

**Kentucky Department of Education**  
**Office of Career and Technical Education**



# **FACILITIES GUIDE**

*Updated: February 2022*

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## INTRODUCTION

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Kentucky Administrative Regulation 705 KAR 4:231, general program standards for secondary career and technical education (CTE) programs, states that all CTE facilities shall be of adequate size to accommodate the work of their respective program(s). The material within this resource guide is designed to aid school administrators, teachers, boards of education, advisory committees, and architects who share responsibility in the planning and equipping of a facility for CTE programs. This guide should be used in the construction of new facilities and/or the renovation of existing facilities.

To design a functional facility, planners must understand the scope of the educational program and its career pathways, classroom activities, and instructional methods. This guide is not intended to be all inclusive but will provide direction and guidance for those responsible for planning and equipping a career and technical education facility. Additional assistance in each program area is available by contacting the program consultant(s) within the Kentucky Department of Education, Office of Career and Technical Education.

When federal and state funding is anticipated in the construction, compliance with federal and state regulations and guidance is mandatory. Additional information concerning these regulations may be obtained through the Kentucky School Facilities Planning Manual or by contacting the Kentucky Department of Education District Facilities Branch.

## **PLANNING RESPONSIBILITIES**

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Facility planning should be a collaborative and cooperative process. The following individuals and groups have special contributions to make when plans are being developed for a career and technical education facility. It is important for the architect, educators, and community leaders to see each of their roles in relation to the planning process. The school administrator should provide leadership in this cooperative effort. Any CTE project associated with public K-12 schools will be subject to review by KDE pursuant to 702 KAR 4:160 Capital Construction Process, <https://apps.legislature.ky.gov/law/kar/702/004/160.pdf>

### *Career and Technical Education Program Area Teaching Staff*

Because of their understanding of the curriculum, the objectives to be accomplished in the program, and knowledge of societal trends in their areas, program area teaching staff should be involved in the planning process. The teachers should know and be able to explain why a certain allocation of space is required.

### *Local School Administrators*

The overall view of the total school program, educational objectives of the school, and interrelationships existing between subject matter fields can be explained by the local school administrators. Their knowledge of the long-range needs of the community, the financial arrangement and the attitude of the community toward a building program is needed in the planning process.

### *Advisory Committee Members*

Because of their definite interest and expertise in the program area, awareness of all the persons and groups who can be served by the program, and knowledge of the needs in the particular program area to which they serve, advisory committee members need to make recommendations for the facility. Present and former students can help in analyzing characteristics of the existing facility to determine what to include or avoid in the new facility.

### *Consultants in the Department of Education*

State consultants and local supervisors of specific program areas need to be involved because of their firsthand experience in the classroom both as teachers and as consultants, their knowledge of state regulations and requirements, and their experiences with different program facilities in schools across the state. Exemplar blueprint layouts for specific program areas are available by request.

### *Architect*

A professional architect, who understands how to incorporate the ideas of others into a creative plan which will meet the educational needs of the community, assumes a vital role in the planning process.

## PLANNING A PROGRAM AREA FACILITY

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The most effective facility will be one in which all specific program area teachers within the school, administrators, advisory committee members, program area staff in the Department of Education and architects have participated in planning. The best results will be obtained if a logical sequence is followed.

- ✓ Step 1 - Develop or revise, if needed, the philosophy for the local program area department based on current and projected needs of the students, community, industry, curricula, and trends in education and society.
- ✓ Step 2 - Determine the present and long-range educational program goals.
- ✓ Step 3 - Review a variety of resources such as equipment catalogs, references on space, equipment and storage guides, safety standards and current professional journals.
- ✓ Step 4 - Evaluate the present facility to determine what to include or avoid in a new facility.
- ✓ Step 5 - Visit other schools in various communities to discuss with other program area teachers ideas for space needed, equipment, layout, etc. Remember, copying a plan from one school may not provide an appropriate facility for another community.
- ✓ Step 6 - Develop basic educational specifications that will be required to meet programmatic needs of planned career pathways.
- ✓ Step 7 - Interpret and discuss educational specifications that will be required to meet program needs.
- ✓ Step 8 - Evaluate the preliminary architectural drawings using the criteria and educational specifications as guidelines. Provide rationale and description of suggestions for any needed changes to the designated person.

General considerations:

Methods of teaching and learning experiences to be used in each area of instruction should provide direction for planning and equipping the facility. The kind of experiences should influence the size of room and the arrangement of space and equipment.

Types of teaching and learning experiences may include:

<i>Individualized</i>	<i>Team Teaching</i>
<i>Discussion</i>	<i>Student Organization Meeting</i>
<i>Lecture</i>	<i>Cooperative Learning</i>
<i>Laboratory</i>	<i>Demonstration</i>
<i>Simulated</i>	<i>Supervised Study</i>

A teaching center is needed in each classroom and should consist of: teacher's desk, table or mobile stand, interactive whiteboard permanently mounted with portable tablet, computers and projection equipment, tack board, filing cabinet, and electrical outlets.

A learning center for students should consist of: seating and writing surfaces for each student; access to computers, references and resource materials; and space and equipment for individual, small group, or entire class activities.

To be eligible to utilize restricted fund sources, the proposed facility must be on the District's Facility Plan (DFP). This relates to the planning process administered under <https://education.ky.gov/districts/fac/Pages/School-Facility-Planning-Process-Manual.aspx>.

## **LOCATION OF SPACE IN A PROGRAM AREA FACILITY**

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Accessibility is an important factor in determining location in order to render the best service to all persons and groups to be served. The following should be considered when deciding on the location of the specific facility:

- easy access to all persons and groups being served
- convenient for delivery of materials/supplies used in classes
- convenient installation and removal of large equipment
- accessible for physically challenged persons

When there is more than one room for a program within the facility, locating the rooms adjacent to each other helps to unify the program and allow for communicating easily, sharing equipment, and exchanging classrooms.

Reviews related to space compliance will be conducted under <https://apps.legislature.ky.gov/law/kar/702/004/170.pdf>.

Note: The requirements of SB 1 (2019) may have a significant impact on how these spaces are accessed and/or relate to other facilities.

## PERSONS TO BE SERVED

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The potential individuals and groups of students along with their characteristics and needs should be considered when planning and equipping a career and technical education facility. Meeting the needs of the following groups should be considered:

1. Students enrolled in:
  - laboratory courses
  - non-laboratory courses
  - upper-level / capstone courses
2. Students with special needs.
3. Members of career and technical education student organization(s).
4. Students attending adult or community education classes.



## **CURRICULUM**

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Career and technical education programs consist of a broad spectrum of courses within each program area. Courses are designed to prepare students for post-secondary education and/or a career after graduation.

Curriculum for career and technical education programs are based on objectives and goals that equip students with the skills and knowledge to be successful on the End of Program Assessment (EOPA), industry certification exams, and exams such as the ACT, COMPASS, KYOTE, ASVAB and ACT WorkKeys. The facility plans are organized by program area, as each have unique curricular needs, based upon the occupational area(s) of emphasis. Programs of Study for each CTE career pathways are found on the Kentucky Department of Education website:

[https://education.ky.gov/CTE/ctepa/Documents/2019-2020\\_CTE\\_POS.pdf](https://education.ky.gov/CTE/ctepa/Documents/2019-2020_CTE_POS.pdf)

The career and technical education student organization relative to each area is to be an integral part of the curriculum and should be given consideration when space and equipment needs are planned.

## PREPARING EDUCATIONAL SPECIFICATIONS

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Well-prepared educational specifications serve as an instrument for good planning and design, and if used effectively, should result in a functional facility. Good planning and design are possible only when the architect has a clear picture of the program presented in the form of educational specifications. The specifications should furnish a basis for working drawings for the architect. They should be prepared in simple, concise language and be in sufficient detail to be easily interpreted by the architect and others.

The following is a suggested outline for the content of educational specifications for a career and technical educational program which should be prepared for the architect:

- I. The (Insert Program Name) Program
  - A. Statement of philosophy of the program area and the school
  - B. Curriculum
    1. Purposes
    2. Career Pathways offered
    3. School-Based Enterprises
    4. Classroom activities and instructional methods
    5. Length of program
  - C. Age groups to be served and their distinctive characteristics
  - D. Maximum class size
- II. General Requirements
  - A. Space
    1. State recommended square feet needed
    2. Number of teachers in program area
    3. Number and types of rooms/laboratories/work areas/offices
    4. Instructional areas to be taught
    5. Types of teaching-learning activities
    6. Storage space for student supplies, materials and any required clothing.
    7. Storage space for teacher supplies and instructional materials
    8. Access and usability for physically challenged persons
  - B. Location
    1. Preferred location in the building
    2. Rationale for location
  - C. Utility Services
    1. Types needed for each room (electric, gas, water)
    2. Present and future equipment and plumbing needs
    3. Location of network connections
    4. Facilities meet KETS standards

### III. General Details

- A. Types and finishes for cabinets
- B. Preferred floor coverings for each room
- C. Color for walls, cabinets, floors
- D. Materials for work surfaces, walls
- E. Preferred layouts for activity area
- F. Lighting and ventilation needs
- G. Furniture and equipment suitable for use in new facility

The information in the educational specifications should be presented in writing. Some information may best be expressed in table form and diagrams. It will be helpful if the architect visits a variety of career and technical classes in the program area to see some possibilities for using space, designing facilities for specific needs, and for locating equipment.

The architect's interpretation of the educational specifications should be submitted to the administrator and the person(s) who prepared the specifications. In the event of changes to the plan, persons involved should be given an opportunity to help determine adjustments to be made.

## PROGRAM SQUARE FOOTAGE MINIMUM REQUIREMENTS

Program (Capacity)	Grade Level	Minimum Square Footage
Agricultural Education	Middle/Junior High	750
Agricultural Education	High School – 1 teacher	3,170
Agricultural Education	High School – 2 teachers	3,970
Agricultural Education	High School – 3 teachers	4,780
Agricultural Education with Greenhouse	High School	5,580
Auto Body / Collision Repair Technology	High School	5,775
Automotive Technology	High School	5,700
Aviation	High School	2,700
Business Education Technology	Middle/Junior High	750
Business Education Technology	High School – 1 teacher	2,350
Business Education Technology	High School – 2 teachers	3,800
Business Education Technology	High School – 3 teachers	5,100
Computer Aided Drafting	High School	3,060
Computerized Manufacturing and Machining	High School	5,000
Construction Technology – Carpentry	High School	4,750
Construction Technology – Air Conditioning / BAM / Electricity / Heavy Equipment / Plumbing/ Masonry	High School	4,250
Diesel / Medium-Heavy Truck Technology	High School	5,700
Engineering Technology Education	Middle/Junior High	2,400
Engineering Technology Education	High School	3,800
Family and Consumer Sciences Education	Middle/Junior High	900
Family and Consumer Sciences Education	High School – 1 teacher	2,700
Family and Consumer Sciences Education	High School – 2 teachers	3,350
Family and Consumer Sciences Education	High School – 3 teachers	4,000
Health Science Education	Middle/Junior High	750
Health Science Education	High School	2,550
Industrial Maintenance Technology	High School	4,650
Information Technology	High School	2,800
Marketing Education	Middle/Junior High	750
Marketing Education	High School	1,650
Media Education – Cinematography and Video Production	High School	3,300
Media Education – Graphic Design	High School	2,700
Media Education – Interactive Media	High School	3,300
Metal Fabrication Technology	High School	4,650
Pathway to Careers Education	Middle/Junior High	750
Pathway to Careers Education	High School	2,000
Welding Technology	High School	5,060
Wood Manufacturing Technology	High School	5,050

## SPACE REQUIREMENTS

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Adequate and functional facilities aid in learning and contribute to meaningful and satisfying teaching and learning experiences. The number of rooms depends on the number of teachers for the program area and requirements of a comprehensive curriculum.

In a middle/junior high school, a single classroom/multi-purpose room with one teacher might be used for teaching exploratory curriculum. If more than one teacher is employed, or if it is anticipated that more than one teacher will be needed, it is recommended that sufficient rooms be included in the original plan for meeting these needs.

At the high school level, the number of rooms recommended depends on the program area. There should be sufficient space to offer all aspects of the curriculum with emphasis on the career pathway, which are noted on the individual program area pages.

In multi-teacher programs, adjacent rooms unify the program by allowing for easy communication, sharing of equipment, and exchanging rooms for instruction.



The following general safety and first aid equipment should be found in ALL career and technical education classroom and laboratory areas:

- |                     |  |
|---------------------|--|
| ✓ Fire Extinguisher | ✓ Smoke Alarm                            |
| ✓ First Aid Kit     | ✓ Hazardous Waste Spill Kit              |
| ✓ SDS Record Book   | ✓ Eye Wash Station and/or Shower Station |

## AGRICULTURAL EDUCATION

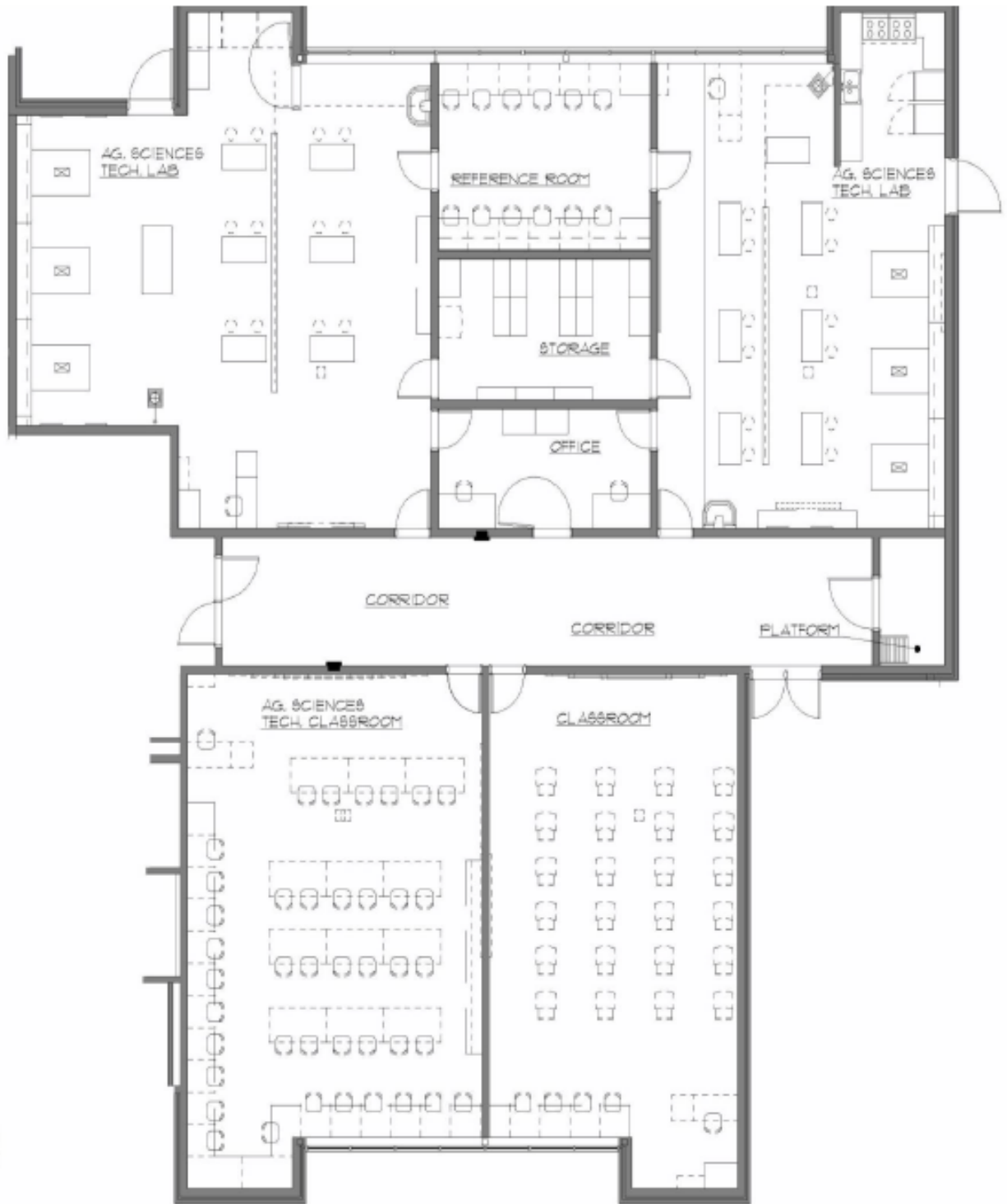
Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	750	1:30
High School – 1 teacher	3,170	1:30
High School – 2 teachers	3,970	1:30
High School – 3 teachers	4,780	1:30
High School with Greenhouse	5,580	1:30

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
	Classroom	750	Hot and cold water sinks located at the teacher's station or resource cabinet
High School (1 teacher)			
High School (1 teacher)	Lab	2,000	Provide access through a 10' x 10' overhead door to an exterior 2,000 sq. ft. courtyard enclosed with an 8' high fence with a 10' wide gate located opposite the overhead door for direct access  Fire Blanket
High School (1 teacher)	Office	150	Voice/Data/Power Outlets  Lockable Filing Cabinets  Lockable Door
High School (1 teacher)	Storage	100	Accessible from Classroom  Lockable Door
High School (1 teacher)	Tools & Supplies	170	Accessible through "Dutch" Door  Lockable Door
High School (2 teacher)	Classroom	2 @ 750 = 1,500	Hot and cold water sinks located at the teacher's station or resource cabinet

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
High School (2 teachers)			
High School (2 teachers)	Lab	2,000	Provide access through a 10' x 10' overhead door to an exterior 2,000 sq. ft. courtyard enclosed with an 8' high fence with a 10' wide gate located opposite the overhead door for direct access  Fire Blanket
High School (2 teachers)	Office	200	Voice/Data/Power Outlets  Lockable Filing Cabinets  Lockable Door
High School (2 teachers)	Storage	100	Accessible from Classroom  Lockable Door
High School (2 teachers)	Tools & Supplies	170	Accessible through "Dutch" Door  Lockable Door
High School (3 teachers)	Classroom	3 @ 750 = 2,250	Hot and cold water sinks located at the teacher's station or resource cabinet
High School (3 teachers)	Lab	2,000	Provide access through a 10' x 10' overhead door to an exterior 2,000 sq. ft. courtyard enclosed with an 8' high fence with a 10' wide gate located opposite the overhead door for direct access  Fire Blanket
High School (3 teachers)	Office	250	Voice/Data/Power Outlets  Lockable Filing Cabinets  Lockable Door
High School (3 teachers)	Storage	100	Accessible from Classroom

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
			Lockable Door
High School (3 teachers)	Tools & Supplies	180	Accessible through "Dutch" Door Lockable Door
High School With Greenhouse	Classroom	750	Hot and cold water sinks located at the teacher's station or resource cabinet
High School With Greenhouse	Lab	2,000	Provide access through a 10' x 10' overhead door to an exterior 2,000 sq. ft. courtyard enclosed with an 8' high fence with a 10' wide gate located opposite the overhead door for direct access Fire Blanket
High School With Greenhouse	Office	150	Voice/Data/Power Outlets Lockable Filing Cabinets Lockable Door
High School With Greenhouse	Storage	100	Accessible from Classroom Lockable Door
High School With Greenhouse	Tools & Supplies	180	Accessible through "Dutch" Door Lockable Door
High School With Greenhouse	Greenhouse	1,800	Divided into two areas with separate temperature controls: a 600 sq. ft. preparation area and a 1,200 sq. ft. plant area; locate in an area where plants will not be affected by artificial light from athletic complexes or security lights Lockable External Door(s)
High School With Greenhouse	Head House	600	May be incorporated into Ag Mechanics Lab if Horticulture pathway is the only career pathway offered Lockable Door



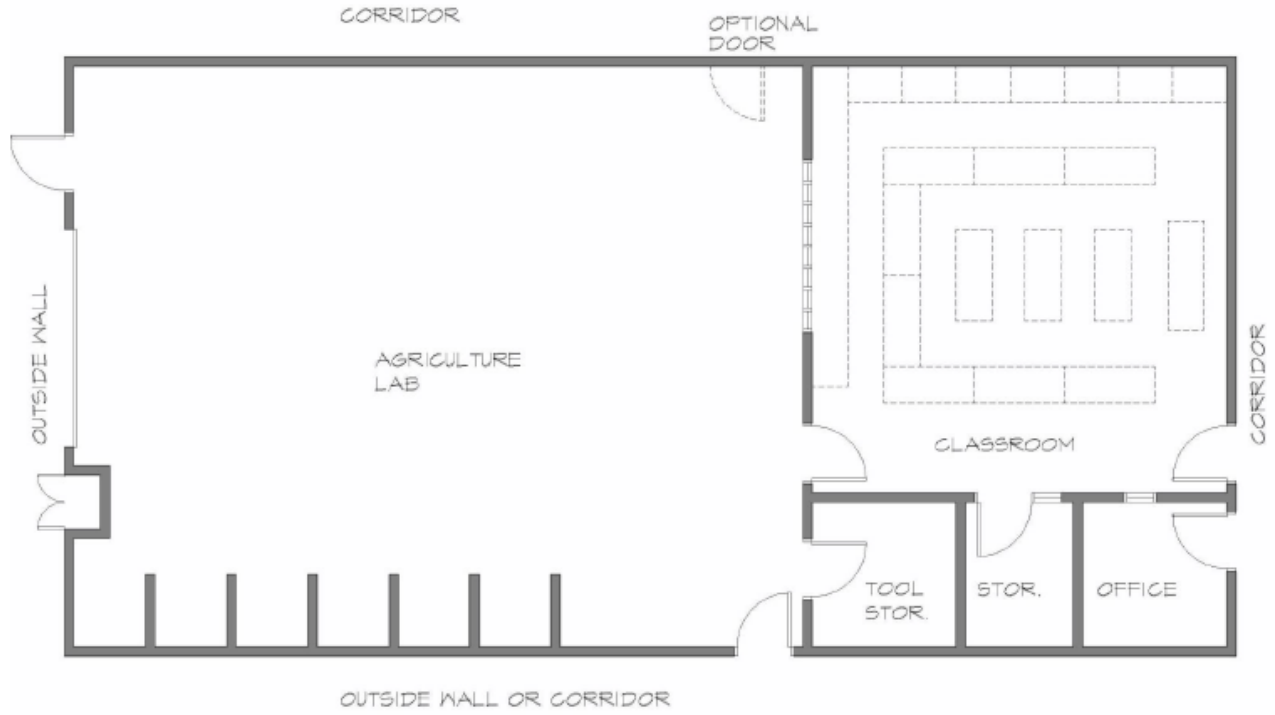


NOT TO SCALE



Agriculture Science Classroom and Laboratory  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
 Frankfort, Ky 40601  
 505 West Street 2nd Capital Plaza Tower

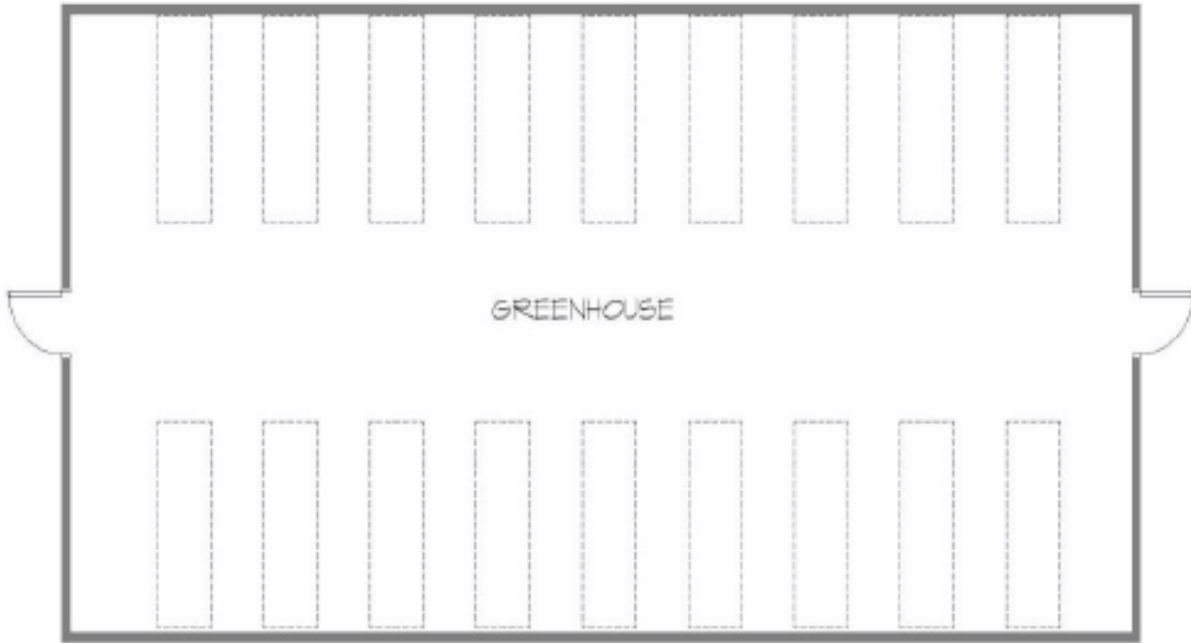




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 Division of Career and Technical Education  
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 Frankfort, Ky 40601

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 REVISIONS BY \_\_\_\_\_  
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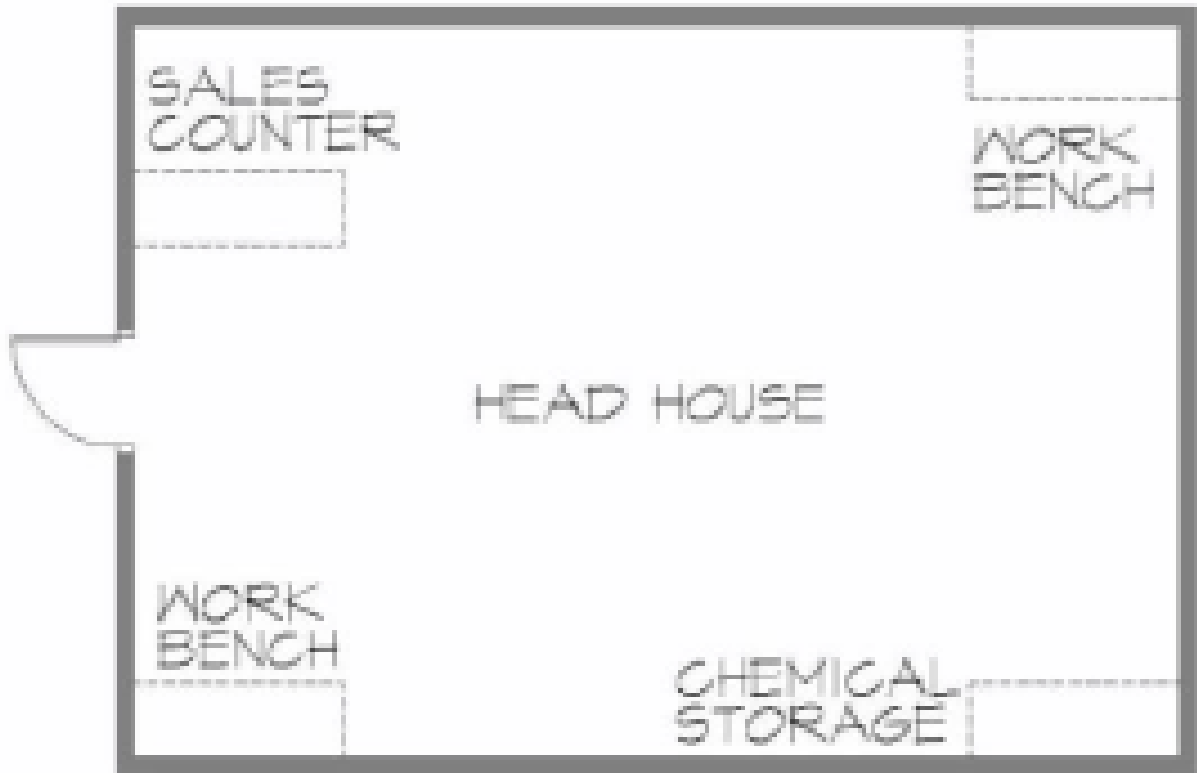


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**GREENHOUSE**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
 Division of Career and Technical Education  
 900 West Street, 219 Capital Plaza Tower  
 Frankfort, KY 40601

PROJECT NO:	2020-027
DRAWN BY:	CHUCKIE BIRN
APPROVED BY:	FLYNN DAVIS
REVISIONS:	



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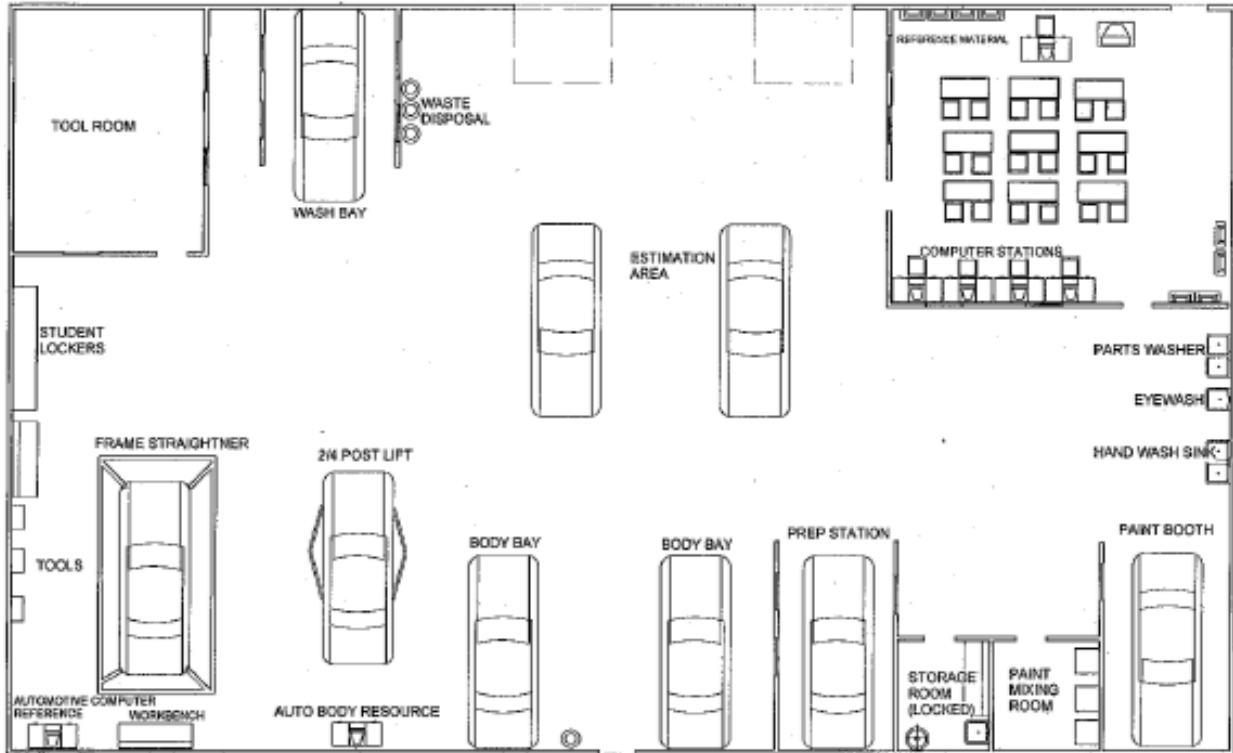
HEAD HOUSE FOR GREENHOUSE  
KENTUCKY DEPARTMENT OF EDUCATION  
Division of Career and Technical Education  
500 Metro Street 219 Capital Plaza Tower  
Frankfort, Ky 40601



## AUTO BODY / COLLISION REPAIR TECHNOLOGY

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	5,775	1:16-20

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	Computer Stations
High School	Lab	3,600	Fire Blanket Eye Wash Stand Washstand Handwashing Station Recommended Ceiling Height of 20'
High School	Office	150	Voice/Data/Power Outlets Lockable Filing Cabinets & Door
High School	Storage	400	Lockable Door
High School	Tools & Supplies	400	Lockable Door
High School	Spray Booth	375	Meets OSHA Requirements
High School	Paint Mixing and Storage Room	100	Meets OSHA Requirements

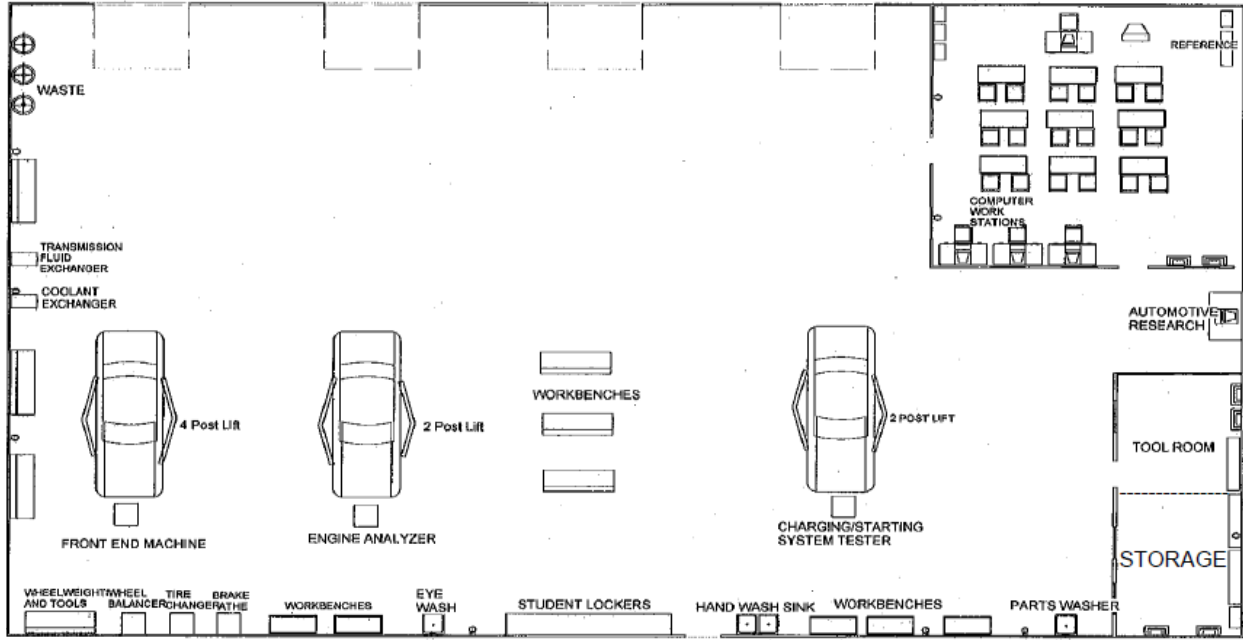


## AUTOMOTIVE TECHNOLOGY

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Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	5,700	1:16-20

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
	Classroom	750	Computer Stations
High School			
High School	Lab	4,000	Fire Blanket Eye Washstand Handwashing Station Recommended Ceiling Height of 20'
High School	Office	150	Voice/Data/Power Outlets Lockable Filing Cabinets & Door
High School	Storage	400	Lockable Door
High School	Tools & Supplies	400	Lockable Door



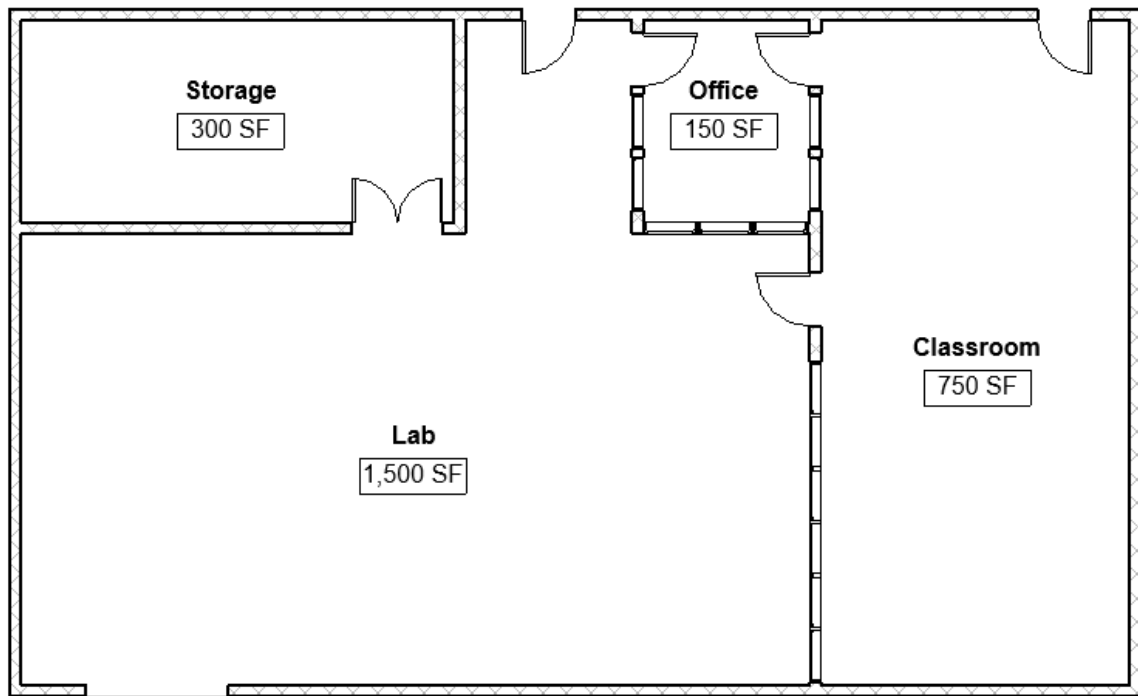


## AVIATION

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Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	2,700	1:28

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	N/A
High School	Classroom	750	Projector or Flat screen
High School	Lab	1,500	Projector or Flat screen Secured student project storage Flight simulators Hand wash station/sink Eye wash station
High School	Office	150	Voice/Data/Power outlets Lockable filing cabinets Lockable door
High School	Storage	300	Shelving Lockable door



HS Aviation Lab

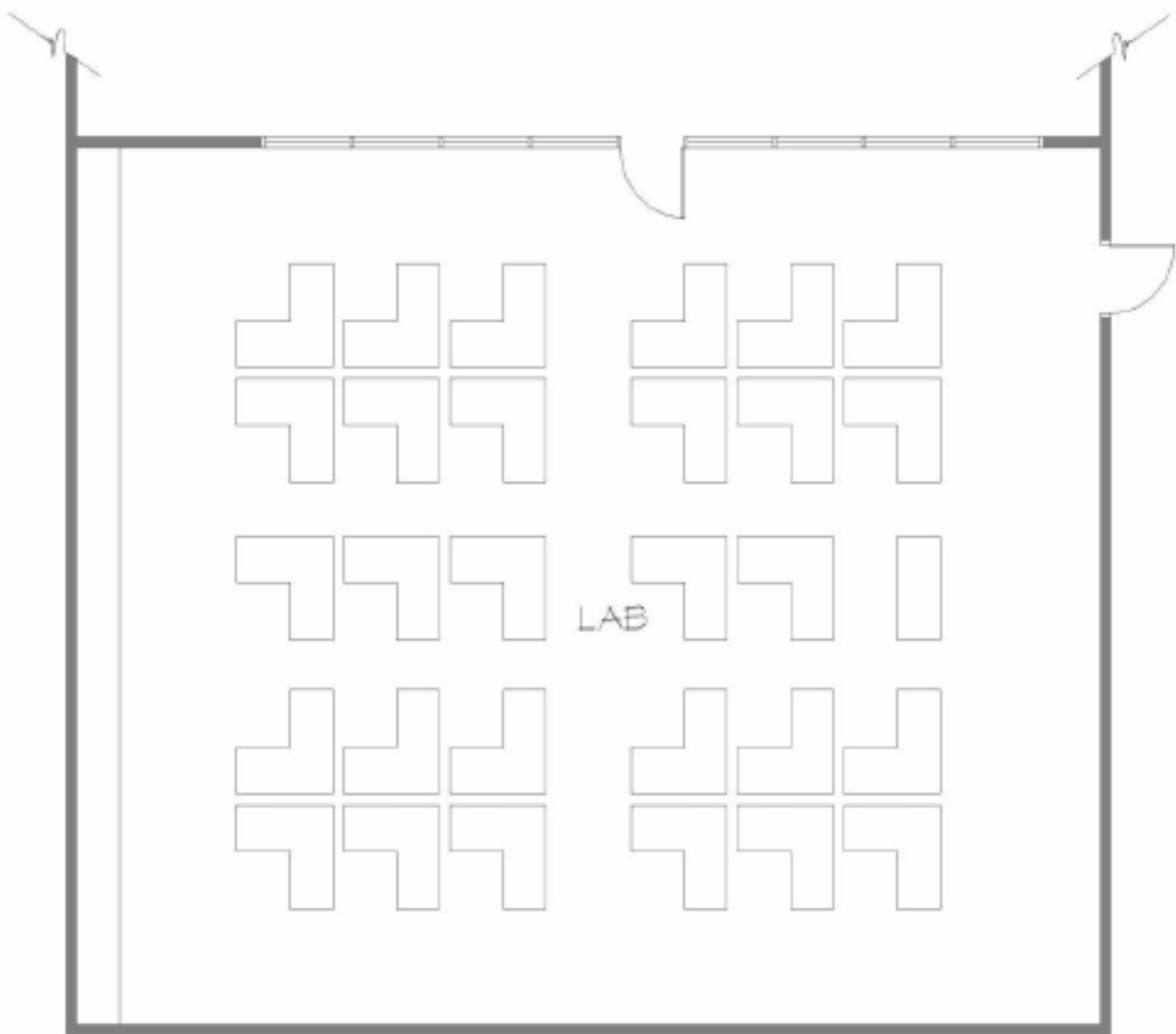
## BUSINESS EDUCATION TECHNOLOGY

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	750	1:30
High School	2,350 (1 teacher)	1:30
	3,800 (2 teachers)	
	5,100 (3 teachers)	

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	Classroom	750	
High School (1 teacher)	Classroom	750	Room for 30 student desks and network outlets for at least 30 student computers; student computers should have access to their own power supply.  Teacher workstation with LCD projection.
	Lab	1,250	30 L-shaped desks with student computers, up-to-date software and network outlets for each.  Hardwired lab is optimal to support reliable internet connectivity and industry certifications.  Teacher workstation with LCD projection (see attached description of lab).  30 phones capable of calling station to station.
High School (1 teacher)	Office	150	Provide voice and data outlets; lockable file cabinets for confidential student records.

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
High School (1 teacher)	Storage/CTSO	200	Lockable room with shelving for instructional and CTSO materials.
High School (2 teachers)	Classroom	900	Room for 30 student desks and network outlets for at least 30 student computers; student computers should have access to their own power supply.  Teacher workstation with LCD projection.
High School (2 teachers)	Lab	2,500	30 L-shaped desks with student computers, up-to-date software and network outlets for each.  Hardwired lab is optimal to support reliable internet connectivity and industry certifications.  Teacher workstation with LCD projection (see attached description of lab).  30 phones capable of calling station to station.
High School (2 teachers)	Office	200	Provide voice and data outlets; lockable file cabinets for confidential student records.
High School (2 teachers)	Storage/CTSO	200	Lockable room with shelving for instructional and CTSO materials.

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
High School (3 teachers)	Classroom	900	<p>Room for 30 student desks and network outlets for at least 30 student computers; student computers should have access to their own power supply.</p> <p>Teacher workstation with LCD projection.</p>
High School (3 teachers)	Lab	3,750	<p>30 L-shaped desks with student computers, up-to-date software and network outlets for each.</p> <p>Hardwired lab is optimal to support reliable internet connectivity and industry certifications.</p> <p>Teacher workstation with LCD projection (see attached description of lab).</p> <p>30 phones capable of calling station to station.</p>
High School (3 teachers)	Office	250	<p>Provide voice and data outlets; lockable file cabinets for confidential student records.</p>
High School (3 teachers)	Storage/CTSO	200	<p>Lockable room with shelving for instructional and CTSO materials.</p>



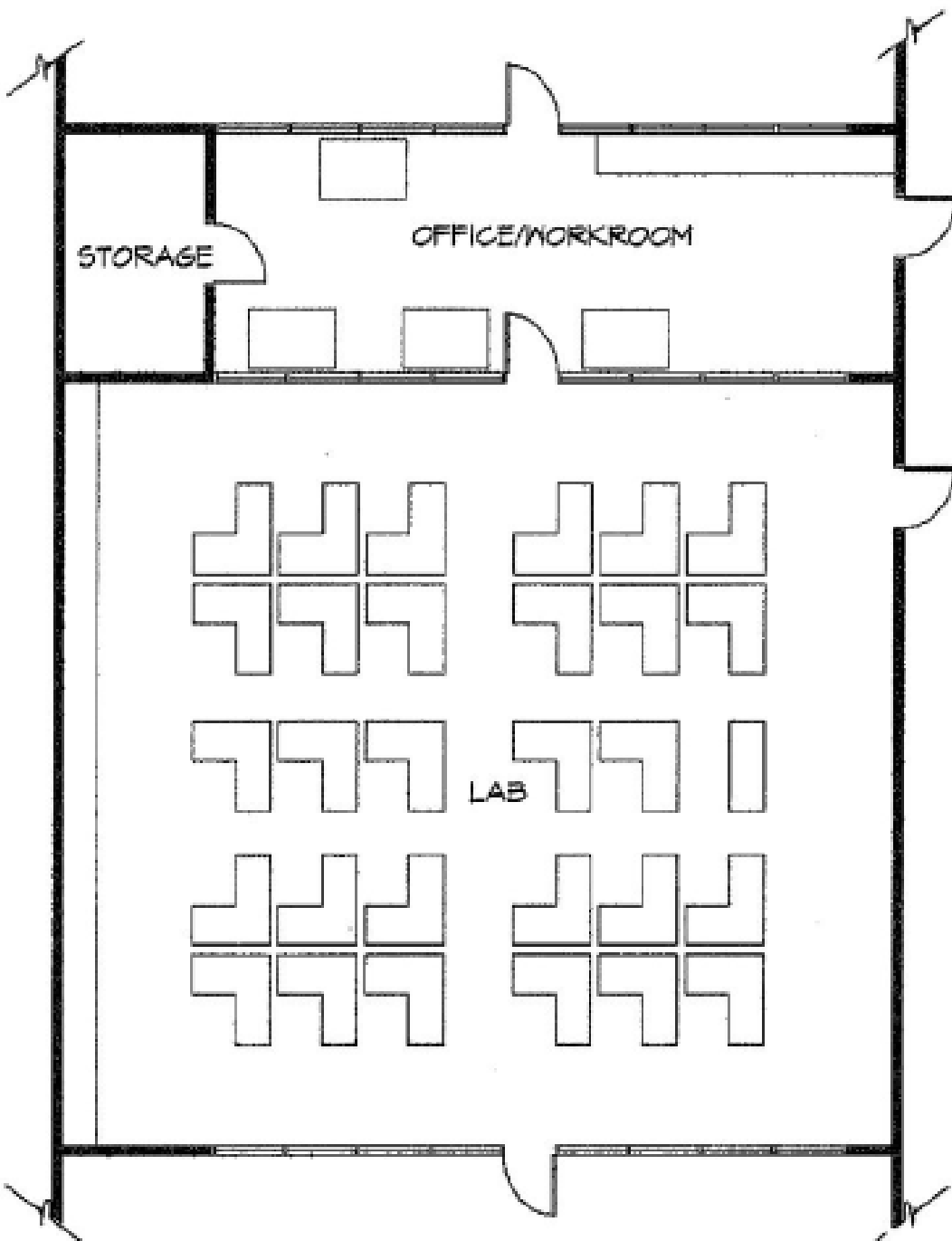
Business and Education  
Lab 1

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2 OF 21  
A-



KENTUCKY DEPARTMENT OF EDUCATION  
Division of Career and Technical Education  
Franklin, KY 40501  
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Business and Education  
Lab 2

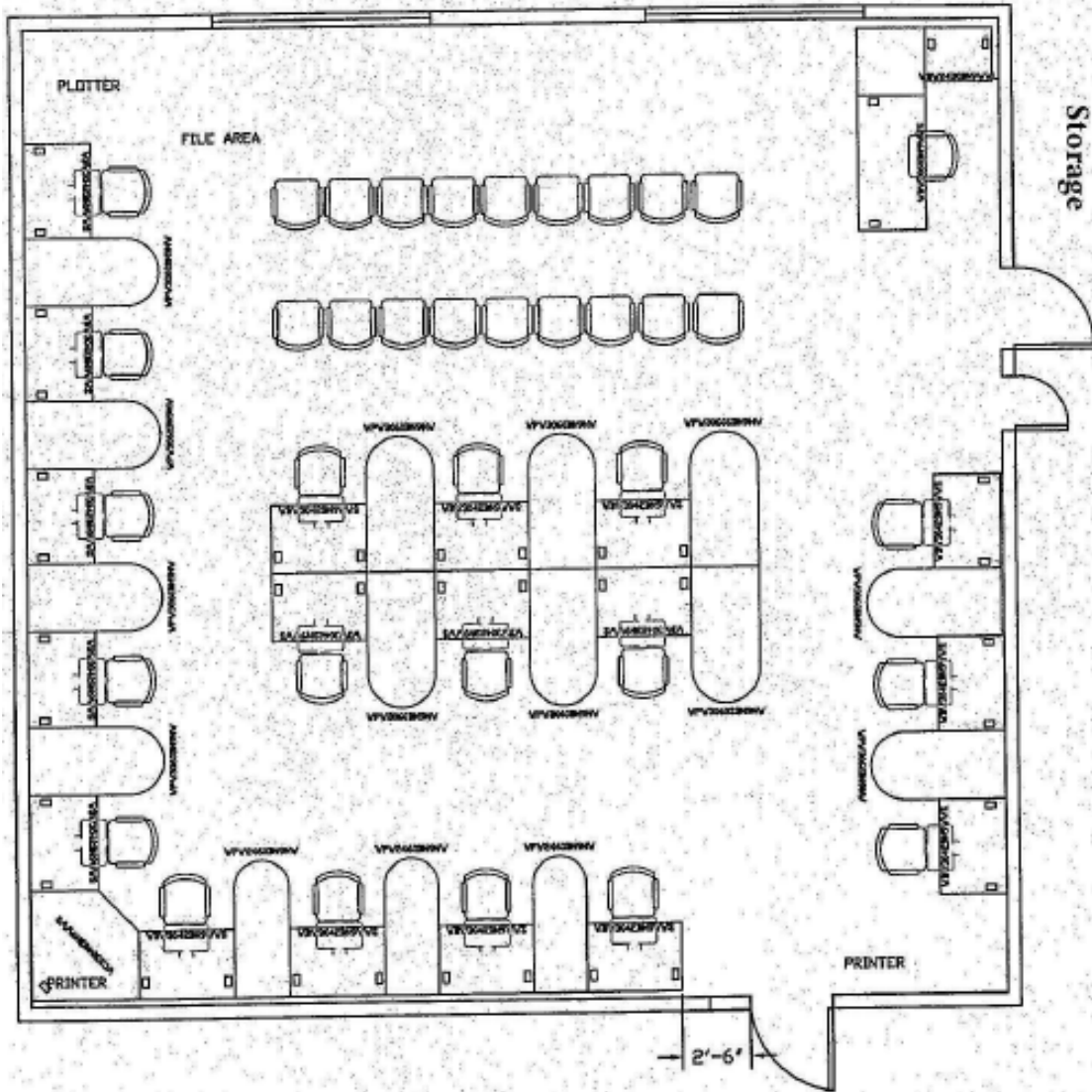


## COMPUTER AIDED DRAFTING

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	3,060	1:20

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	Integrated within the lab	
High School	Lab	2,100	20 student desks and network outlets for at least 20 student computers (or wireless).  Teacher workstation with LCD projection.
High School	Storage	200	Lockable Door



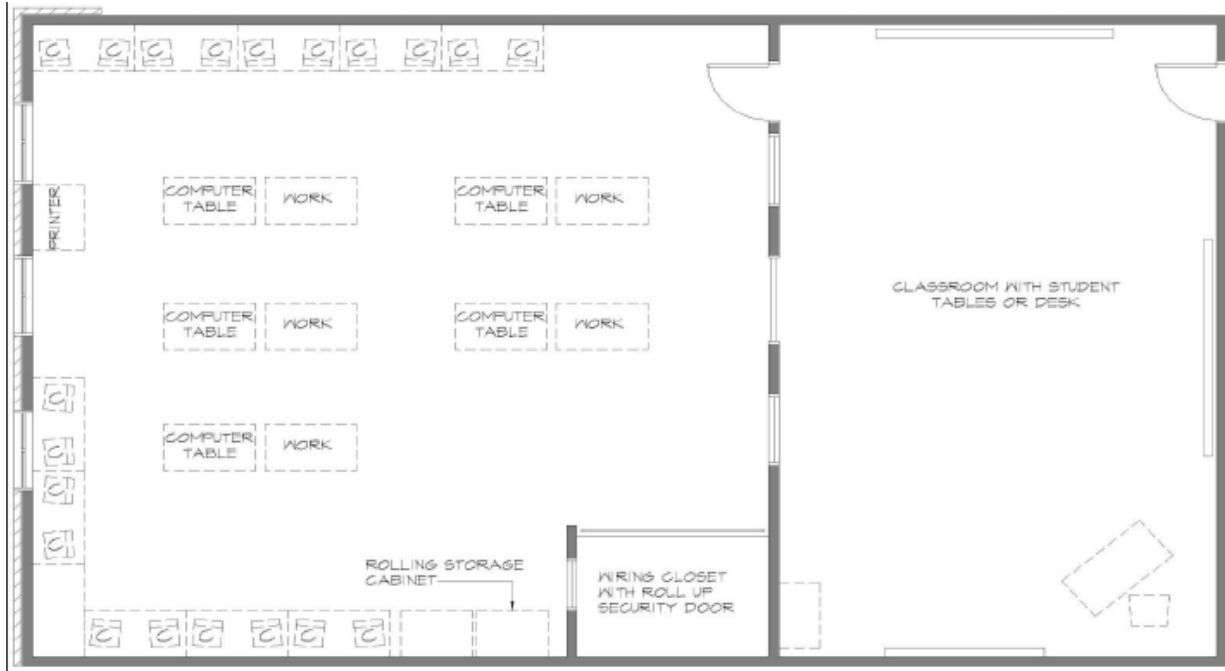


## COMPUTER SCIENCE

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Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	2,800	1:20

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	<p>20 student desks</p> <p>Wireless network access for at least 20 student computers</p> <p>Teacher computer workstation with network access and LCD projection or Interactive flat panel displays</p>
	Lab	1,450	<p>20 student computers, equipped with work stations and network outlets for each</p> <p>Teacher workstation with LCD projector or Interactive flat panel displays</p> <p>4 – 4’x4’ work tables with underneath storage</p>
	Office	150	<p>Voice/Data outlets</p> <p>Lockable file cabinets</p> <p>Lockable storage cabinets</p>
	Storage	300	Lockable door
	Mock Wiring Closet	100	<p>Rolling overhead closure to secure router rack</p> <p>Network routers and switches</p> <p>Cable ladder rack</p>

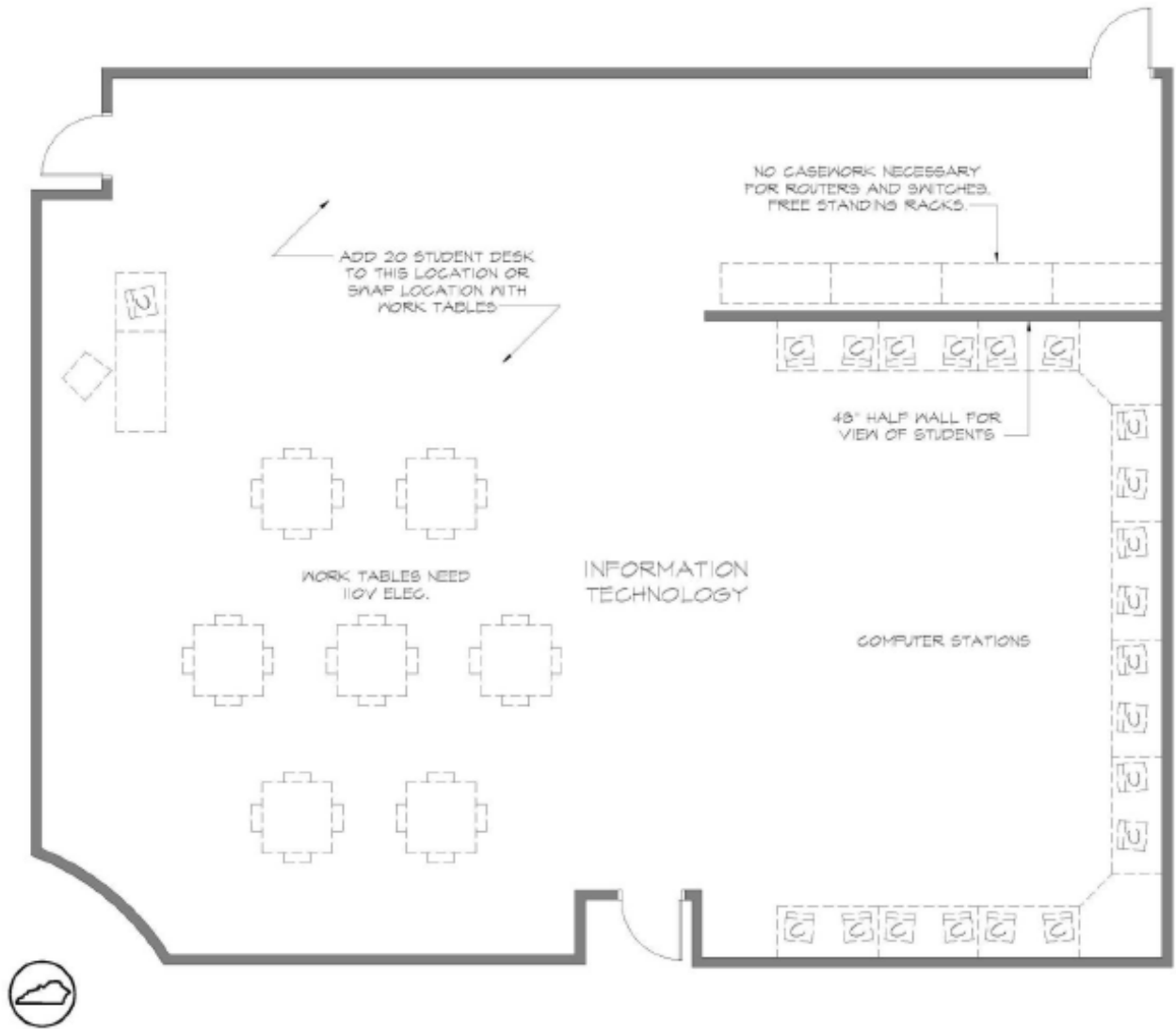


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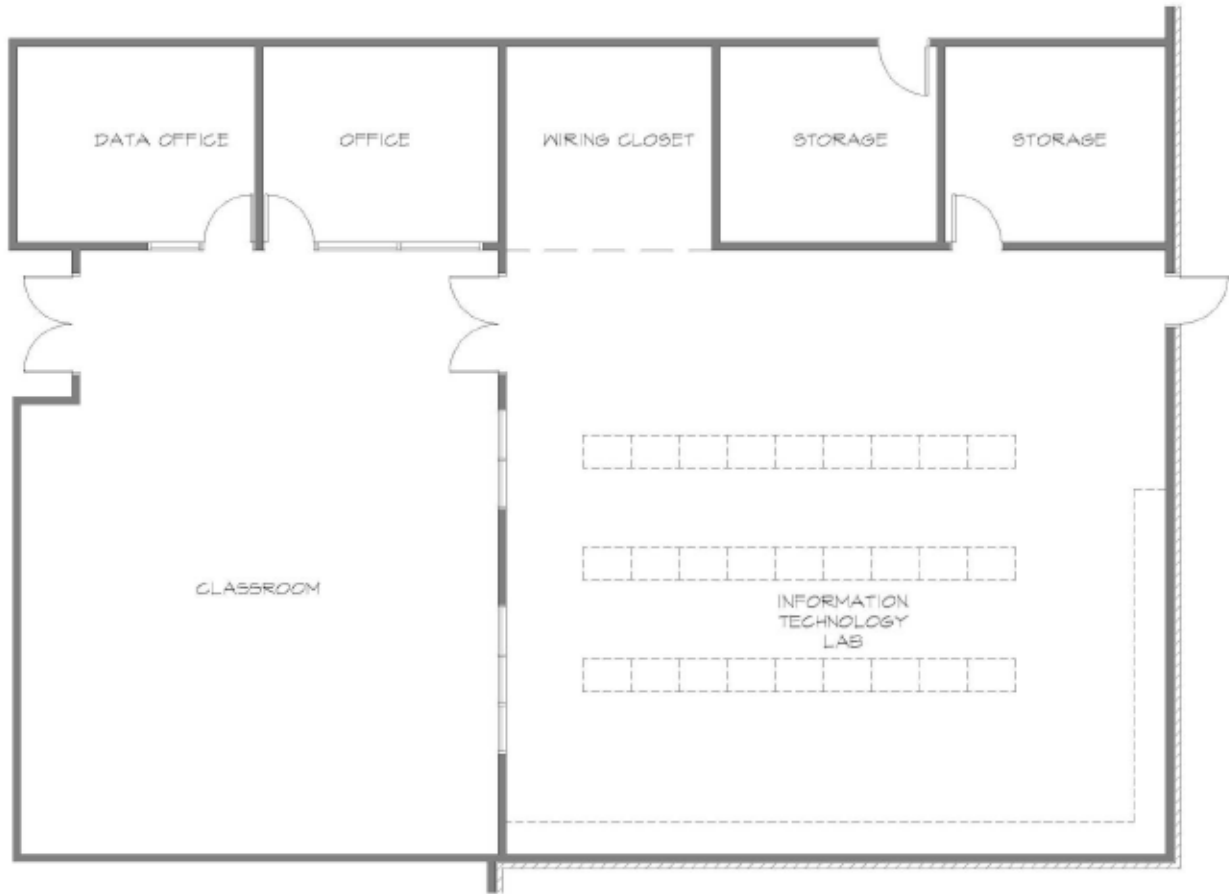
INFORMATION TECHNOLOGY LAB - 1  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
 500 West Street 210 Capital Plaza Tower  
 Frankfort, Ky 40601





INFORMATION TECHNOLOGY LAB - 2  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
 402 New Street 219 Capitol Plaza Tower  
 Frankfort, Ky 40621





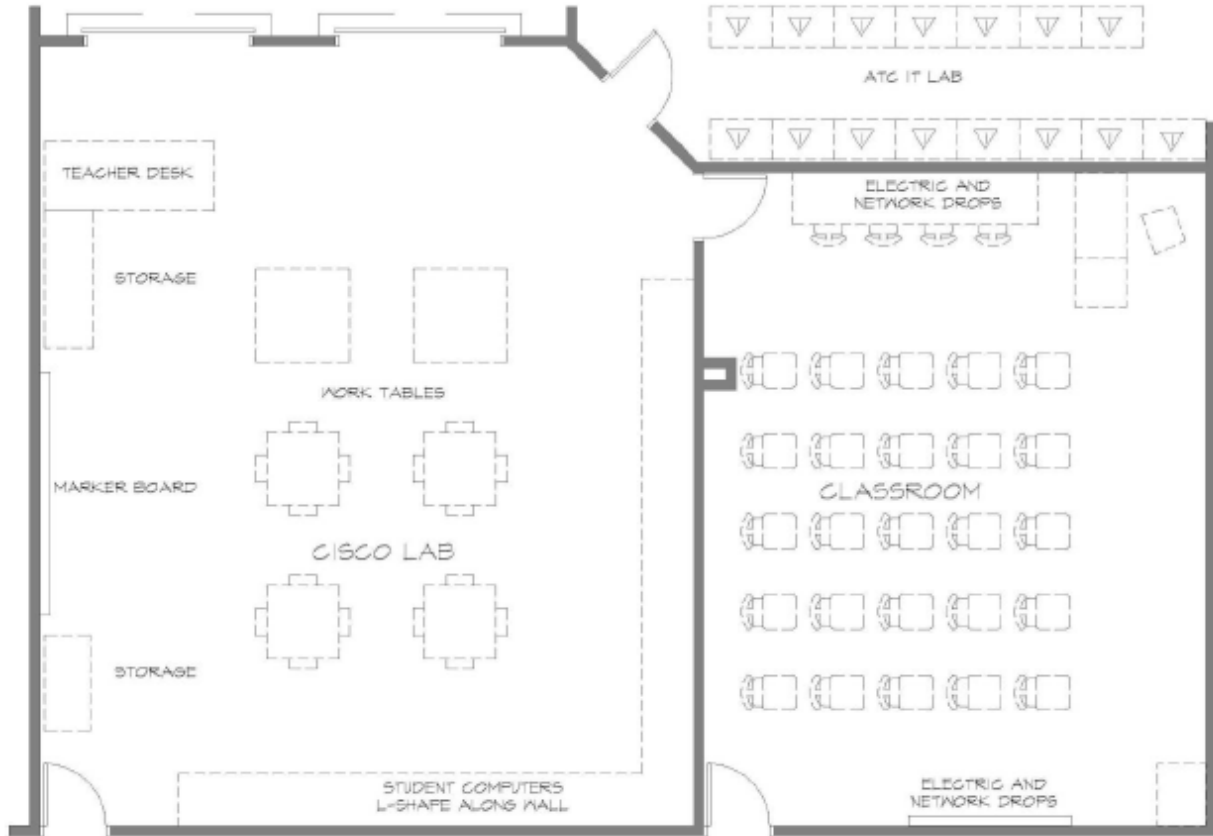
NOT TO SCALE



INFORMATION TECHNOLOGY LAB - 3  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
 603 Main Street 219 Capital Plaza Tower  
 Frankfort, Ky 40601



SEE CISCO WIRING CLOSET  
SPECIFICATIONS (ATTACHED)



NOT TO SCALE



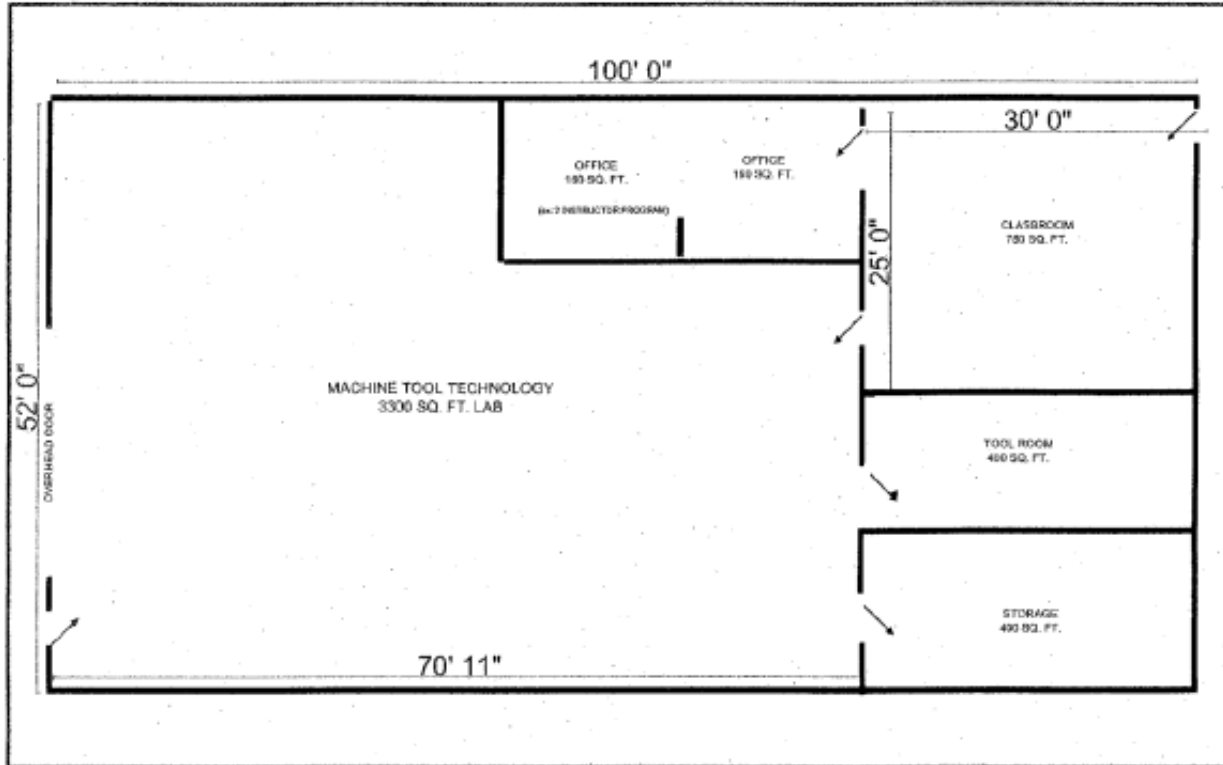
CISCO LAB CLASSROOM  
KENTUCKY DEPARTMENT OF EDUCATION  
Division of Career and Technical Education  
602 Main Street 219 Capital Plaza Tower  
Frankfort, Ky 40601



## COMPUTERIZED MANUFACTURING AND MACHINING

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	5,000	1:18

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	Visual access from Office and Classroom into Lab
	Lab	3,300	Eye wash stand  Handwashing station
	Office	150	Voice/Data/Power outlets  Lockable filing cabinets  Lockable door
	Storage	400	Lockable door
	Tools & Supplies	400	Lockable door



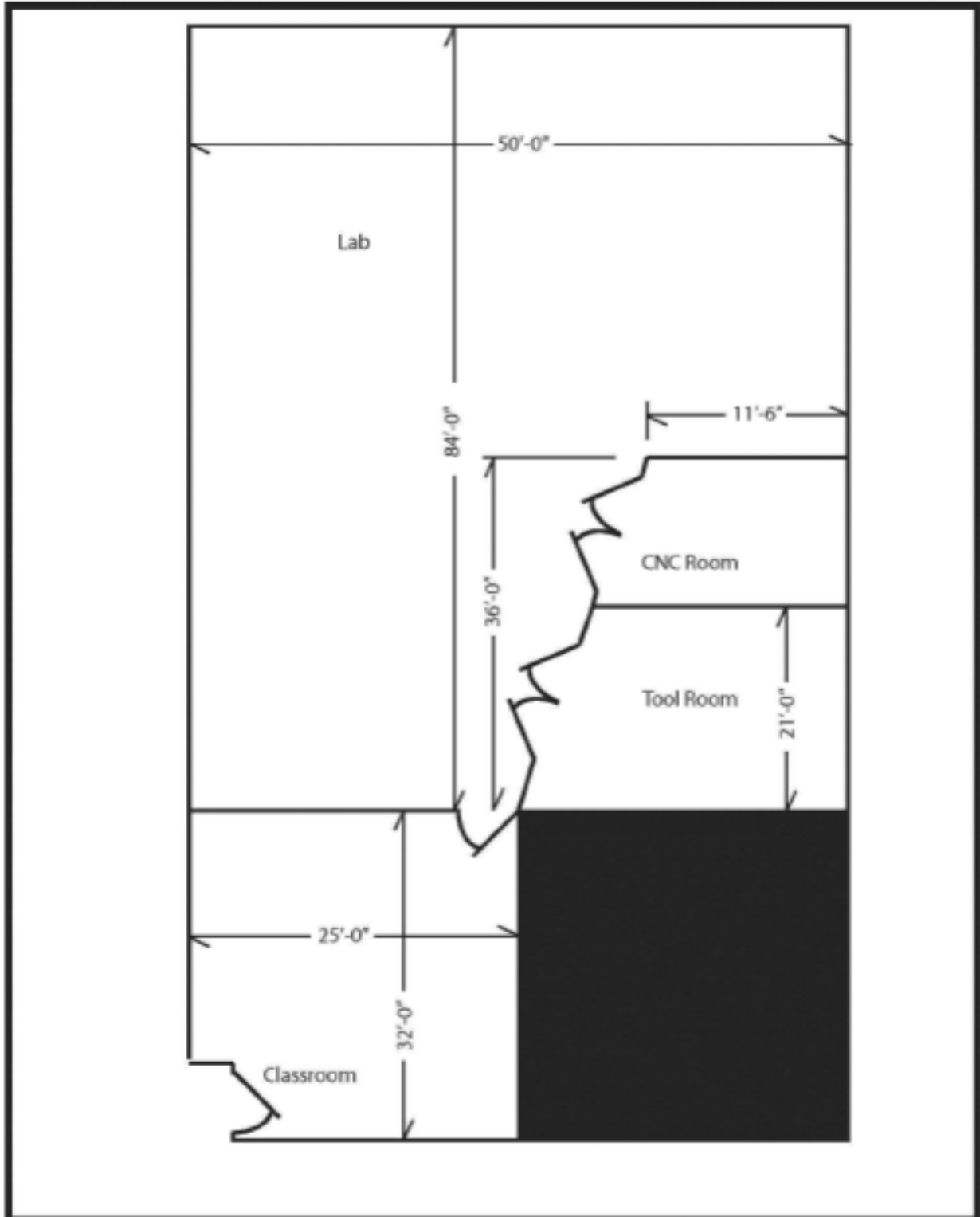


## CONSTRUCTION TECHNOLOGY

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	4,750 – Carpentry (1 teacher)	1:18
High School	4,250 – Air Conditioning / BAM / Electricity / Heavy Equipment / Plumbing / Masonry (1 teacher)	1:18

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	N/A
High School (1 teacher)	Classroom	750	
High School (1 teacher)	Lab	Electricity / Masonry / BAM / Heavy Equipment / Air Conditioning / Plumbing – 3,000  Carpentry – 3,500	<p>Eye and Hand Wash Station located near hand wash sink</p> <p>Centrally locate mushroom style or similar electrical shutoff switches with keyed lock, to shut off electrical power (Carpentry and BAM).</p> <p>Electrical disconnects to lockout electrical equipment (all program areas).</p> <p>One cold water frost proof hose bib located on exterior wall, or located inside near an exterior door.</p> <p>Two pneumatic air lines with regulator and water separator for cleaning and inflation tasks. Once located near exterior door, and the other centrally located in the Lab.</p> <p>A minimum of two ceiling drop down (recoil style) extension cords in the center area of the Lab.</p>

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
			Large Overhead Doors and Ceilings that allow for building projects.
High School (1 teacher)	Office	150	Lockable filing cabinets Lockable room
High School (1 teacher)	Storage	200	4' entry door or Double doors (2 @ 36" each) Accessible through lab area Lockable room
High School (1 teacher)	Tools & Supplies	150	Accessible through Lab area Lockable door (minimum 36")

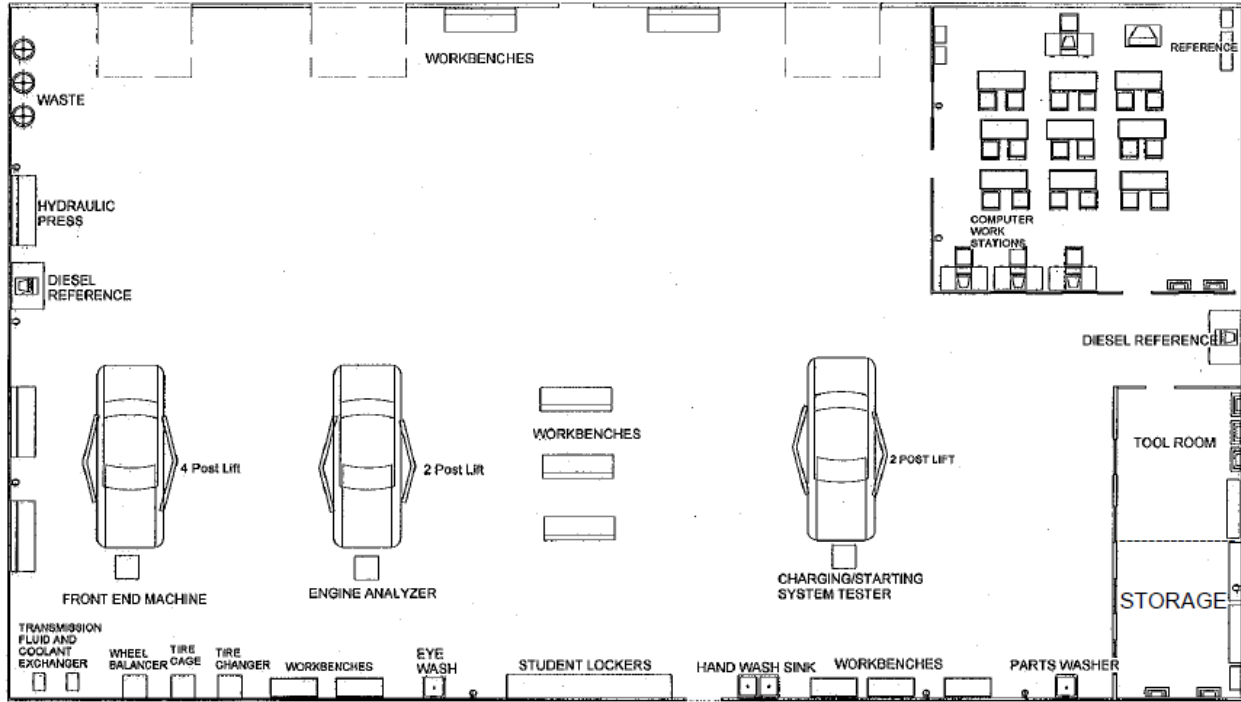


## DIESEL / MEDIUM-HEAVY TRUCK TECHNOLOGY

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Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	5,700	1:16-20

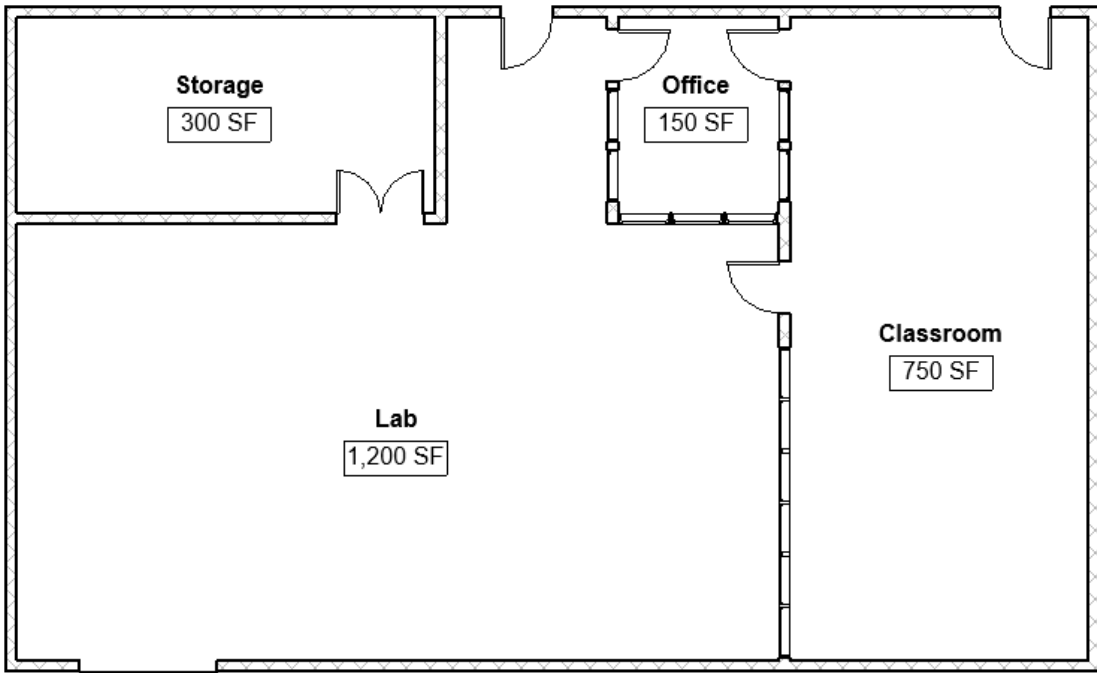
Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	N/A
High School	Classroom	750	Computer Stations
High School	Lab	4,000	Fire blanket Eye washstand Handwashing station Recommended ceiling height of 20'
High School	Office	150	Voice/Data/Power outlets Lockable filing cabinets and door
High School	Storage	400	Lockable door
High School	Tools & Supplies	400	Lockable door



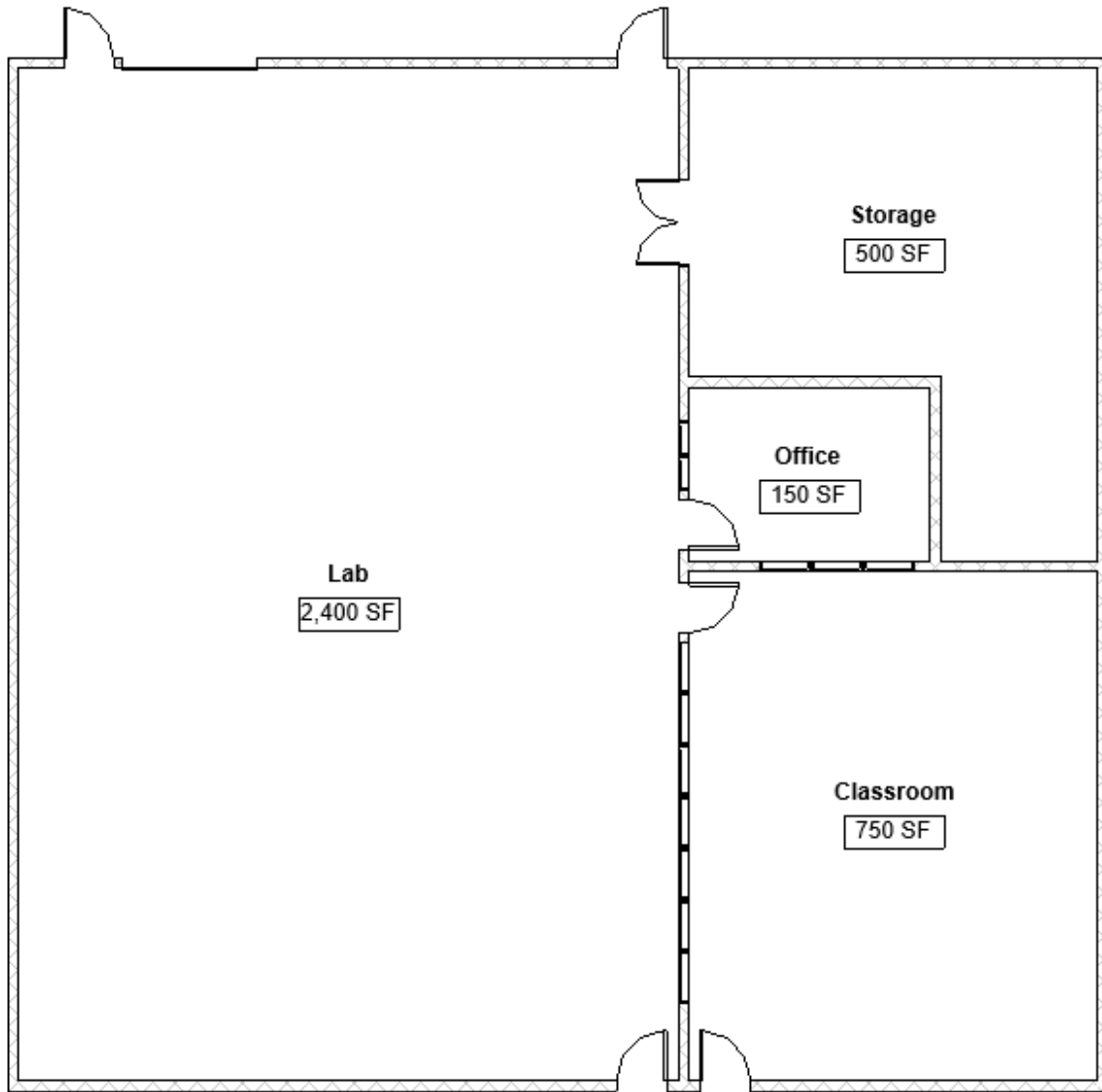
## ENGINEERING TECHNOLOGY EDUCATION

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	2,400	1:28
High School	3,800	1:28

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	Classroom	750	Projector or Flat Screen
Middle/Junior High	Lab	1,200	Solenoid-type "kill switch" to all equipment outlets  Projector or Flat Screen  Secured student project storage  Group hand wash station/sink  Eye wash station  Overhead door
Middle/Junior High	Office	150	Lockable filing cabinets  Lockable door
Middle/Junior High	Storage	300	Shelving  Lockable door
High School	Classroom	750	Projector or Flat Screen
High School	Lab	2,400	Solenoid-type "kill switch" to all equipment outlets  Projector or Flat Screen  Secured student project storage  Group hand wash station/sink  Eye wash station  Overhead door
High School	Office	150	Lockable filing cabinets  Lockable door
High School	Storage	500	Shelving  Lockable door



MS Engineering Technology Education Lab



HS Engineering Technology Education Lab

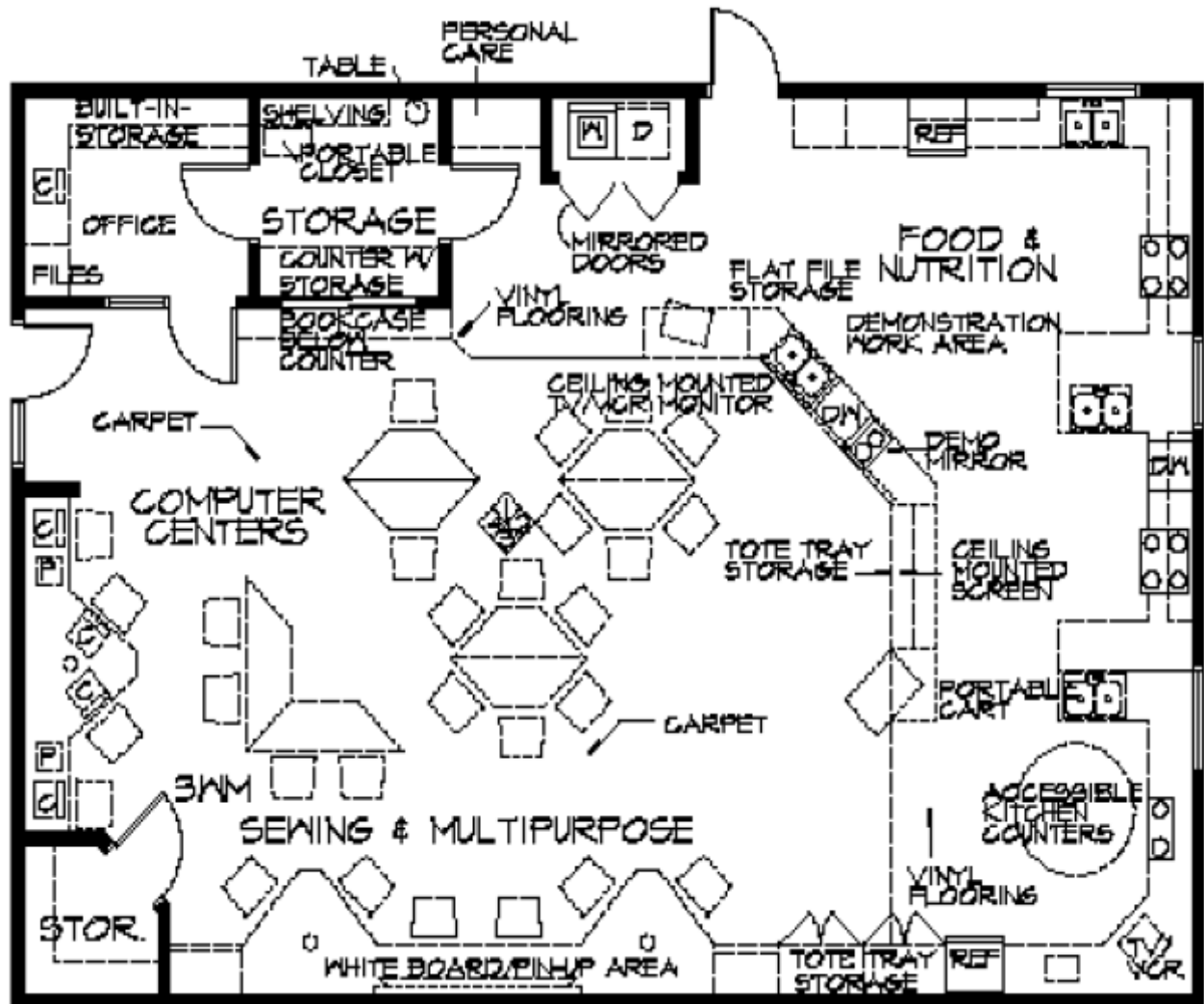


## FAMILY AND CONSUMER SCIENCES EDUCATION

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	900	1:31
High School – 1 teacher	2,700	1:24-31
High School – 2 teachers	3,350	1:24-31
High School – 3 teachers	4,000	1:24-31

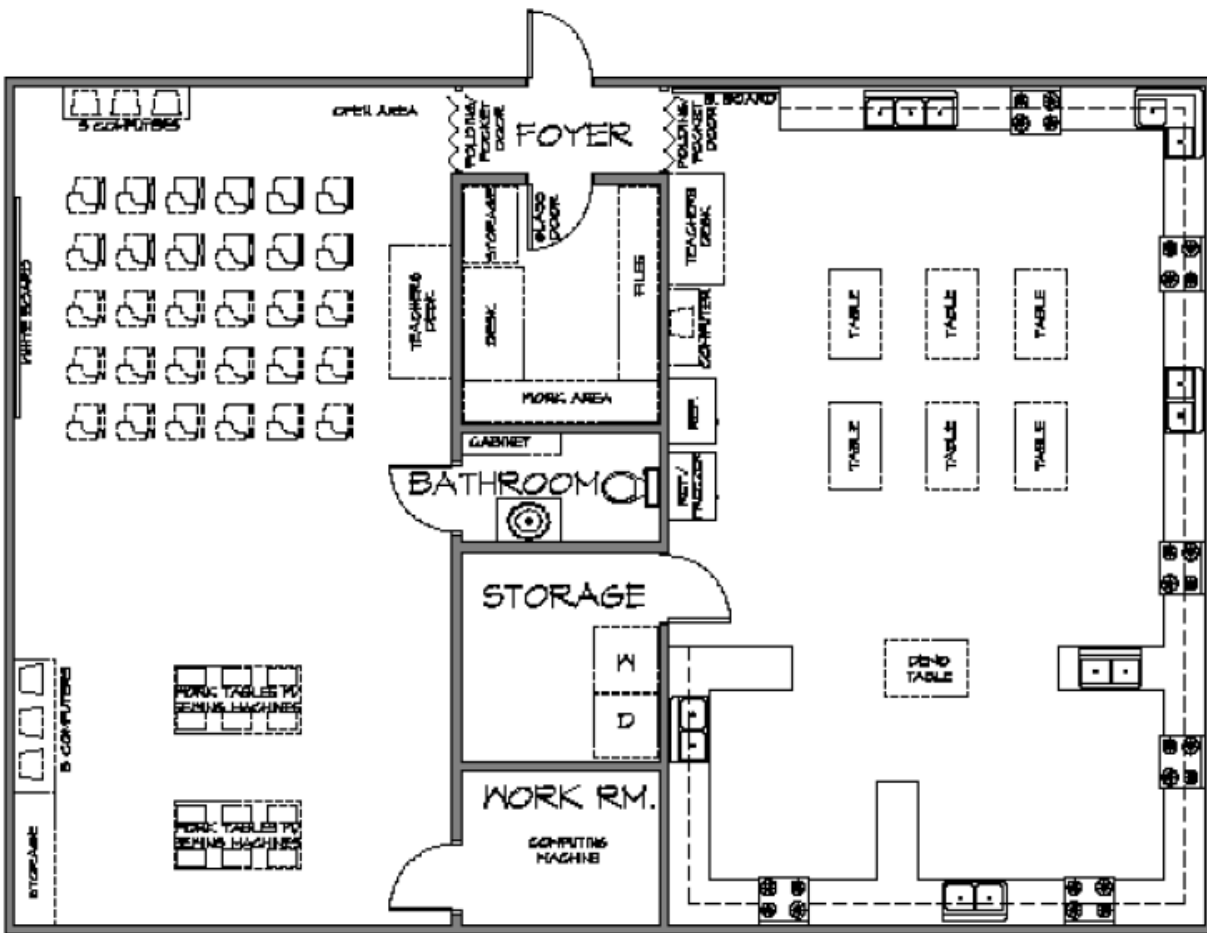
Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	Classroom	750	
Middle/Junior High	Lab	1,100	Fire extinguisher Fire blanket
Middle/Junior High	Storage/CTSO	150	Lockable filing cabinets  Lockable door
High School	Classroom	750	
	Lab (Identified according to possible pathways that require Lab space)	1,700 (Traditional FCS Ed)	Fire extinguisher  Fire blanket  Lockable closet/cabinet for chemicals and cleaning supplies
		2,300 (Commercial Kitchen for the Culinary & Food Services and Hospitality, Travel, Tourism & Recreation career pathways)	Fire extinguisher  Fire blanket  Lockable closet/cabinet for chemicals and cleaning supplies  Commercial ventilation system  If feasible, lab needs to be placed on the ground floor and near an entry/exit door.
		2,300 (Fashion and Interior Design)	Fire extinguisher  Fire blanket  Handwashing station
		2,300 (Early Childhood Education)	Handwashing station  Restroom facility
		150 (1 teacher)	Voice/Data/Power outlets  Lockable file cabinets

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
	Office		Lockable door
		200 (2 teachers)	Voice/Data/Power outlets  Lockable file cabinets  Lockable door
		250 (3 teachers)	Voice/Data/Power outlets  Lockable file cabinets  Lockable door
	Storage	150	Cabinets and shelves for books, instructional materials, equipment, linens, etc.  Outlets/Water Accessibility/Ventilation for Washing Machine and Dryer  Lockable door
	Pantry (Exclusive to Traditional FCS, and Commercial Culinary Arts Labs)	150	Stainless steel shelving (minimum 6" off floor)  Lockable door



FAMILY & CONSUMER SCIENCES MIDDLE SCHOOL  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
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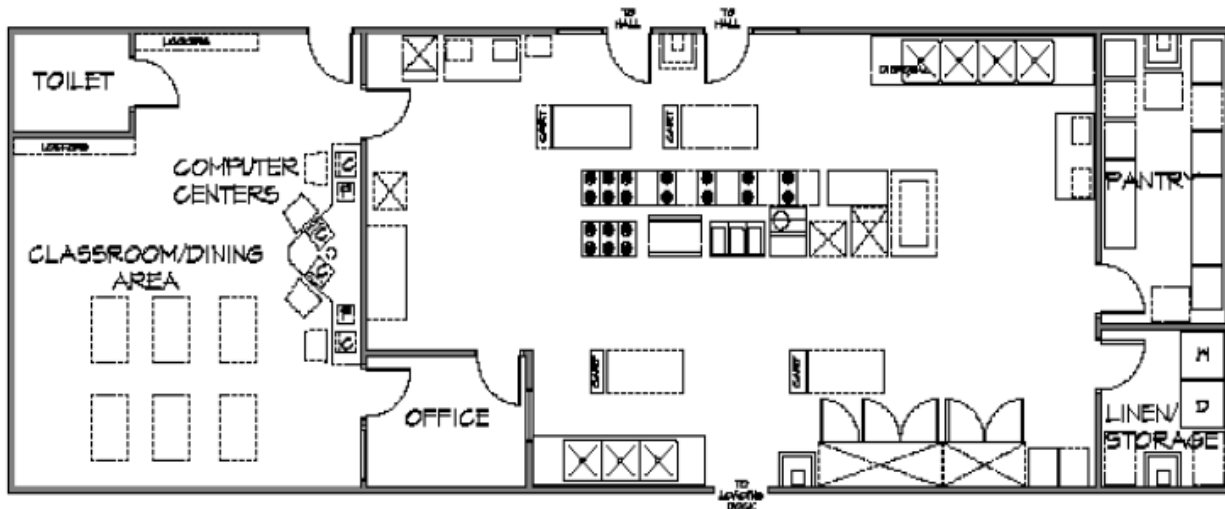


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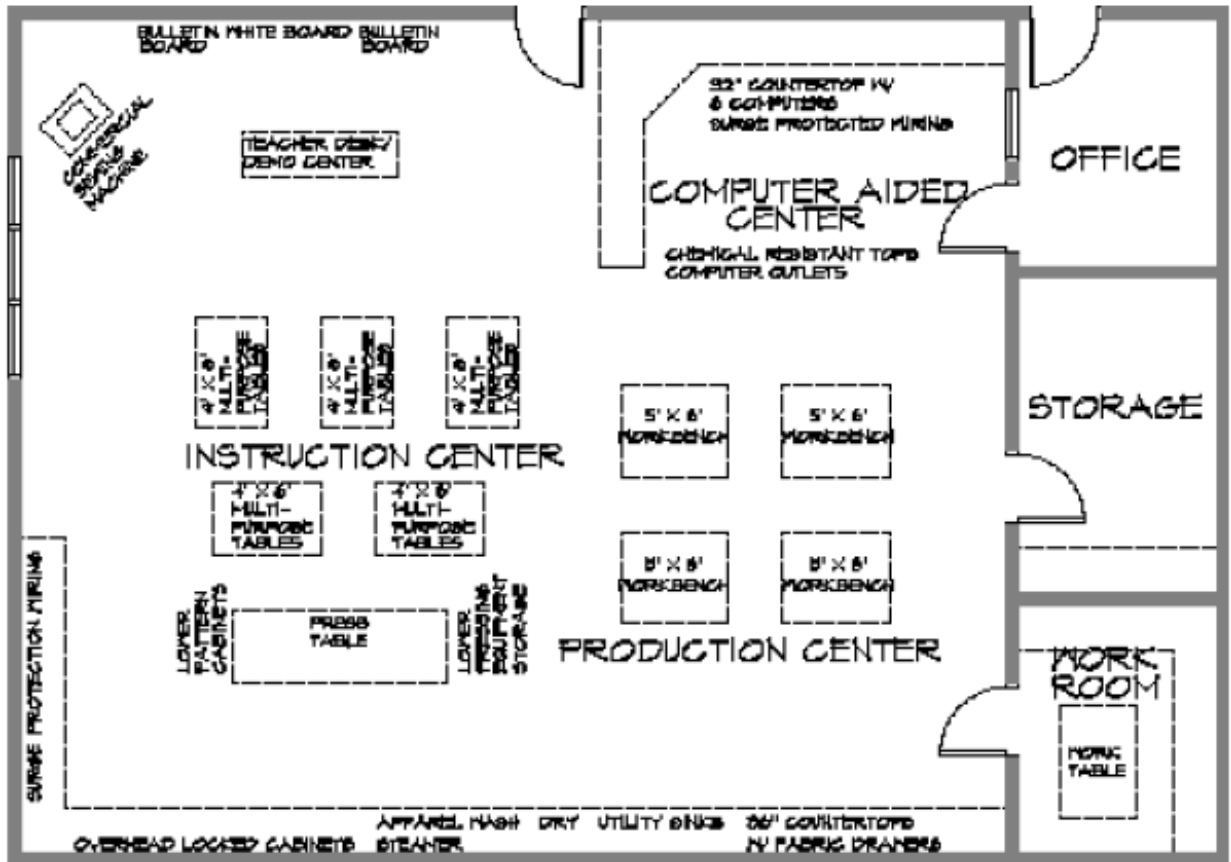
CONSUMER & FAMILY MANAGEMENT/FCR EDUCATION  
KENTUCKY DEPARTMENT OF EDUCATION  
DIVISION OF CAREER AND TECHNICAL EDUCATION  
200 SOUTH BROADWAY, 2ND FLOOR, FRANKFURT, KY 40508  
PH: 502-637-6200





**CULINARY & FOOD SERVICES / HOSPITALITY SERVICES**  
**KENTUCKY DEPARTMENT OF EDUCATION**  
 Division of Career and Technical Education  
 200 West Street, 200 Capital Plaza Tower  
 Frankfort, KY 40601





16' x 21' SCALE



FOR MORE INFORMATION  
CONTACT  
HDDSDS@KENTUCKYED.gov  
781.422.2222

FURNISH AND INTERIOR DESIGN  
KENTUCKY DEPARTMENT OF EDUCATION  
Division of Career and Technical Education  
505 New Street, 5th Floor, Frankfort, KY 40621  
781.422.2222

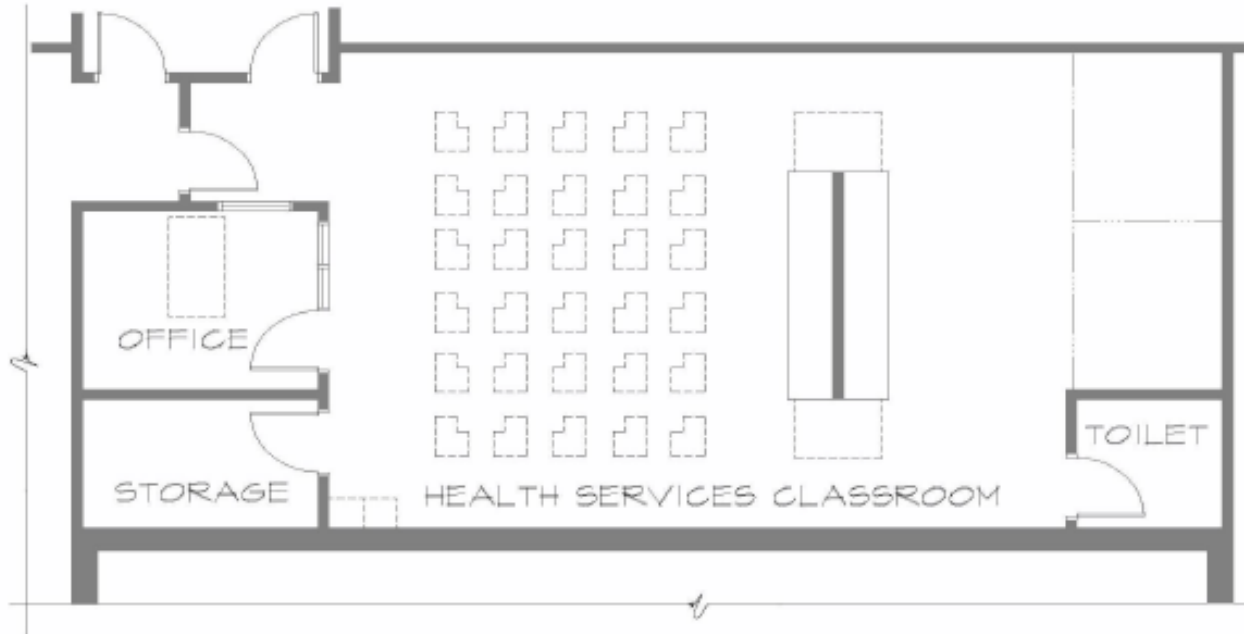
FOR MORE INFORMATION  
CONTACT  
HDDSDS@KENTUCKYED.gov  
781.422.2222

## HEALTH SCIENCE EDUCATION

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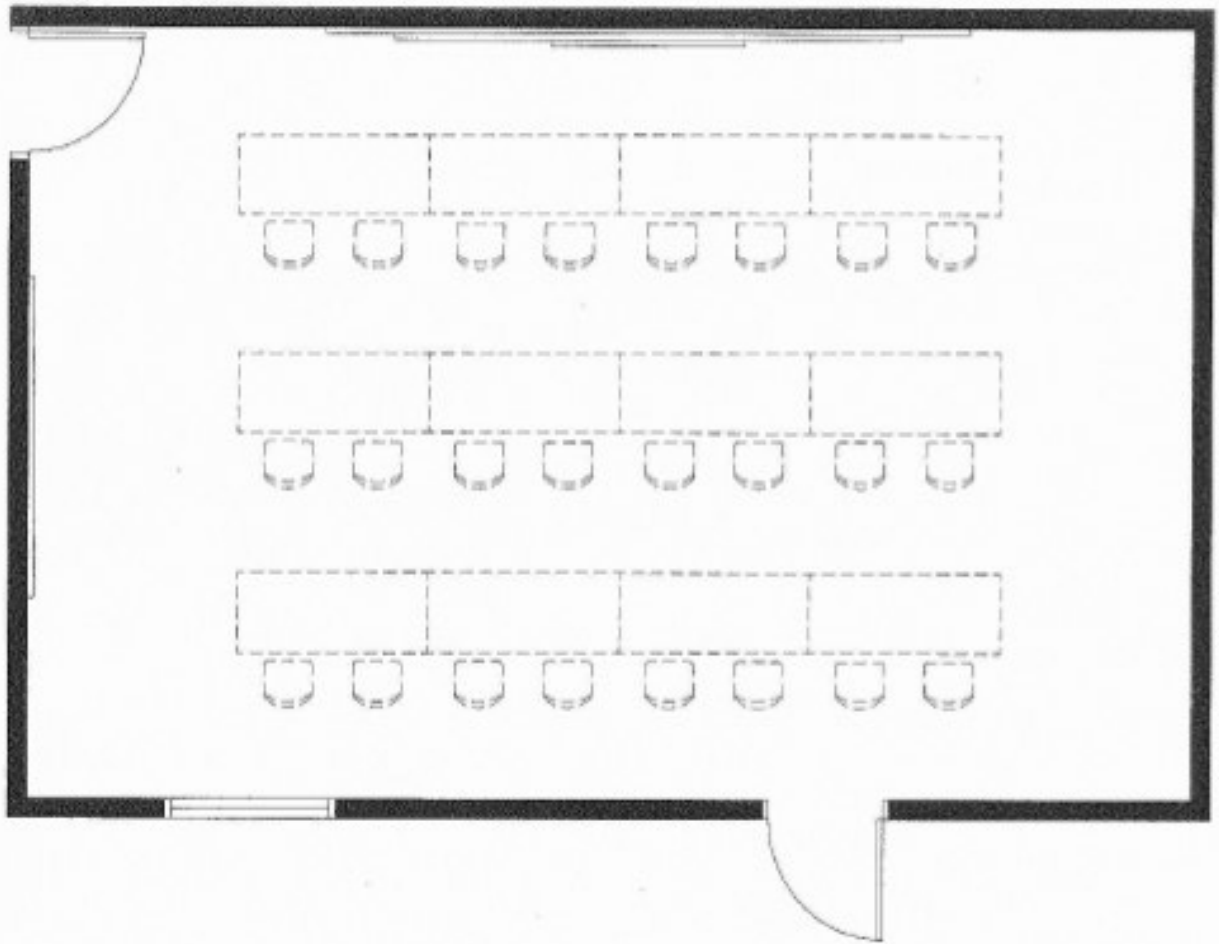
Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	750	1:30
High School	2,550	1:15-30

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	Classroom	750	
High School	Classroom	750	
High School	Lab	1,500	Sink w/ hot and cold water faucets Washer and Dryer hook-up
High School	Office	150	Voice/Data/Power outlets Lockable door
High School	Storage	150	Shelving Lockable door









NOT TO SCALE

HEALTH SERVICE - 106

**HD DS**

HEALTH SERVICE - 106  
 KENTUCKY DEPARTMENT OF EDUCATION  
 DIVISION OF CAREER AND TECHNICAL EDUCATION  
 200 WEST WALKER STREET, SUITE 100  
 COLUMBIANA, KY 40301  
 (606) 338-2200  
 www.kyde.net

HEALTH SERVICE - 106  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
 200 West Walker Street, Suite 100  
 Columbiana, KY 40301  
 (606) 338-2200



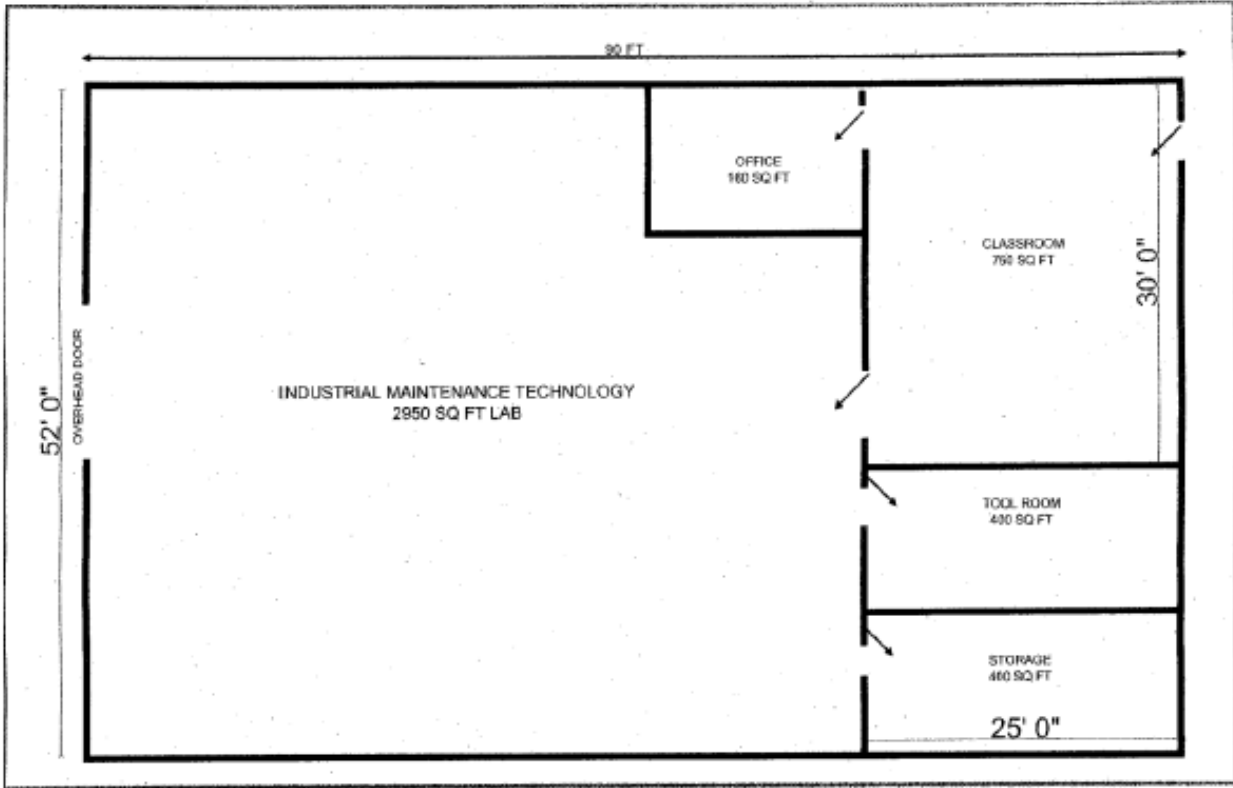
HEALTH SERVICE - 106  
 KENTUCKY DEPARTMENT OF EDUCATION  
 DIVISION OF CAREER AND TECHNICAL EDUCATION  
 200 WEST WALKER STREET, SUITE 100  
 COLUMBIANA, KY 40301  
 (606) 338-2200  
 www.kyde.net

## INDUSTRIAL MAINTENANCE TECHNOLOGY

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Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	4,650	1:18

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	Visual access from Office and Classroom into Lab
High School	Lab	2,950	Eye washstand  Handwashing station
High School	Office	150	Voice/Data/Power Outlets  Lockable filing cabinets  Lockable door
High School	Storage	400	Lockable door
High School	Tools & Supplies	400	Lockable door



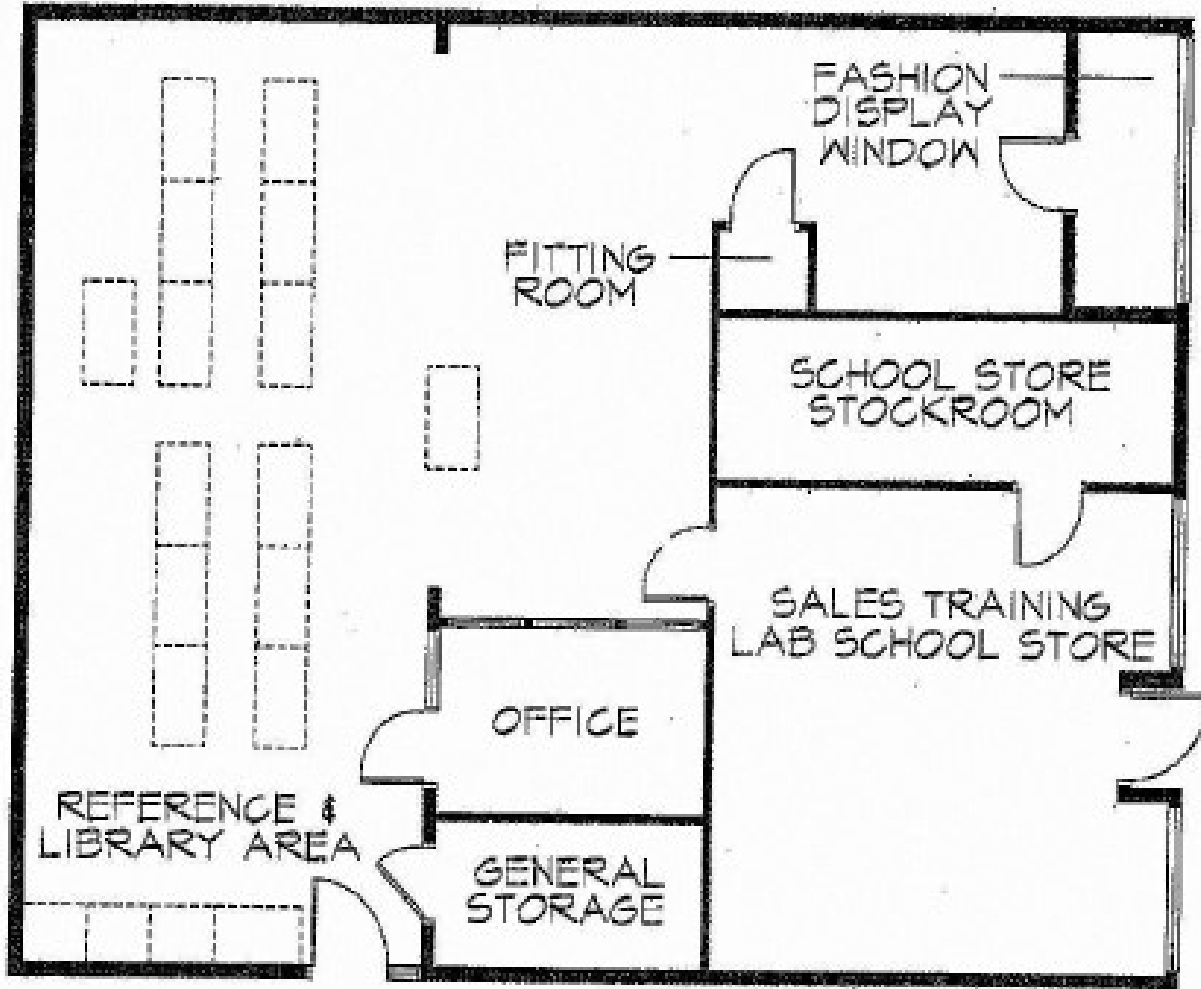
**INDUSTRIAL MAINTENANCE**

## MARKETING EDUCATION

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Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	750	1:30
High School	1,650	1:30

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	Classroom	750	
High School	Classroom	1,300	<p>Room for 30 student desks and network outlets for at least 30 student computers; student computers should have access to their own power supply.</p> <p>Hardwired lab is optimal to support reliable internet connectivity and industry certifications.</p> <p>Teacher workstation with LCD projection, network outlet, and computer</p>
	Sales Training Lab		*Only needed if school wishes to operate a student enterprise.
	Office	150	<p>Voice/Data outlets</p> <p>Lockable filing cabinets</p>
	Storage/CTSO	200	<p>Lockable door</p> <p>Shelving for instructional and CTSO materials</p>



MARKETING EDUCATION WITH SCHOOL STORE



MARKETING; RETAIL, FOOD MARKETING APPARELS & FASHION  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
 501 West Street 210 Capitol Plaza Tower  
 Frankfort, KY 40621



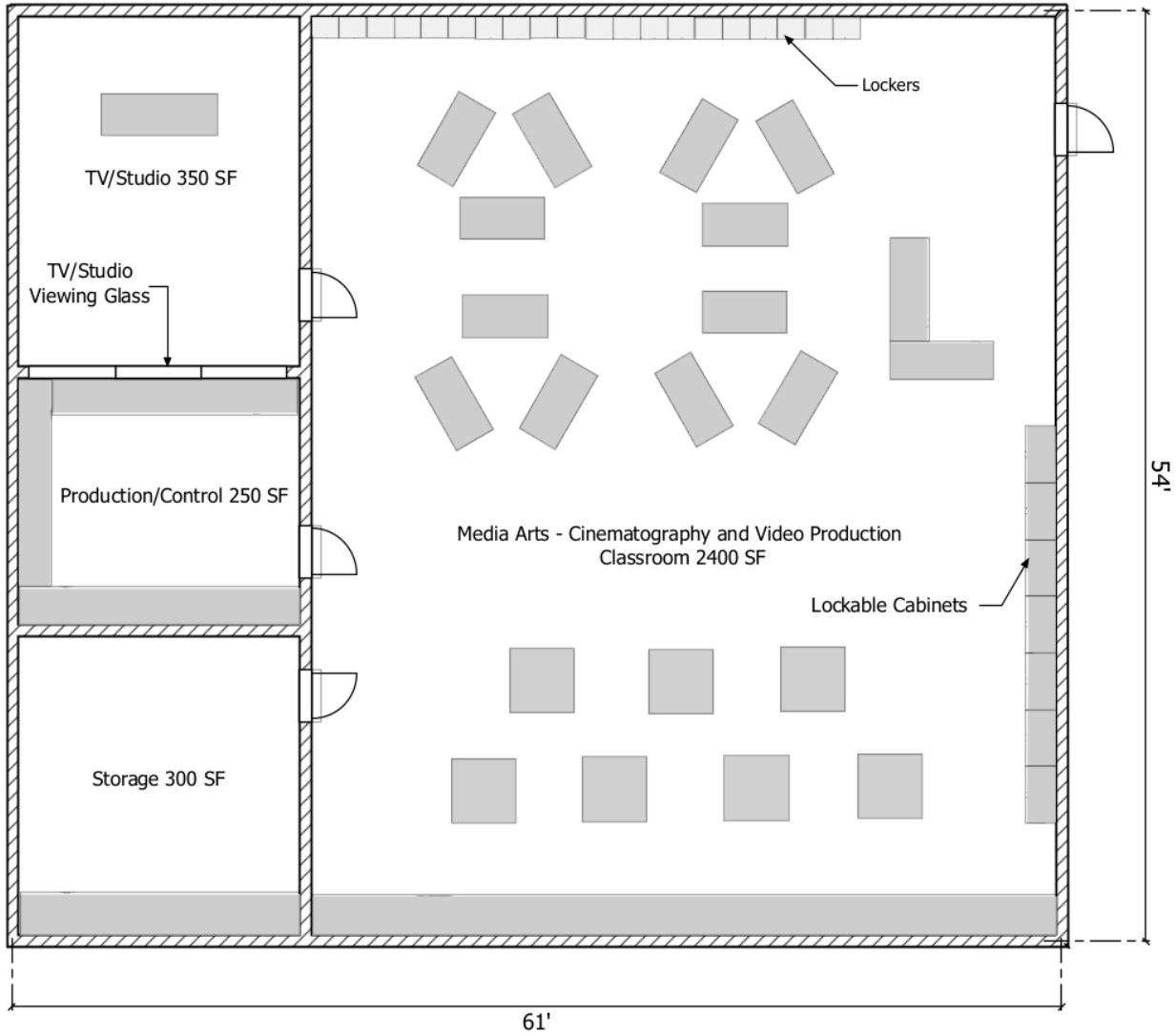
## MEDIA EDUCATION – CINEMATOGRAPHY & VIDEO PRODUCTION

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	3,300	1:20

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	2,400	<p>20 student workstations, OR 4x4 tables with network outlets for each.</p> <p>20 student computers</p> <p>Teacher workstation with computer and network access</p> <p>Plotting printer</p> <p>20 lockers</p> <p>7 cabinets</p> <p>LCD projector</p> <p>Extra large 12x12 wall</p> <p>Screen and speakers</p> <p>Garage door to access outside for equipment delivery – not required, but strongly recommended.</p>
High School	TV/Studio	350	<p>Wall curtains (various colors)</p> <p>Green screen</p> <p>Lighting grid</p> <p>Cameras</p>
High School	Production/Control	250	<p>Audio board</p> <p>Video switch</p> <p>Sound Proof</p> <p>Glass view into Studio</p>

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
			5 cabinets
High School	Storage	300	Lockable door  Shelving or cabinets for equipment storage



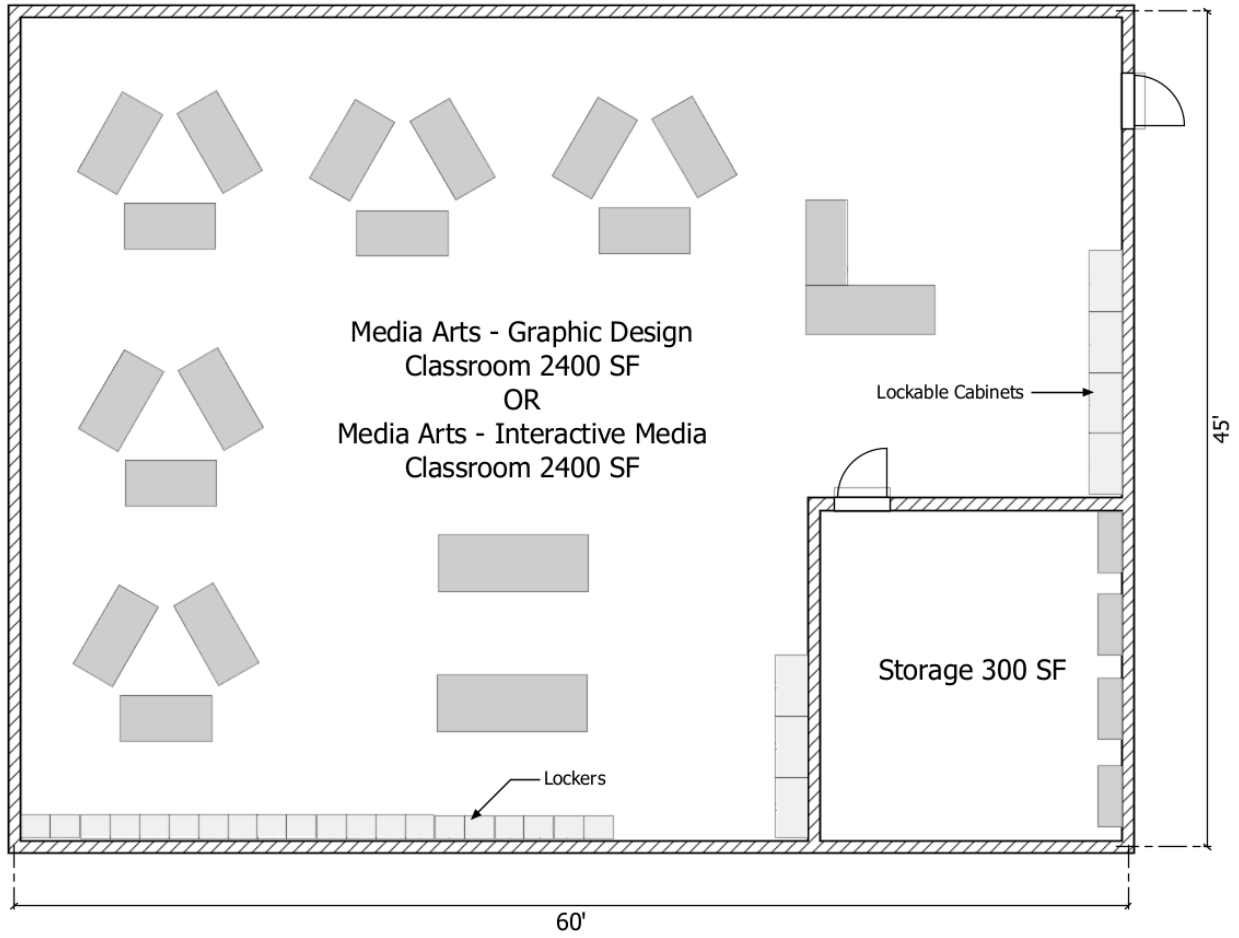


*This layout is intended to be a sample only. It is not a requirement that facilities replicate this layout specifically.*

## MEDIA EDUCATION – GRAPHIC DESIGN

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	2,700	1:20

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	2,400	<p>20 student workstations, OR 4x4 tables with network outlets for each.</p> <p>20 student computers</p> <p>Teacher workstation with computer and network access</p> <p>Plotting printer</p> <p>20 lockers</p> <p>7 cabinets</p> <p>LCD projector</p> <p>Extra large 12x12 wall</p> <p>Screen and speakers</p> <p>Garage door to access outside for equipment delivery – not required, but strongly recommended.</p>
	Storage	300	<p>Lockable door</p> <p>Shelving or cabinets for equipment storage</p>

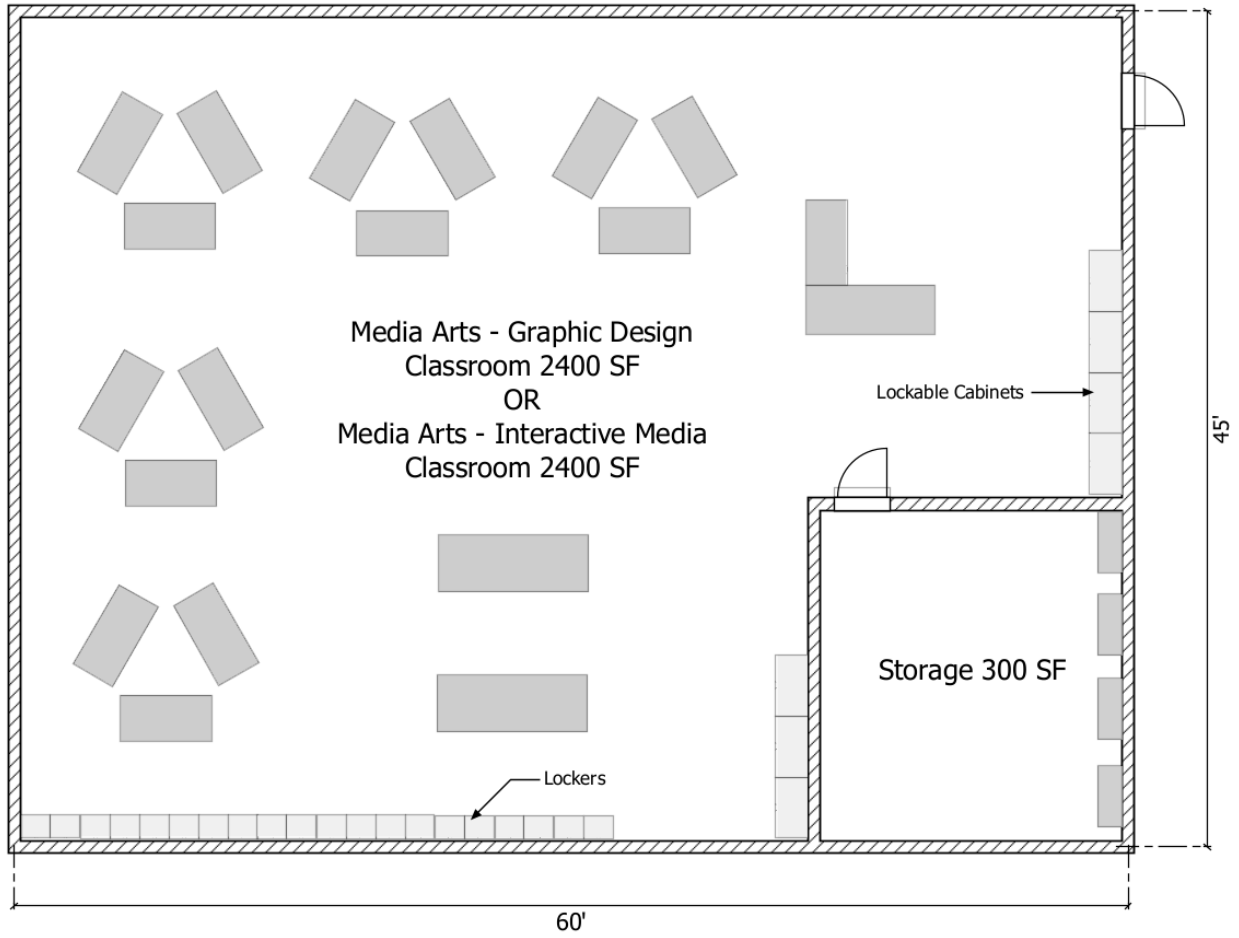


*This layout is intended to be a sample only. It is not a requirement that facilities replicate this layout specifically.*

## MEDIA EDUCATION – INTERACTIVE MEDIA

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	2,700	1:20

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	2,400	<p>20 student workstations, OR 4x4 tables with network outlets for each.</p> <p>20 student computers</p> <p>Teacher workstation with computer and network access</p> <p>Plotting printer</p> <p>20 lockers</p> <p>7 cabinets</p> <p>LCD projector</p> <p>Extra large 12x12 wall</p> <p>Screen and speakers</p> <p>Garage door to access outside for equipment delivery – not required, but strongly recommended.</p>
	Storage	300	<p>Lockable door</p> <p>Shelving or cabinets for equipment storage</p>



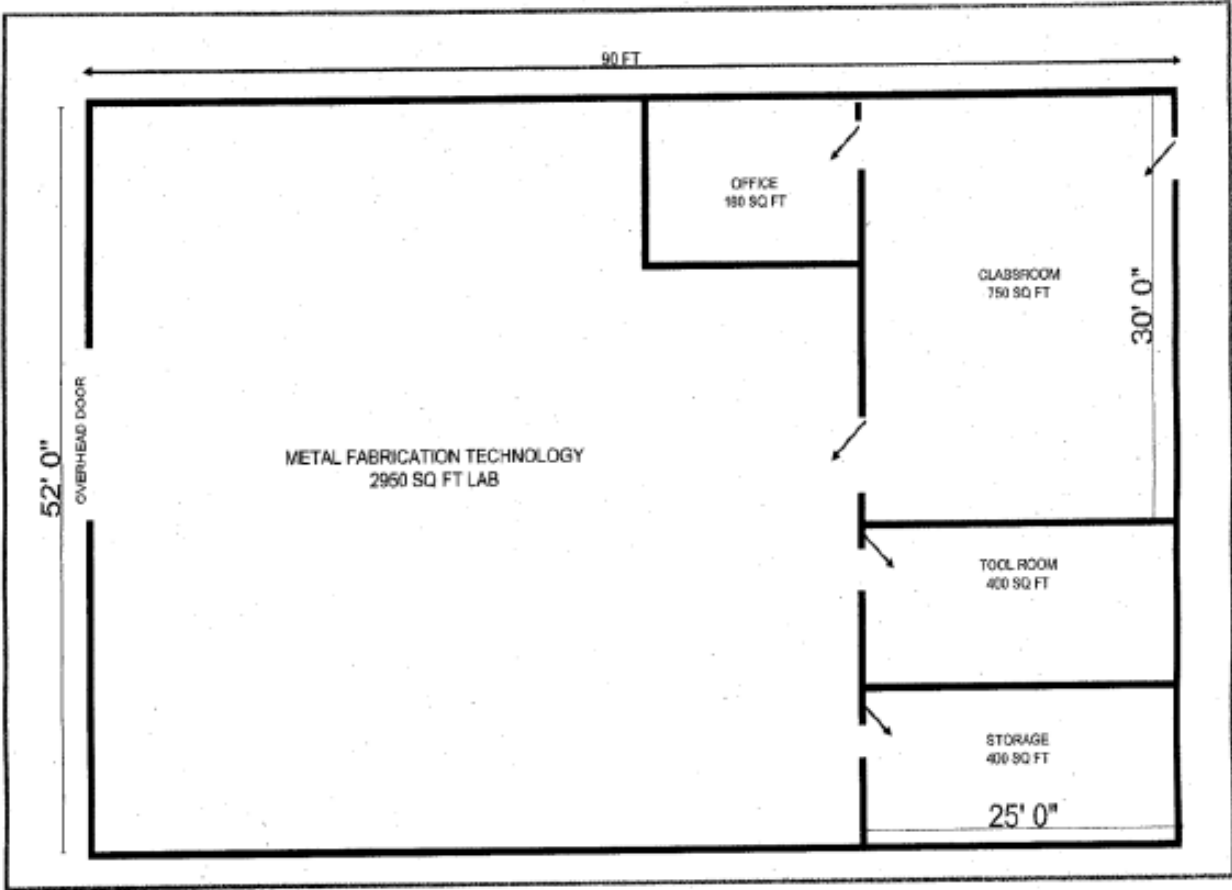
*This layout is intended to be a sample only. It is not a requirement that facilities replicate this layout specifically.*

## METAL FABRICATION EDUCATION

---

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	4,650	1:18

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
	Classroom	750	Visual access from Office and Classroom into Lab
High School			
High School	Lab	2,950	Eye wash stand  Handwashing station
High School	Office	150	Voice/Data/Power outlets  Lockable door
High School	Storage	400	Lockable door
High School	Tools & Supplies	400	Lockable door



**METAL FABRICATION**

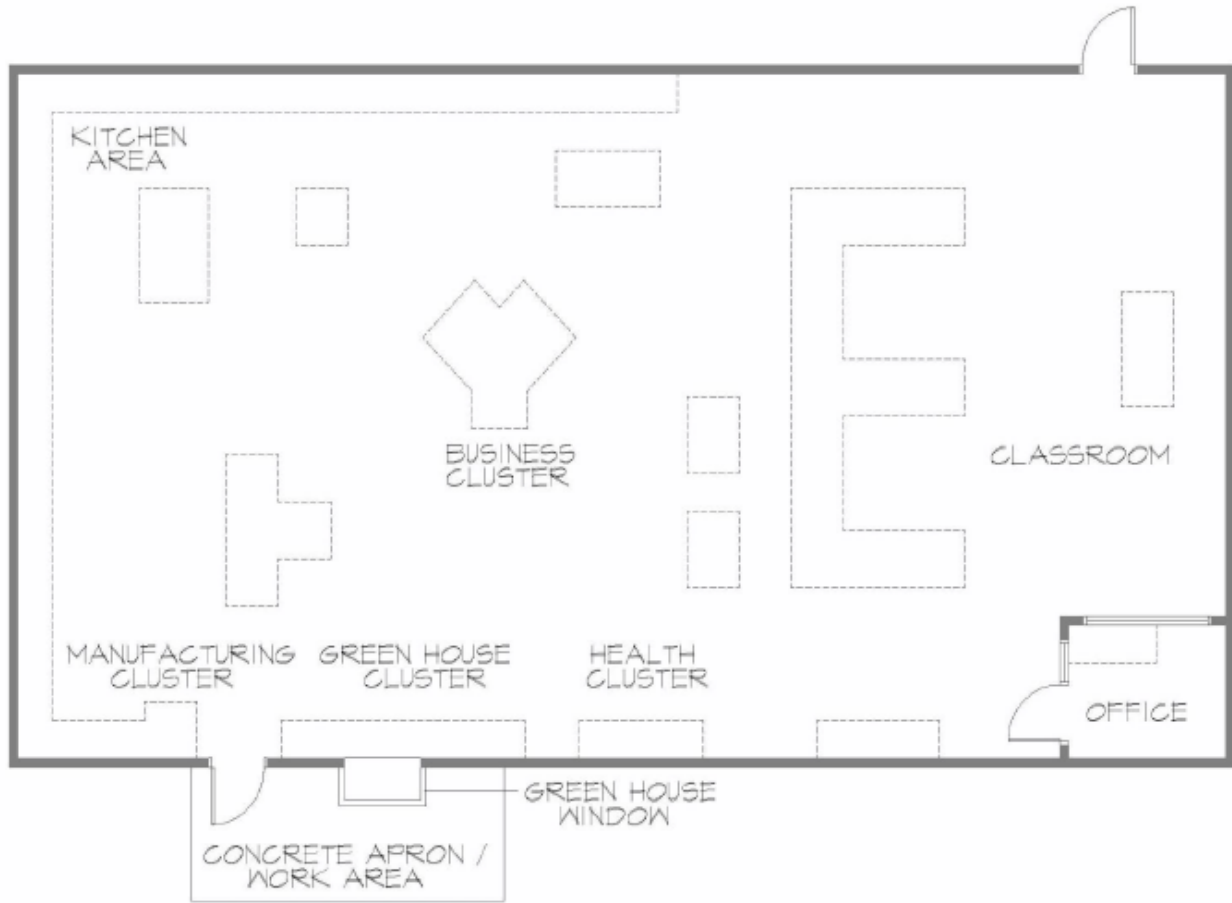
## PATHWAY TO CAREERS EDUCATION

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Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	750	1:20-31
High School	2,000	1:20-31

Grade Level		Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High		Classroom	750	
High School	Option 1	Classroom w/ Lab	1,800	Lab/Office space included (Refer to floor plan)
		Storage	200	Lockable door
	Option 2	Classroom w/ Flex Space	1,200	
		Storage	200	Lockable door





NOT TO SCALE

DATE: 11-20-20

BY: [Signature]

SCALE: 1/8" = 1'-0"



HARRIS DESIGN & DEVELOPMENT  
 1000 N. 10TH ST.  
 SUITE 100  
 DENVER, CO 80202  
 (303) 733-8800  
 WWW.HARRISDD.com

PATHWAY TO CAREERS PROGRAMS  
 KENTUCKY DEPARTMENT OF EDUCATION  
 Division of Career and Technical Education  
 900 Nero Street 219 Capital Plaza Tower  
 Frankfort, Ky 40621

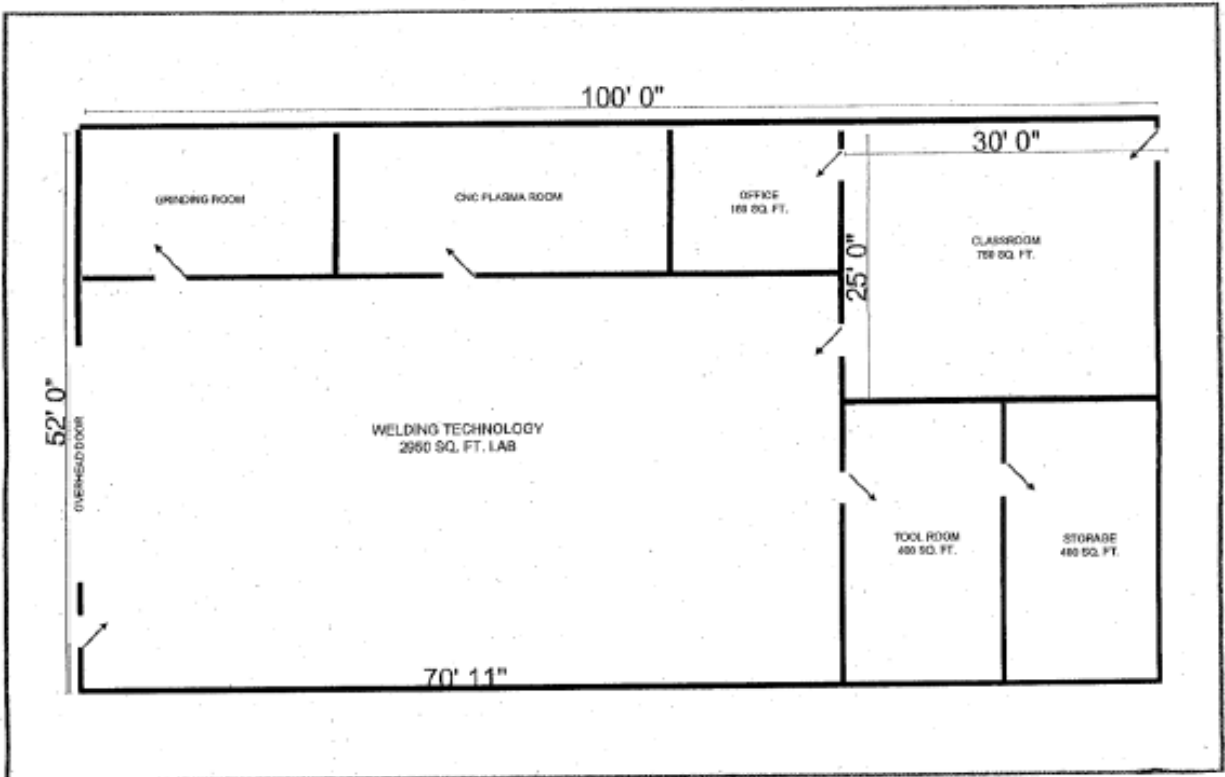


PROJECT NO: 11-20-20  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 APPROVED BY: [Signature]  
 DATE: 11-20-20  
 TELEPHONE: [Number]

## WELDING EDUCATION

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	5,050	1:18

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	Visual access from Office, Classroom, Grinding Room, and CNC Plasma Room into Lab  CNC Plasma Room does not have to be a separate room
High School	Lab	2,950	Ventilation system  Eye wash stand  Handwashing station  *A minimum of 400 sq. ft. must be allocated for CNC Plasma machine
High School	Office	150	Voice/Data/Power outlets  Lockable filing cabinets  Lockable door
High School	Storage	400	Lockable door
High School	Tools & Supplies	400	Lockable door
High School	Grinding Room	400	



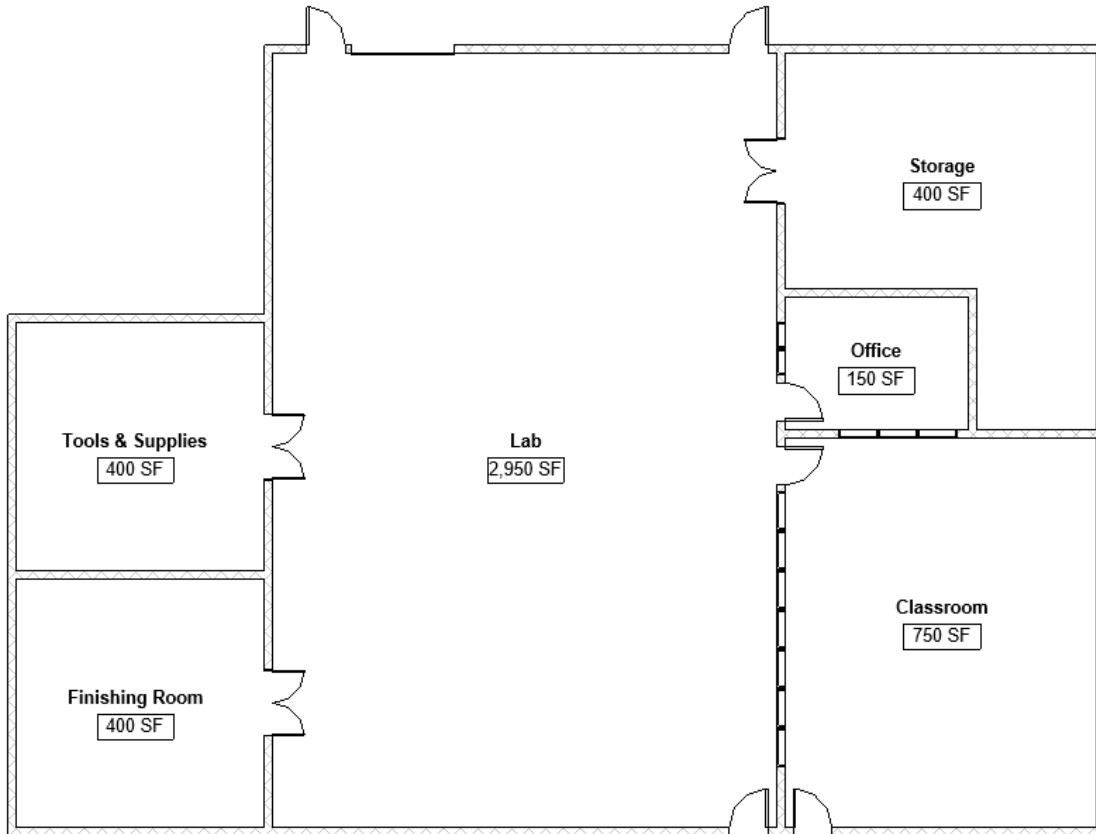
**WELDING TECHNOLOGY**

## WOOD MANUFACTURING TECHNOLOGY

---

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	5,050	1:18

Grade Level	Support Space Room Name	Minimum Program Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	Visual access from Office and Classroom into Lab
	Lab	2,950	Eye wash stand Handwashing system Sawdust exhaust system
High School	Office	150	Voice/Data/Power outlets Lockable filing cabinets Lockable door
High School	Storage	400	Lockable door
High School	Tools & Supplies	400	Lockable door
High School	Finishing Room	400	Ventilation per EPA standards



HS Wood Manufacturing Technology Lab

## **APPENDIX**

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### **Kentucky Administrative Regulations**

- 702 KAR 4:160, *Capital Construction Process*
- 702 KAR 4:170, *Facility Programming and Construction Criteria*
- 705 KAR 4:231, *General Program Standards for Secondary Career and Technical Education*
- 702 KAR 4:180, *School Facilities Planning Manual*

### **Other Resources**

- Kentucky Department of Education, Office of Career and Technical Education Homepage <http://education.ky.gov/CTE/Pages/default.aspx>
- Kentucky Department of Education, Office of Administration and Support, District Facilities Branch Homepage <https://education.ky.gov/districts/fac/Pages/default.aspx>