, Floor Vibrations Due to Human Activity in order to check the spaces for occupant comfort. Annoying vibration due to walking excitation will be reduced to the recommended perceptible levels.
**Interior Construction:**
Acoustical Considerations:
The interior walls should be designed for a 50 STC rating, making the transfer of most speech inaudible and loud speech muffled. Multiple wall constructions will yield a 50 STC rating, including (2) sides 5/8” gypsum board on 3-5/8” metal studs at 24” o.c. with 3” sound attenuation batting (RAL-TL-90-166). The 50 STC wall rating should be used for walls separating both programmed spaces and corridors and programmed space and programmed space. The walls will be built to deck to decrease the sound transfer between spaces.

Finishes:
As detailed in the discussion of acoustics, abuse-resistant gypsum board is appropriate for interior wall finish in public spaces. Other interior wall finishes will be used as accents. The walls will be protected by rubber base or other appropriate protection. Carpet will be provided in most programmed spaces. Circulation and public spaces should receive more durable floor treatments; possibilities (in order of descending cost) include poured terrazzo, terrazzo tile, porcelain tile, rubber sheet, and linoleum. Stained or polished concrete floors are another option that could fall anywhere within the price spectrum depending on the finish. Ceiling finishes should be an acoustic treatment in the classrooms and offices. In public areas issues of access and acoustics will be weighed against amounts of accent ceiling. Depending on the aesthetics of the building, another option for the ceiling is exposed structure and systems. Exposing what is normally concealed would give the building interior a more industrial aesthetic.

Accent finishes might include metal or wood wall or ceiling panels, fabric, acrylic panels, back painted or graphic glass, and many other visually interesting materials that would enhance the space.

The interior finishes should contribute to the character of the building and help build the branding. The finishes are a main component in the creation of a place; they are effective visually, aurally, and as tactile surfaces. They should also be durable, maintainable and cost-effective. A high priority will be given to materials that are locally sourced and that do not emit toxic fumes / low VOC, etc. to support the goal of providing a healthy indoor environment for student, faculty and staff in the building.

**Building Systems Interface Criteria:**
All new plumbing fixtures in the building will include low flow fixtures that will meet or exceed the Ohio Plumbing code requirements. The fire protection system will be designed to meet the requirements of the Ohio Fire Code and NFPA chapter 13.

The new building will be provided with temperature control zones based on the building exterior exposures, building envelope, and interior space utilization. Each temperature zone will have a temperature sensor that will allow the occupants to adjust the zone temperature ±2°F of set point. The overall building temperature controls will be networked with the campuses temperature control system, allowing central monitoring of the building performance and system alarms.

Electrical power will be extended into the proposed building from the campus primary voltage network located in the campus tunnel system. The 15kV cabling will be connected at two source locations, which will be determined by the University. Both sources will be connected to a "multi-way" 15 kV switchgear in a loop-feed configuration. The switch will be located within the proposed building with one of the protected switch "ways" connected to serve a 15 kV to 480/277 volt transformer and main distribution switchboard. This switchboard will establish the main electrical distribution point for the building. Other electrical systems that will be extended to the proposed building include the campus fire alarm system network, voice/data network, and access control and security network.

**Mechanical:**
The proposed HVAC system for the building will be indoor air handling units with single zone hot water VAV boxes to serve the classrooms, offices and support spaces. The proposed system to provide chilled water to the building are new air cooled chillers. However, the University and the design team need to investigate the possibility of extending chilled water from the existing Student Union Chiller plant. Heating
water for the building will be provided by condensing boilers. All new HVAC equipment will meet or exceed the minimum energy requirements of the Ohio Mechanical Code and ASHRAE 90.1.

**Electrical:**
The electrical systems for the building will be appropriately sized and connected to accommodate the building mechanical systems, lighting systems, elevator controllers, appliances and utilization equipment. The building will be provided with dual power feeds from the campus primary voltage distribution network, which will provide a more reliable and available power delivery for the building users. Power system transformers will meet or exceed the no-load losses and 35% load performance requirements to be considered NEMA TP-1 compliant. Standby power systems consisting of UPS and emergency generator back-up will be considered to provide additional power reliability for code-required and mission critical processes within the proposed building. The lighting systems for the building will consist of recessed volumetric fluorescent fixtures as the primary lighting source with a variety of quartz, LED, and fluorescent accent fixtures to provide a comfortable, productive and energy-efficient learning environment. Classrooms will have multi-level lighting control to provide a flexible environment for reading printed material, note taking during traditional lectures and audio/visual presentations. The lighting system design will include fixtures and layouts that will perform 20 to 30 percent better than the code-prescribed lighting power density levels (watts per square foot).

**Plumbing:**
The new plumbing fixtures will be low flow fixtures that will meet or exceed the Ohio Plumbing Code requirements. The new fixtures will also help the building a minimum of 20% reduction in water usage. The fire protection system will be designed to be most economical.
Section 5: Site Planning & Design Criteria

The site will be adjacent to University Hall, along University Boulevard. The facility shall have pedestrian access from the existing plaza level and to the second story from University Boulevard. This location will require the re-route and extension of existing utilities. Existing adjacent pedestrian walkways and crosswalks will need to be studied to determine the most suitable arrangement. New site hardscape and plantings will need to be designed to complement the existing plaza and provide a pleasant gateway from University Boulevard. All landscaping and site features will comply with ANSI A300 best practices and Wright State University Standards.

Per the program, the new facility will consist of a three story building of approximately 58,000 gross square feet total. The site will be adjacent to University Hall, along University Boulevard.

The following diagrams outline an understanding of the existing site, its boundaries, existing utilities and tunnel systems, topography, views, and pedestrian and vehicular circulation. Also, some issues are analyzed in the context of the WSU master plan in an attempt to understand future conditions.

Building Entries:
An important pedestrian access route exists between Allyn, Rike and University Halls. These building entries align with each other, creating a clear and visible route through the three buildings. It is also interesting to note that no entries in the west buildings open onto the large plaza. The classroom building entry sequence could extend the side entry language, or it could reject it by creating an entry that opens directly to the plaza.

Topography:
The site elevation changes from 962’ in the middle of the site to 946’ at the low point to the north. The southwest corner has an elevation of 960’; the east corner towards University Hall has an elevation of 950’. University Hall’s first floor elevation is 948’-8”.

Existing and Future Pedestrian Circulation:
The site is accessed from a couple of different routes. One is through pedestrian movement back and forth from the space between Hamilton Hall and the Student Union to the south corner of University Hall. Other access is from the parking areas to the north and west as well as from the central plaza to the east.

Existing and Future Tunnels:
Currently University Hall is connected to both Rike Hall and the Math & Microbiology building by a tunnel system. The Classroom Building needs to connect to the tunnel system by either direct connection to University Hall through an existing storage room or to the existing tunnel between University Hall and Medical Sciences.

Future tunnels may or may not be extended to master planned academic buildings and residential buildings to the south of the Classroom Building site.

Site Utilities:
Electric service runs along the south edge and up through the north corner of the site. Gas runs across the site parallel to the electric, but further south, to serve University Hall and the rest of campus. Water also runs parallel to the gas, serving campus from the water tower next to the existing Forest Lane Community Center. Storm bounds the site, creating multiple tie-in opportunities. Finally, sanitary will need to be extend from the east Academic Core to the Classroom Building site. All site utilities will need to be analyzed for their relationship with any new tunnel construction connecting the Classroom Building to University Hall or an existing tunnel between buildings.

Sanitary Sewer: From record documents we see that there is an existing 10” sanitary sewer to the southeast of the proposed building site in the “academic mall” area. This sewer appears to be deep enough to service the basement of the proposed classroom building. We would anticipate tapping into that line / manhole with either an 8” or 6” line to serve the sanitary sewer needs of the new building. The University may want
to consider, as part of this project, to extend the 10” line beyond our building limits for ease of future extension to serve other upstream areas of the campus. This possible extension will be reviewed with University Engineering personnel to determine if it is necessary. All recommendations listed will be subject to review by the University Engineer.

Storm Sewer: From record documents we see that there is an existing 24” storm sewer adjacent to the site at the northeast corner. We would anticipate collecting our site drainage in a series of yard drains and catch basins, and piping that run-off as well as the roof drainage into a pipe network that would discharge into the existing 24” storm sewer. Additionally, if the University desires, “green” approaches to storm water management and conveyance can be explored. These could consist of bio-swales, rain gardens, and pervious pavements. We understand that there is not a campus wide stormwater management plan, and we understand that the increased peak flow rates of stormwater run-off created by the increased impervious area will need to be managed on site. To accomplish this we expect that stormwater will need to be temporarily detained in a combination of surface features and below grade structures, and then released at a lower peak flow rate. Depending on the topography of the adjacent land, the University Master Plan, and the existing storm sewer network, it may be desirable to extend the 24” “trunk sewer” upstream beyond our building site for ease of future connections. The recommendations listed will be subject to review by the University Engineer.

Water Service: From record documents we see that there is an existing water line that traverses the proposed building site. This main will most likely require relocation to allow the building to be constructed. The size of this main is unknown at this time. However, assuming that the main is 8” or larger, we would anticipate tapping into that main in the area of the relocation, and serving our building from those taps. We would plan to provide both a domestic, and a fire service to the new building. The sizes of those services will be coordinated with the mechanical engineer and the demand for the building, and will vary depending on the existing flows and pressures at the point of connection to the existing water mains.

Electrical Service: The electrical systems (power end communications) will be extended from the existing Campus utilities or from the adjacent buildings via the new tunnel.
Site
Site & Classroom Building Footprint

The diagram above shows a 135’ x 135’ building footprint. The 18,225 SF footprint will be used in later site analysis and preliminary code analysis. Below is a section study of the new Classroom Building and its relationship to University Hall. The 960’-0” grade height on the left is existing, as is the 948’-0” grade height. The Classroom Building, despite being less square footage than University Hall, could match the existing building in height along its southwest face.
Topography

![Topography Map]

![Spot Elevation Image]
Building Entries
Existing Pedestrian Circulation
Future Pedestrian Circulation
Existing Tunnel Circulation
Future Tunnel Circulation
Site Utilities

- Electric
- Gas
- Sanitary
- Storm
- Water
- Telecom
Section 6: Program Relationships

Academic Advising and Administration

The Academic Advising offices, support spaces, and some Administrative spaces, including the Dean’s office, are grouped around a Waiting / Lounge area.
**Student Academic Success Center**

The Student Academic Success Center is comprised of the main parts: the Study Skills Center, the University Writing Center, and the Math Learning Center. Each center has adjacent offices. A Tutor Scheduling room (and associated back of house functions) acts as the hub around which the three large tutoring/ study rooms are positioned.
Section 7: Budget and Schedule

Construction Cost Estimate:
Preliminary Estimate of Construction Cost

<table>
<thead>
<tr>
<th>Branch</th>
<th>Cost / SF</th>
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<tbody>
<tr>
<td>Architectural</td>
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<tr>
<td>Structural</td>
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<tr>
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<tr>
<td>Civil Sitework</td>
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</tr>
<tr>
<td>Landscape / Hardscape</td>
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</tr>
</tbody>
</table>

$239.00 / SF
x 60,131 SF
$14,371,309

Project Schedule:

A/E Contract: September 21, 2012
Program Verification: September 24 – October 19 4 weeks
Schematic Design: October 22 – December 14 8 weeks
WSU Review: December 17 – December 28 2 weeks
Design Development: December 31 – March 1, 2013 9 weeks
DD Review: March 4 – March 8, 2013 1 week
Contract Documents: March 11 – July 12, 2013 18 weeks
CD Review: July 15 – July 26, 2013 2 weeks
Pre-Bid: July 29 – August 16, 2013 3 weeks
Bidding: August 19 – Sept 13, 2013 4 weeks
Contracts: Sept 16 – October 25, 2013 6 weeks
Furnishings/Technology: February – March, 2015 2 months
Program Verification

Project Budget:

Funding Sources
1. WSU Bond Funds $17,845,000
2. Other WSU Funds $1,355,000
Total Project Funding $19,200,000

1. Construction Cost $14,400,000
   a. $13,600,000 plus $800,000 from Site Development
2. AV System $1,050,000
   a. AV, Lecture Hall only: $250,000
   b. AV for 4 Scale-up Classrooms: $800,000
3. CaTS Infrastructure plus AV, remainder of building $200,000
4. Furnishings $760,000
   a. Furnishings, Classrooms: $535,000
   b. Furnishings, Student Success: $225,000
5. A/E Basic Services Fees $1,108,800
6. Additional Services Fees $123,420
7. Reimbursable Fees $37,100
8. Change Order Allowance $40,000
9. WSU Consultants $144,000
10. Construction Contingency $1,332,000
Total Project Budget $19,195,320

OPERATIONAL COSTS

1. Personnel Number (FTE) Annual Cost
   a. Faculty 0 $0
   b. Staff No Increase $0
   c. Building Maintenance 1 $47,143
   d. Custodial 2 $72,696

   Total Personnel Cost No Increase $0

2. Plant
   a. Utilities $132,000
   b. Maintenance $50,000
   c. Replacement Equipment $0
   d. Custodial $15,000

Summary of Program, Cost & Schedule:
At $239 per SF including sitework, the budget is adequate but not generous. The design team will need to work toward a goal of greatest effect / best building for least cost. The program for the building is straightforward. Large classrooms and learning spaces comprise the majority of square footage; this should help the project stay within budget. The design team will also need to be cognizant of the programmed area. It is important that the project square footage remain as programmed, as “scope creep” will negatively impact budget. The schedule as proposed is adequate for the size and complexity of the project. The design team is aware of key dates, and will work with WSU to achieve the schedule goals.
Section 8: Applicable Law

This section will serve as a preliminary code review. Assumptions based on the conceptual design shown above will be used to develop the review.

Code Review

The Classroom Building will be designed to meet the 2011 Ohio Building Code. Some assumptions have been made in order to complete a preliminary code review. One is that building will be built with a Type IIB Construction. Another is that 50% of the building perimeter will count towards street frontage. Finally, the grade plane is between the first and second story; as a result, the preliminary review is based on a three-story building w/ a basement and a penthouse.

See the attached preliminary code review.

Envelope:
ASHRAE standards were discussed in the Building Design Criteria section; the Ohio Building Code uses the 90.1-2007 standards for envelope criteria.

Atrium vs. Floor Opening:
A vertical opening can be considered a floor opening (not an atrium) if it follows the exceptions in Section 708.2 of the OBC, namely when there is an automatic sprinkler system and a stair or escalator that is not a required means of egress, and “when the area of the floor opening between stories does not exceed twice the horizontal projected area of the escalator or stairway and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.”

Atriums (Section 404) are defined as vertical openings that are protected by a combination of an automatic sprinkler system and a smoke control system (if the atrium exceeds two stories tall). The size of the openings exceeds the limits set in Section 708.2.

Structure:
The design of structures is governed by the Ohio Building Code. This will dictate the minimum permissible loading for various occupancies as well as guide designers to the American Institute of Steel Construction and American Concrete Institute for the recommended procedures for calculating structural capacity. The American Society of Civil Engineers 7-05 Minimum Design Loads for Buildings is referenced by the building code as the source for design requirements for snow and snow drift, wind loads, and seismic requirements. The Ohio Building Code and all these referenced standards become the basis for minimum structural design in the State of Ohio.

The MEP systems will be designed to meet the latest edition of The Ohio Building Code, Ohio Mechanical Code, Ohio Plumbing Code, the Ohio Fire Code, the National Electrical Code and applicable NFPA sections.

Methods for soil erosion control during construction will be designed per the OhioEPA Construction Stormwater General Permit, in compliance with the National Pollutant Discharge Elimination System (NPDES) Permit. Stormwater management will be designed in accordance with the City of Fairborn requirements. Sanitary sewer and water services will be designed in accordance with the City of Fairborn and OhioEPA standards.