

Facilities Guide

Career
and
Technical
Education

2015



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INTRODUCTION

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, Division of Facilities Management.

Have Questions?



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RESPONSIBILITIES FOR PLANNING

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.

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.

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.

STEPS FOR TEACHER(S) TO FOLLOW IN PLANNING A PROGRAM AREA EDUCATIONAL FACILITY

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.

LOCATION OF SPACE FOR PROGRAM AREA FACILITY

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.

PERSONS TO BE SERVED

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

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 Kentucky Occupational Skills Standards Assessment (KOSSA), 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: <http://education.ky.gov/CTE/ctepa/Pages/2014-2015-Program-of-Studies.aspx>.

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.

GENERAL CONSIDERATIONS IN PLANNING

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:

Individualized
Discussion
Lecture
Laboratory
Simulated

Team Teaching
Student Organization Meeting
Cooperative Learning
Demonstration
Supervised Study

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.

PREPARING EDUCATIONAL SPECIFICATIONS

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 _____ Program (Area)
 - 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 REQUIREMENTS

PROGRAM (CAPACITY)	MINIMUM SQUARE FOOTAGE
Agricultural Education (1 teacher)	3,170
Agricultural Education (2 teacher)	3,970
Agricultural Education (3 teacher)	4,780
Agriculture Education with Greenhouse	5,580
Applied Process Technology	3,960
Auto Body / Collision Repair Technology	5,775
Automotive Technology	5,700
Business Education / Office Technology (1 teacher)	2,400
Business Education / Office Technology (2 teachers)	3,700
Business Education / Office Technology (3 teachers)	5,000
Computer Aided Drafting	3,060
Construction Technology	4,350
Diesel / Medium-Heavy Truck Technology	5,700
Engineering / Technology	3,800
Family and Consumer Sciences Education (1 teacher)	2,700
Family and Consumer Sciences Education (2 teacher)	3,350
Family and Consumer Sciences Education (3 teacher)	4,000
Health Sciences Education	2,550
Industrial Maintenance Technology	4,660
Information Technology	2,800
Machine Tool Technology	5,010
Marketing Education	2,400
Metal Fabrication Technology	4,660
Pathway to Careers Education	2,000
Powersports / Motorcycle Technology	4,200
Welding Technology	5,060
Wood Manufacturing Technology	4,660



SPACE REQUIREMENTS

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
- ✓ First Aid Kit
- ✓ MSDS Record Book
- ✓ Smoke Alarm
- ✓ Hazardous Waste Spill Kit
- ✓ Eye Wash Station and/or Shower Station

**AGRICULTURE EDUCATION
PROGRAM SPACE SQUARE FOOTAGE**

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

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School (1 teacher)	Classroom	750	Hot and cold water sinks located at the teacher's station or resource cabinet
	Lab	2,000	Provide access through a 10' x 10' overhead door to an exterior 2000 sq. ft. courtyard enclosed with an 8' high fence with a 10' wide gate located opposite the overhead door for direct access Fire Blanket

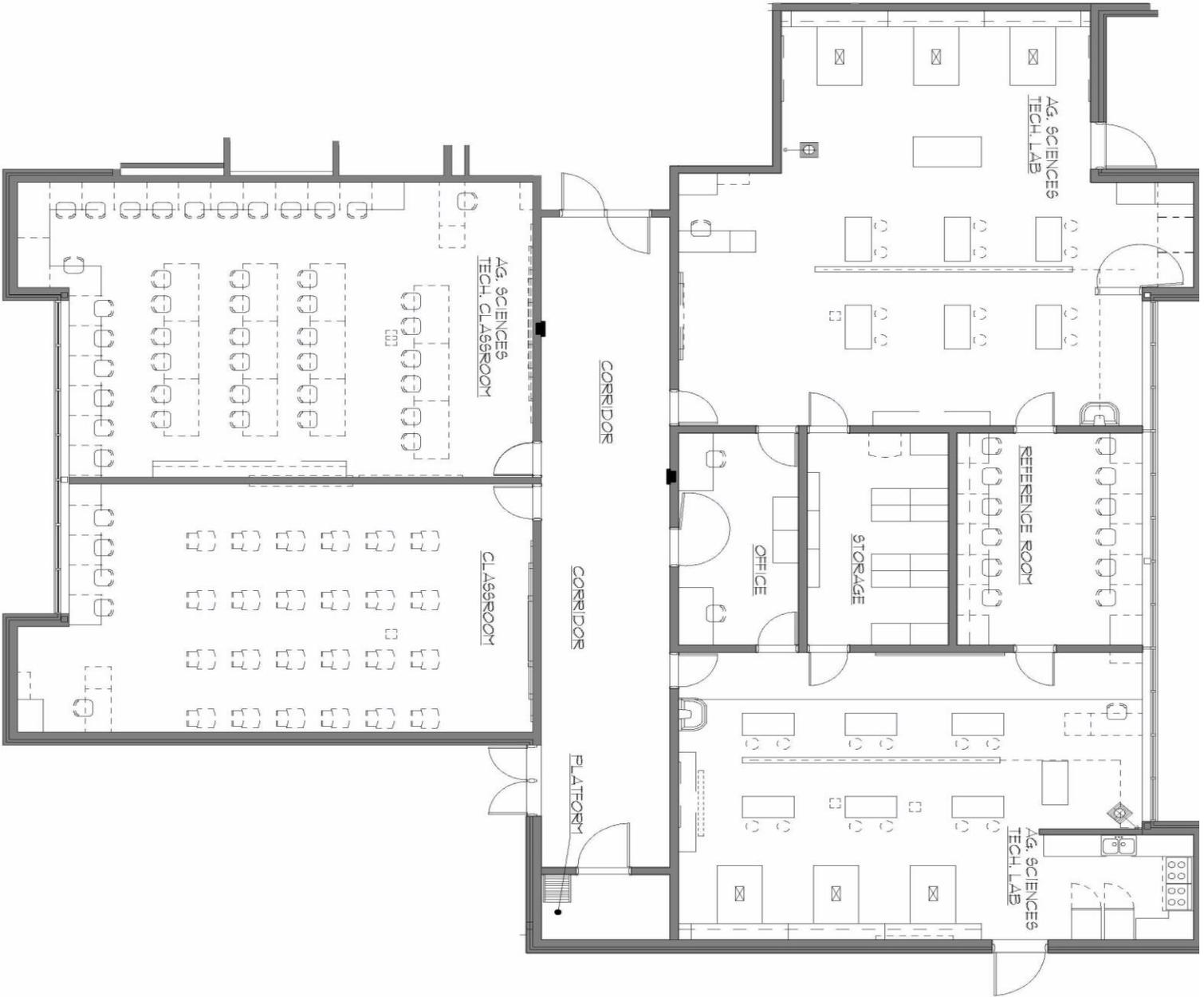
			Eye Wash Stand
	Office	150	Provide voice, data, and power outlets Lockable Filing Cabinets Lockable Door
	Storage	100	Accessible from classroom Lockable Door
	Tools & Supplies	170	Accessible through “Dutch” door Lockable Door
High School (2 teachers)	Classroom	2 @ 750 = 1,500	Hot and cold water sinks located at the teacher’s station or resource cabinet
	Lab	2,000	Provide access through a 10’ x 10’ overhead door to an exterior 2000 sq. ft. courtyard enclosed with an 8’ high fence with a 10’ wide gate located opposite the overhead door for direct access Fire Blanket Eye Wash Stand
	Office	200	Provide voice, data, and power outlets Lockable Filing Cabinets

			Lockable Door
	Storage	100	Accessible from classroom Lockable Door
	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
	Lab	2,000	Provide access through a 10’ x 10’ overhead door to an exterior 2000 sq. ft. courtyard enclosed with an 8’ high fence with a 10’ wide gate located opposite the overhead door for direct access Fire Blanket Eye Wash Stand
	Office	250	Provide voice, data, and power outlets Lockable Filing Cabinets Lockable Door
	Storage	100	Accessible from classroom Lockable Door

	Tools & Supplies	180	Accessible through “Dutch” door Lockable Door
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High School With Greenhouse	Classroom	750	Hot and cold water sinks located at the teacher’s station or resource cabinet
	Lab	2,000	Provide access through a 10’ x 10’ overhead door to an exterior 2000 sq. ft. courtyard enclosed with an 8’ high fence with a 10’ wide gate located opposite the overhead door for direct access Fire Blanket Eye Wash Stand
	Office	150	Provide voice, data, and power outlets Lockable Filing Cabinets Lockable Door
	Storage	100	Accessible from classroom Lockable Door
	Tools & Supplies	180	Accessible through “Dutch” door Lockable Door

	Greenhouse	1,800	<p>Divided into two areas with separate temperature controls: a 600 sq. ft. preparation area and a 1200 sq. ft. plant area; locate in an area where plants will not be affected by artificial light from athletic complexes or security lights</p> <p>Lockable External Door(s)</p>
	Head House	600	<p>May be incorporated into Ag Mechanics Lab if Horticulture pathway is the only career pathway offered</p> <p>Lockable Door</p>



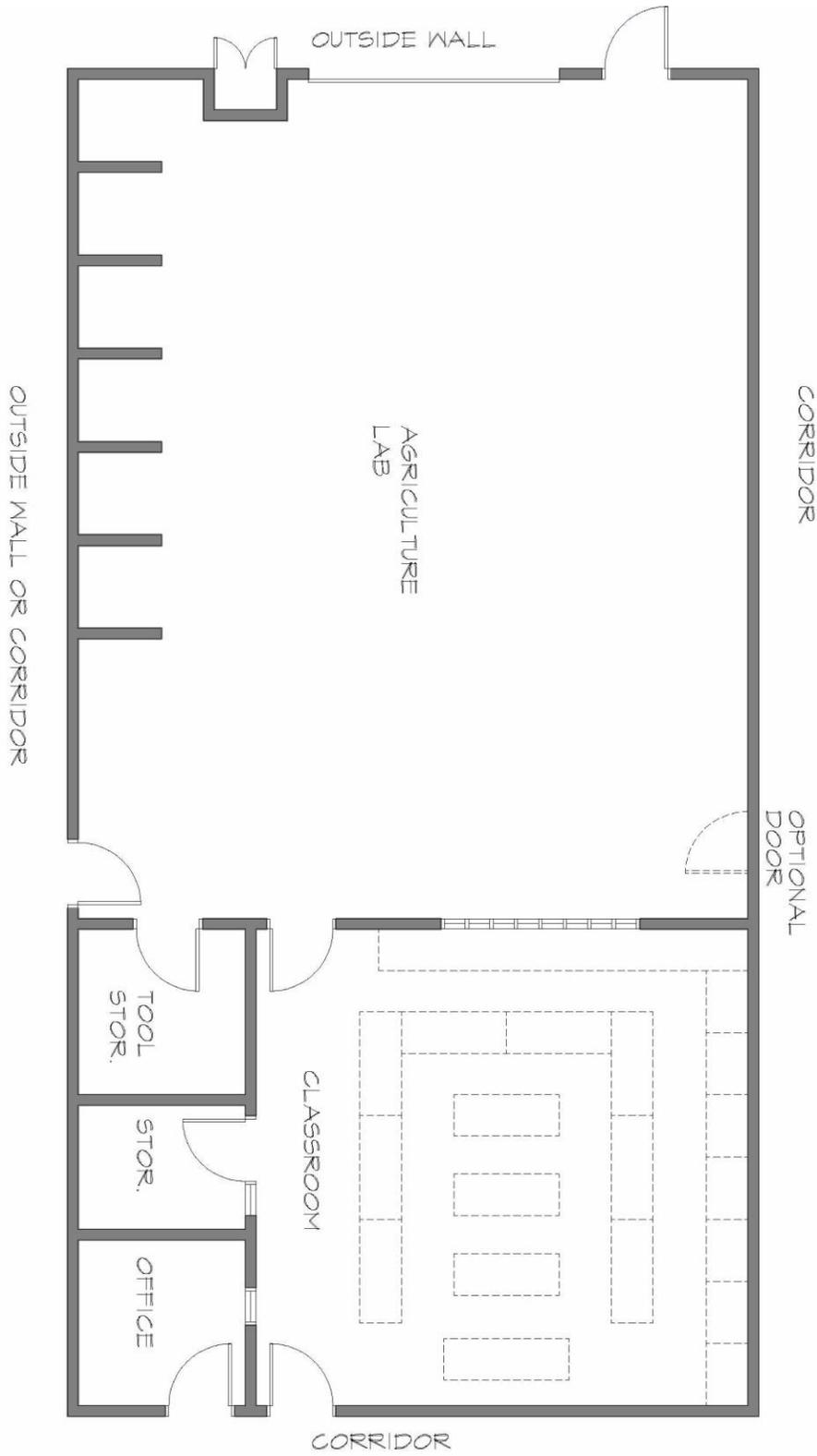
HDDS
WEST HANCOCK COUNTY
 1000 W. MAIN ST.
 HANCOCK, KY 40430
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WEST HANCOCK COUNTY
 1000 W. MAIN ST.
 HANCOCK, KY 40430
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PROJECT NUMBER: A-
DATE: 4 OF 27
NOT TO SCALE

Agriculture Science Classroom and Laboratory
KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 Frankfort, Ky 40601
 500 Maro Street 2119 Capital Plaza Tower

PROJECT NO.: 2009-03
DESIGNED BY: HKS, INC.
CHECKED BY:
APPROVED BY:
PLANT DATE: 1-25-2008
REVISIONS:

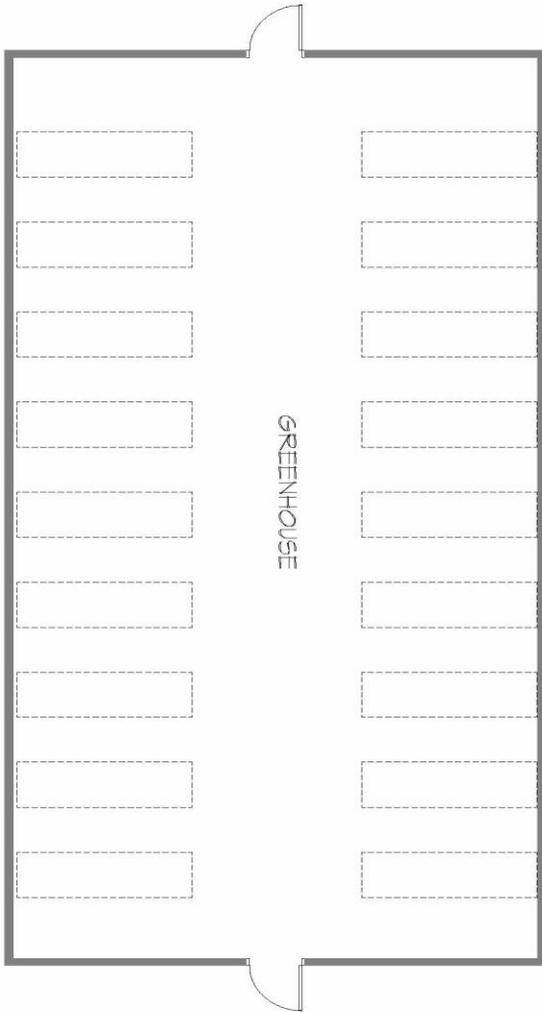


PROJECT NO: 2008/071
 DRAWN BY: JPH
 CHECKED BY: JPH
 APPROVED BY: JPH
 PLOT DATE: 6-11-2008
 REVISIONS:

AGRICULTURE FACILITY
KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 500 Merz Street 219 Capital Plaza Tower
 Frankfort, Ky 40601

HDDS
inc
 HUMAN RESOURCE DEVELOPMENT
 1001 W. 10th Street
 Frankfort, KY 40601
 502.226.2000
 WWW.HDDS.COM

SHEET TITLE: A-
 SHEET NUMBER: 7 OF 27
 NOT TO SCALE



GREENHOUSE
KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 500 Mero Street 2119 Capital Plaza Tower
 Frankfort, Ky 40601

PROJECT NO: 2009.027
 DRAWN BY: HDDS, Inc.
 CHECKED BY:
 APPROVED BY:
 PLOT DATE: 7-11-2008
 REVISIONS:

HDDS
inc

300 WEST MARKET STREET
 COLUMBIA, MISSOURI
 65201-3800
 TEL: 314-339-3000 VOICE
 TEL: 314-339-4418 FAX
 WWW.HDDSI.COM
 HDDS, INC.

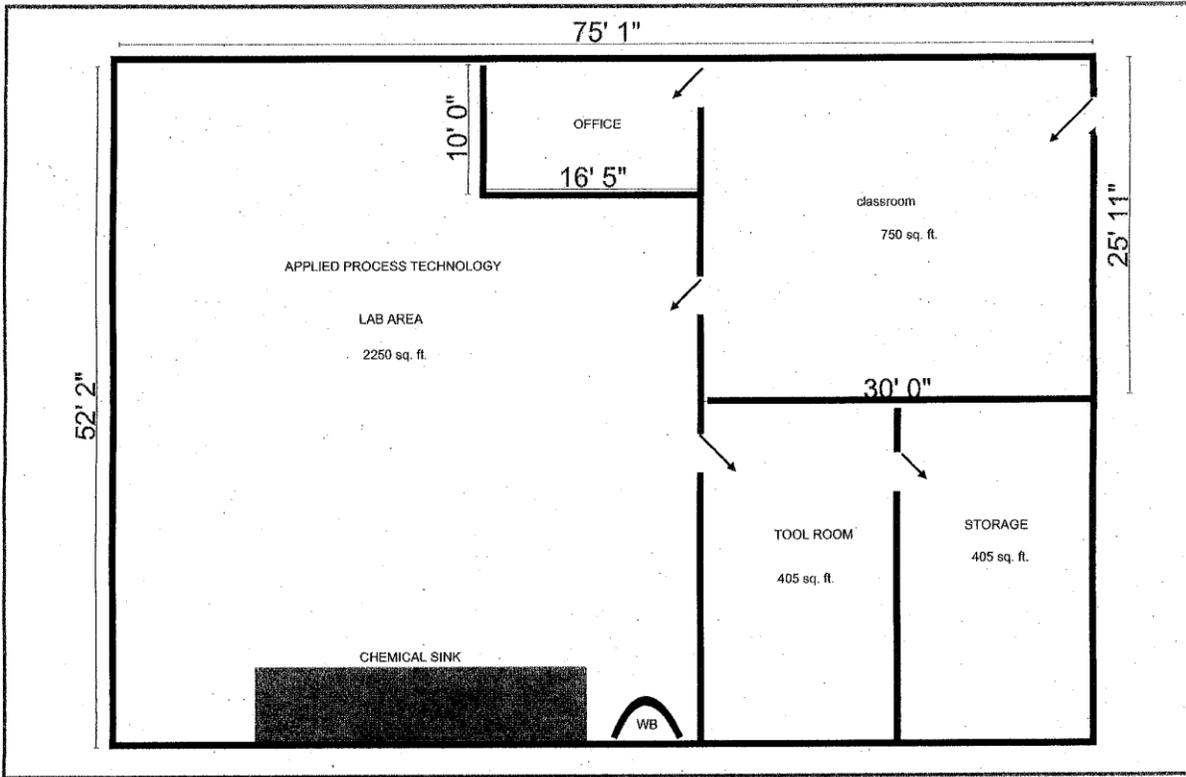
SHEET TITLE: A-
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**APPLIED PROCESS TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	3,960	1:20

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	
	Lab	2,250	Eye Wash Stand Handwashing Station
	Office	150	Voice/Data/Power Outlets Lockable Door
	Storage	400	Lockable Door
	Tools & Supplies	400	Lockable Door



Applied Process

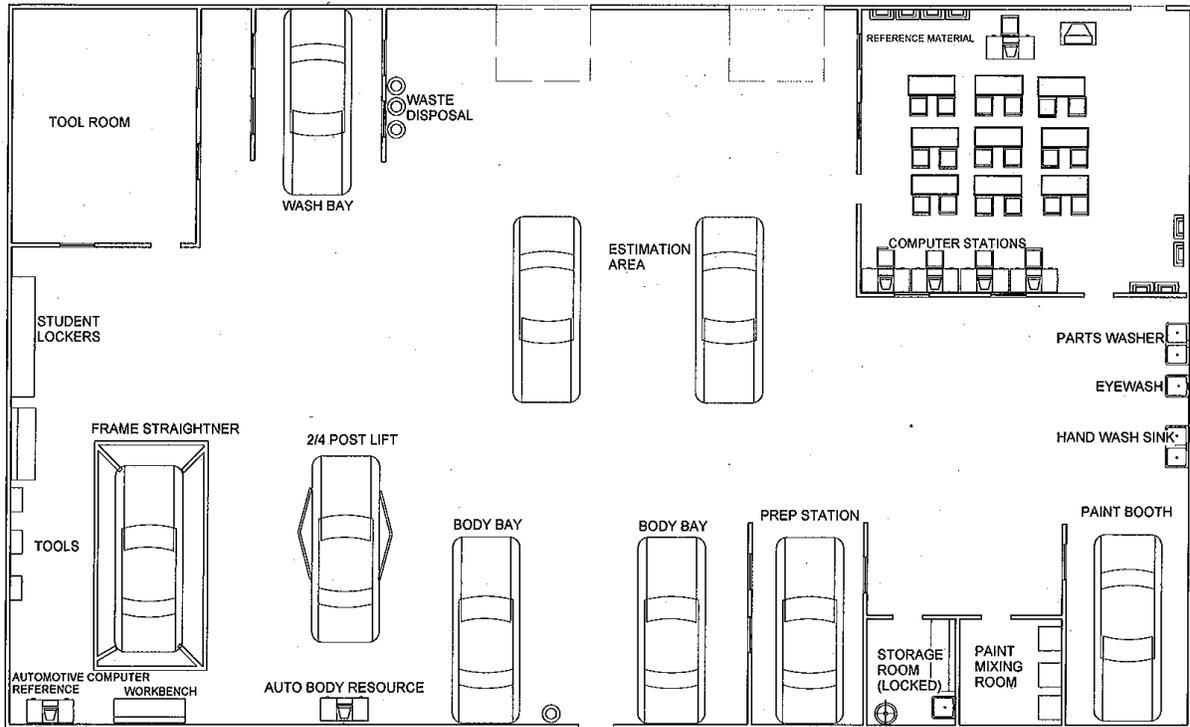
AUTO BODY / COLLISION REPAIR TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE

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

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	Computer Stations
	Lab	3,600	Fire Blanket Eye Wash Stand Handwashing Station Recommended Ceiling Height of 20'
	Office	150	Voice/Data/Power Outlets Lockable Filing Cabinets & Door
	Storage	400	Lockable Door

	Tools & Supplies	400	Lockable Door
	Spray Booth	375	Meets OSHA Requirements
	Paint Mixing and Storage Room	100	Meets OSHA Requirements

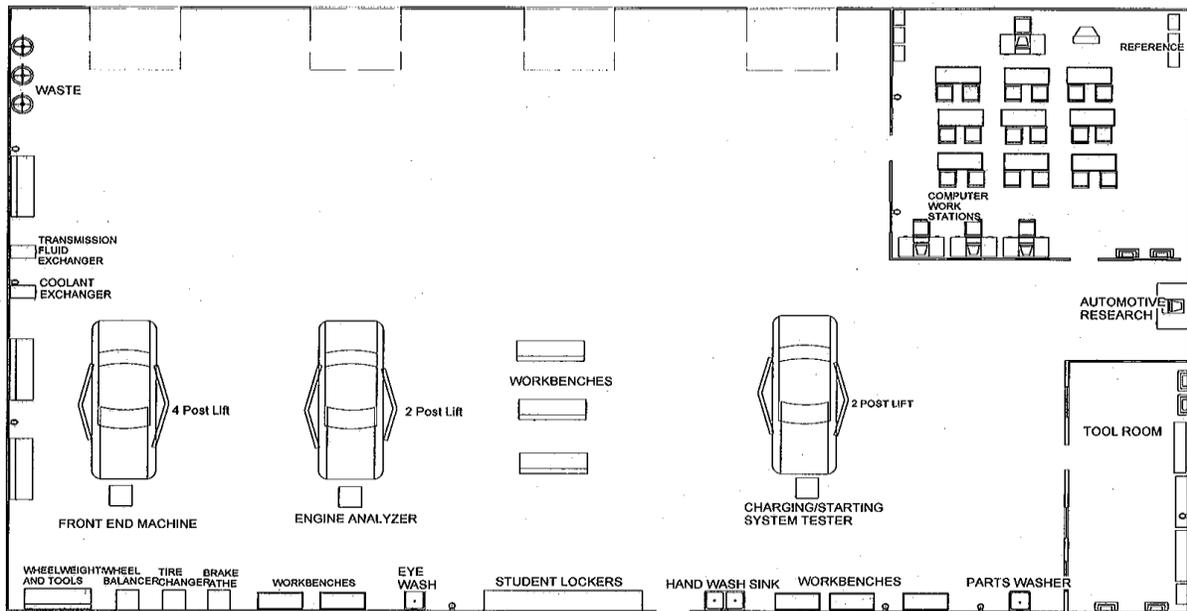


**AUTOMOTIVE TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

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

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

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



**BUSINESS EDUCATION / OFFICE TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	750	1:30
High School	One teacher: 2,400	1:30
	Two teachers: 3,700	
	Three teachers: 5,000	

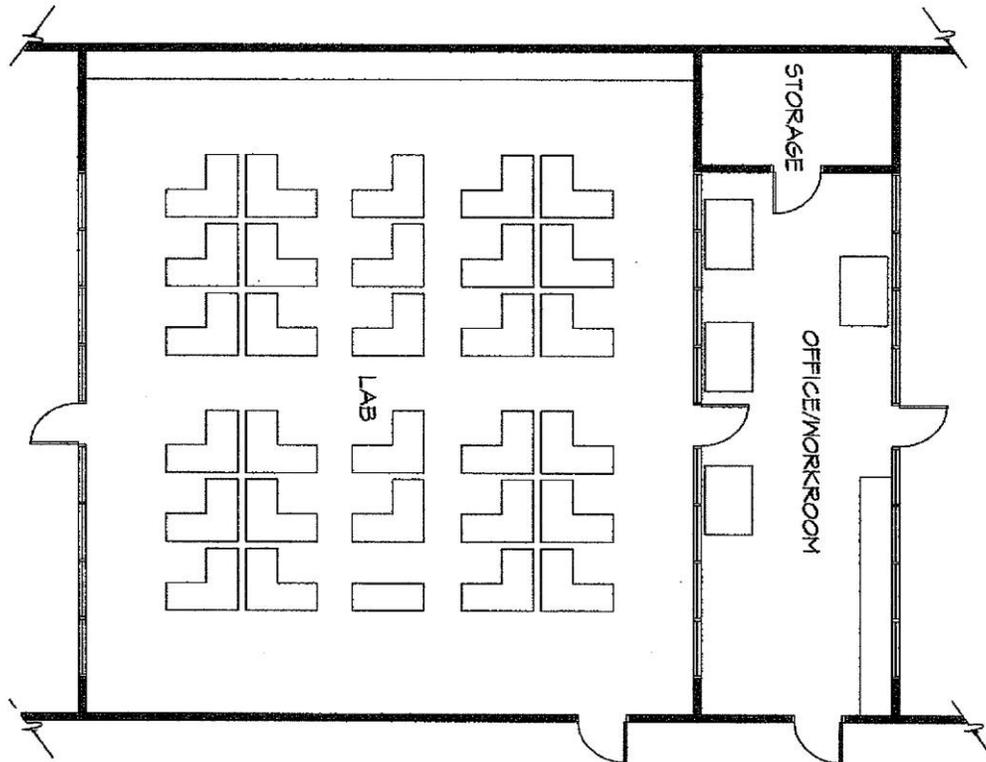
PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum 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 (or wireless). Teacher workstation with LCD projection.
	Lab	1,250	30 L-shaped desks with student computers and up-to-date software and network outlets for each (or wireless). Teacher workstation

			with LCD projection (see attached description of lab). 30 phones capable of calling station to station.
	Office	150	Provide voice and data outlets; lockable file cabinets for confidential student records
	Storage	100	Lockable room with shelving for instructional materials
High School (2 teachers)	Classroom	900	Room for 30 student desks and network outlets for at least 30 student computers (or wireless). Teacher workstation with LCD projection.
	Lab	2,500	30 L-shaped desks with student computers and up-to-date software and network outlets for each (or wireless). Teacher workstation with LCD projection (see attached description of lab). 30 phones capable of calling station to station.

	Office	200	Provide voice and data outlets; lockable file cabinets for confidential student records
	Storage	100	Lockable room with shelving for instructional materials
High School (3 teachers)	Classroom	900	Room for 30 student desks and network outlets for at least 30 student computers (or wireless). Teacher workstation with LCD projection.
	Lab	3,750	30 L-shaped desks with student computers and up-to-date software and network outlets for each (or wireless), teacher workstation with LCD projection (see attached description of lab). 30 phones capable of calling station to station.
	Office	250	Provide voice and data outlets; lockable file cabinets for confidential student records

	Storage	100	Lockable room with shelving for instructional materials
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PROJECT NO: _____
 DRAWING NO: _____
 DATE: _____
 APPROVED BY: _____
 PROJECT MANAGER: _____
 REVISIONS: _____

BUSINESS AND OFFICE LAB 2
KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 Frankfort, Ky 40601
 608 Main Street 210 Capital Plaza Tower



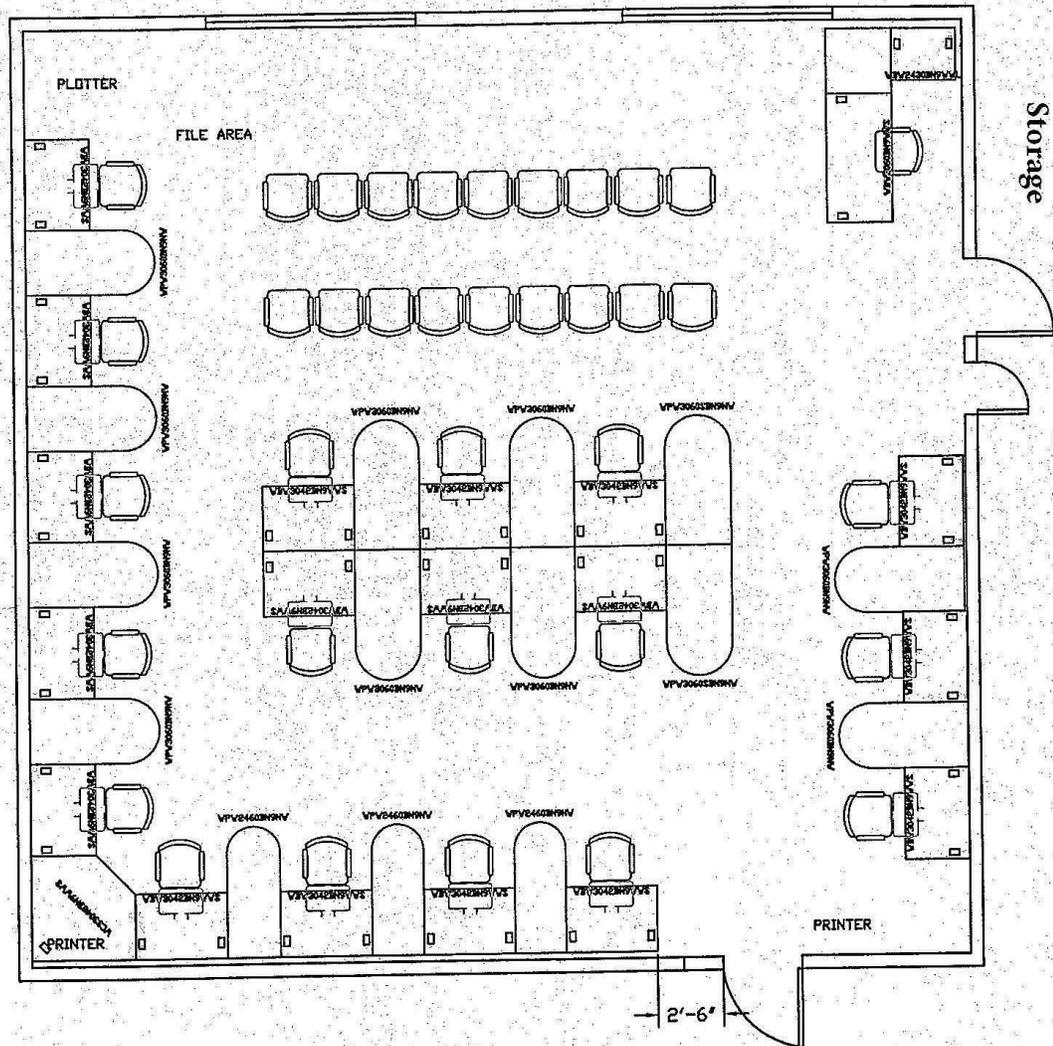
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**COMPUTER AIDED DRAFTING
PROGRAM SPACE SQUARE FOOTAGE**

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

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

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



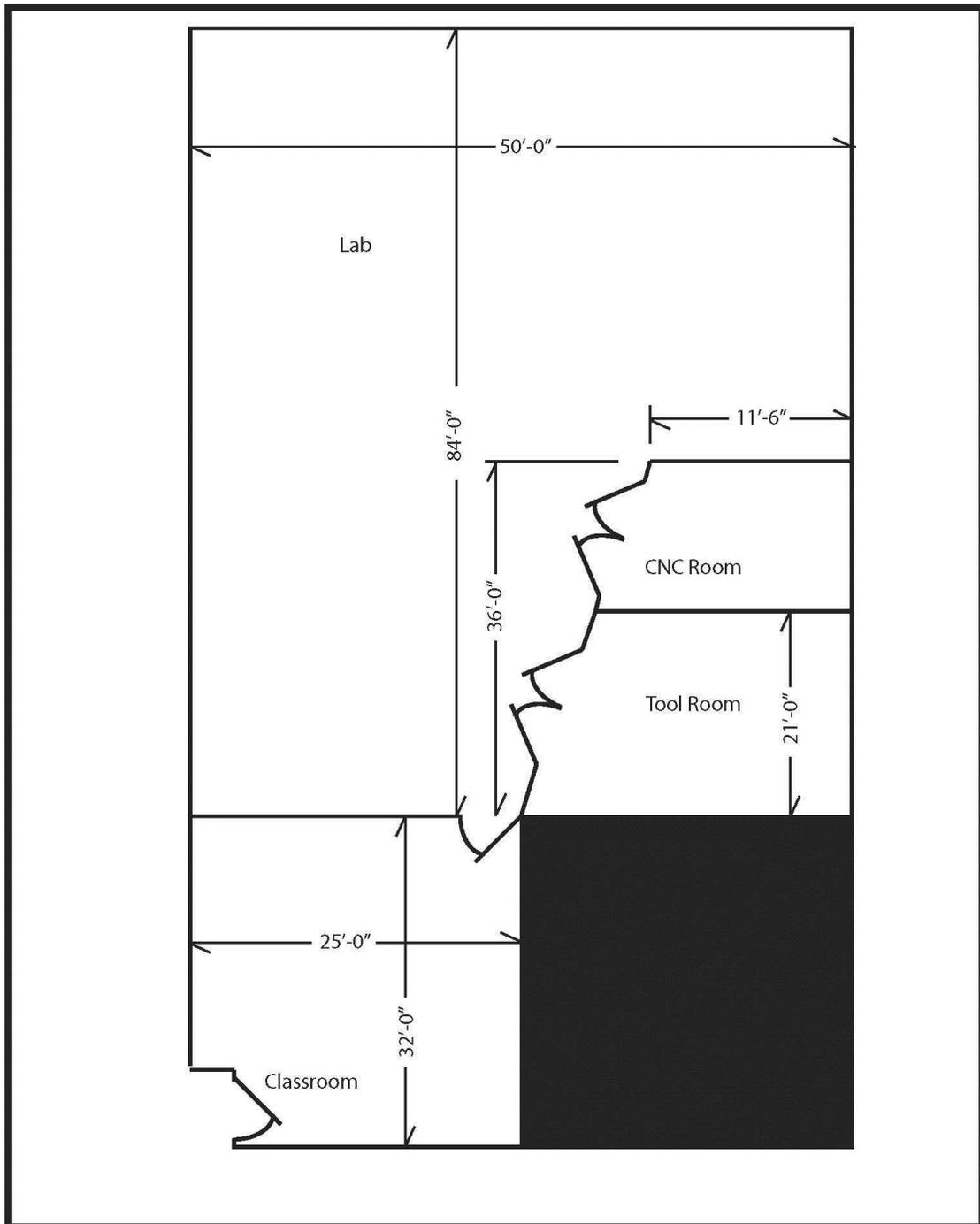
**CONSTRUCTION TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	One teacher: Carpentry – 4,850 All other Programs – 4,350	1:18

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	N/A
High School 1 teacher	Classroom	750	
	Lab	Electricity / Masonry / BAM / Air Conditioning / Plumbing – 3,000 Carpentry – 3,500	Eye and hand wash station, large overhead doors and ceilings that allow for building projects Masonry – Water spigot in shop
	Office	150	Lockable Filing Cabinets Lockable Room

	Storage	200	4' entry door <u>or</u> double doors (2 at 36" each) Accessible from classroom Lockable Room
	Tools & Supplies	150	Accessible through lab area Lockable Door

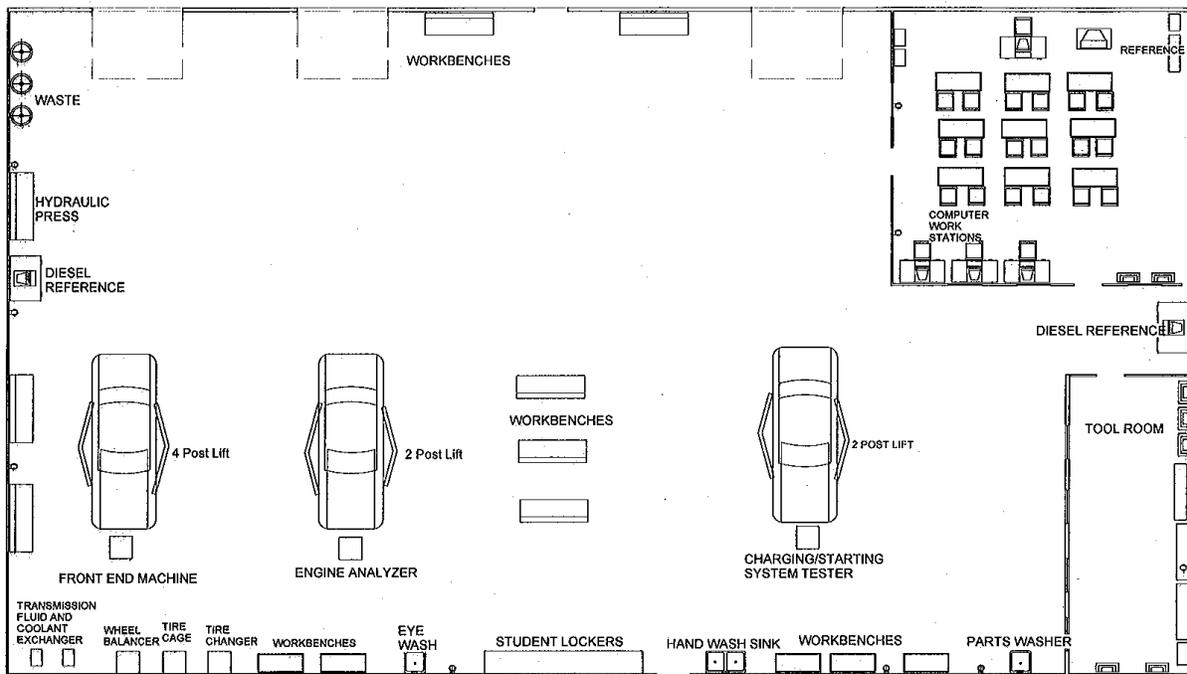


**DIESEL / MEDIUM-HEAVY TRUCK TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

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

PROGRAM SPACE SQUARE FOOTAGE BY SUPPORT SPACE

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



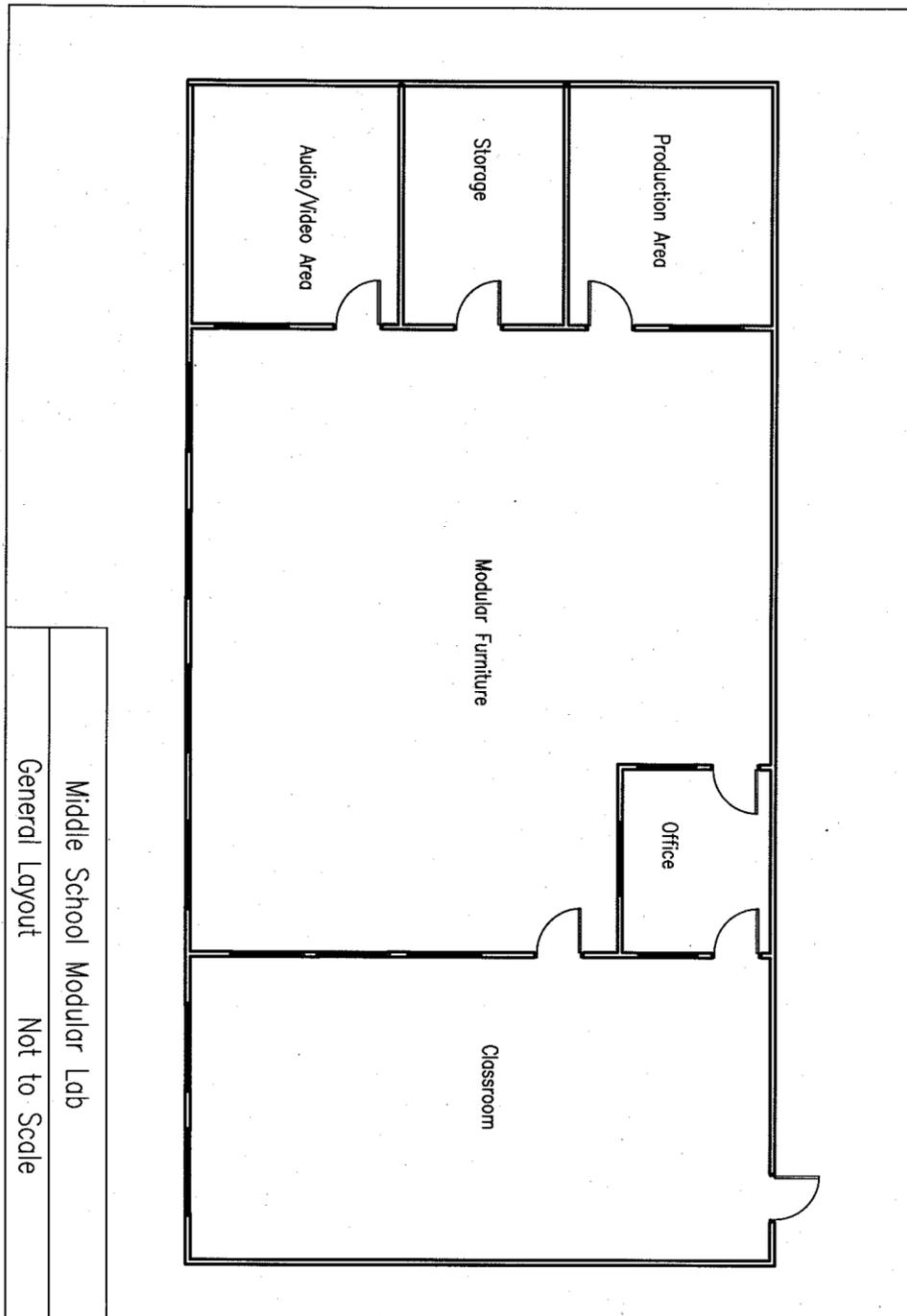
**ENGINEERING / TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

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

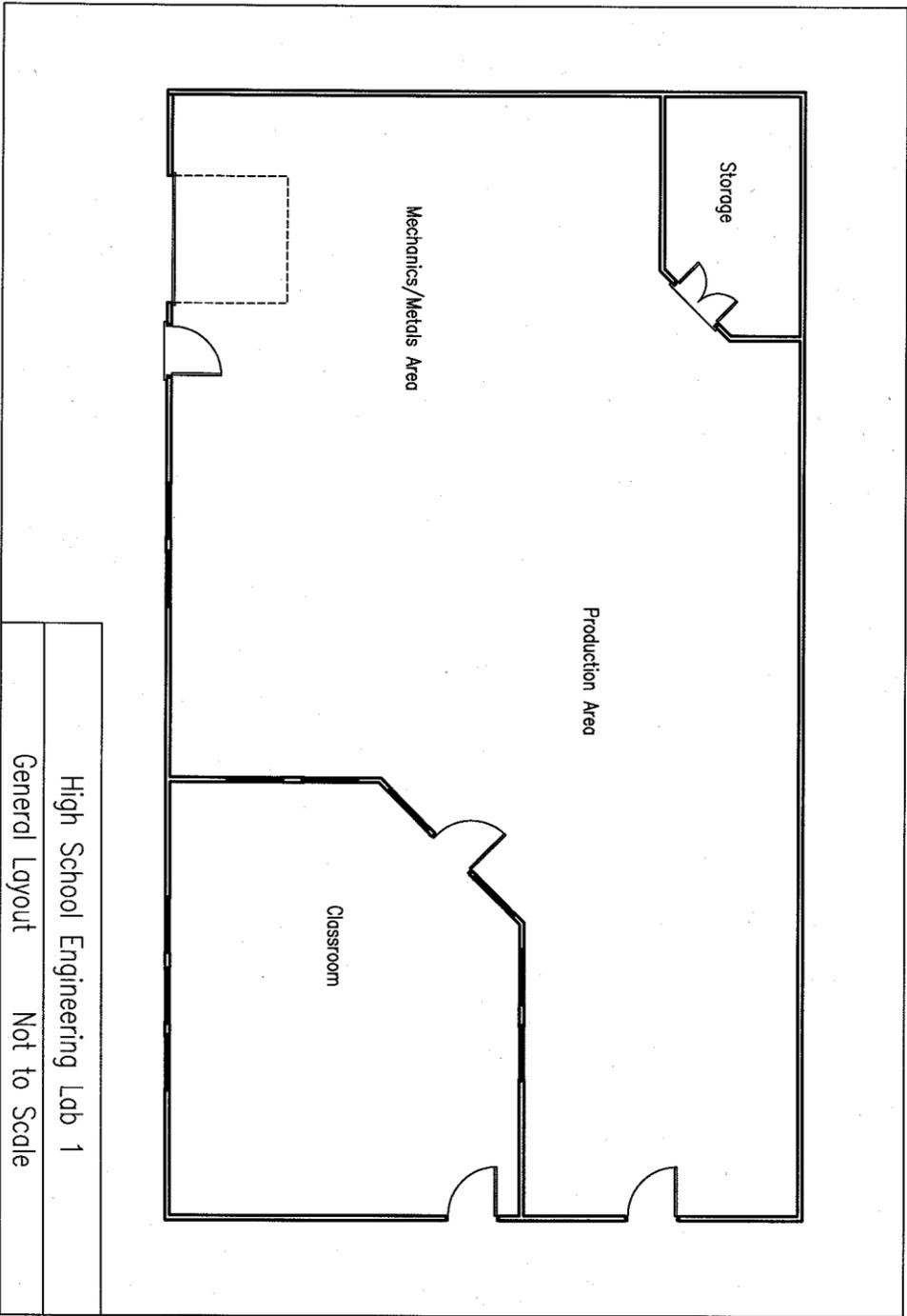
PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	Classroom	750	Overhead multi-media mount system
	Lab	1,200	Solenoid-type “kill switch” to all equipment outlets
	Office	150	Voice/Data/Power Outlets Lockable Filing Cabinets Lockable Door
	Storage	300	18”x18” cubical storage 72”H x 90”L and 12”D shelving Lockable Door

High School	Classroom	750	Overhead multi-media mount system
	Lab	2,100	Solenoid-type “kill switch” to all equipment outlets
	Office	150	Voice/Data/Power Outlets Lockable Filing Cabinets Lockable Door
	Storage	400	18”x18” cubical storage 72”H x 90”L and 12”D shelving Lockable Door
	Tools & Supplies	400	Lockable Door

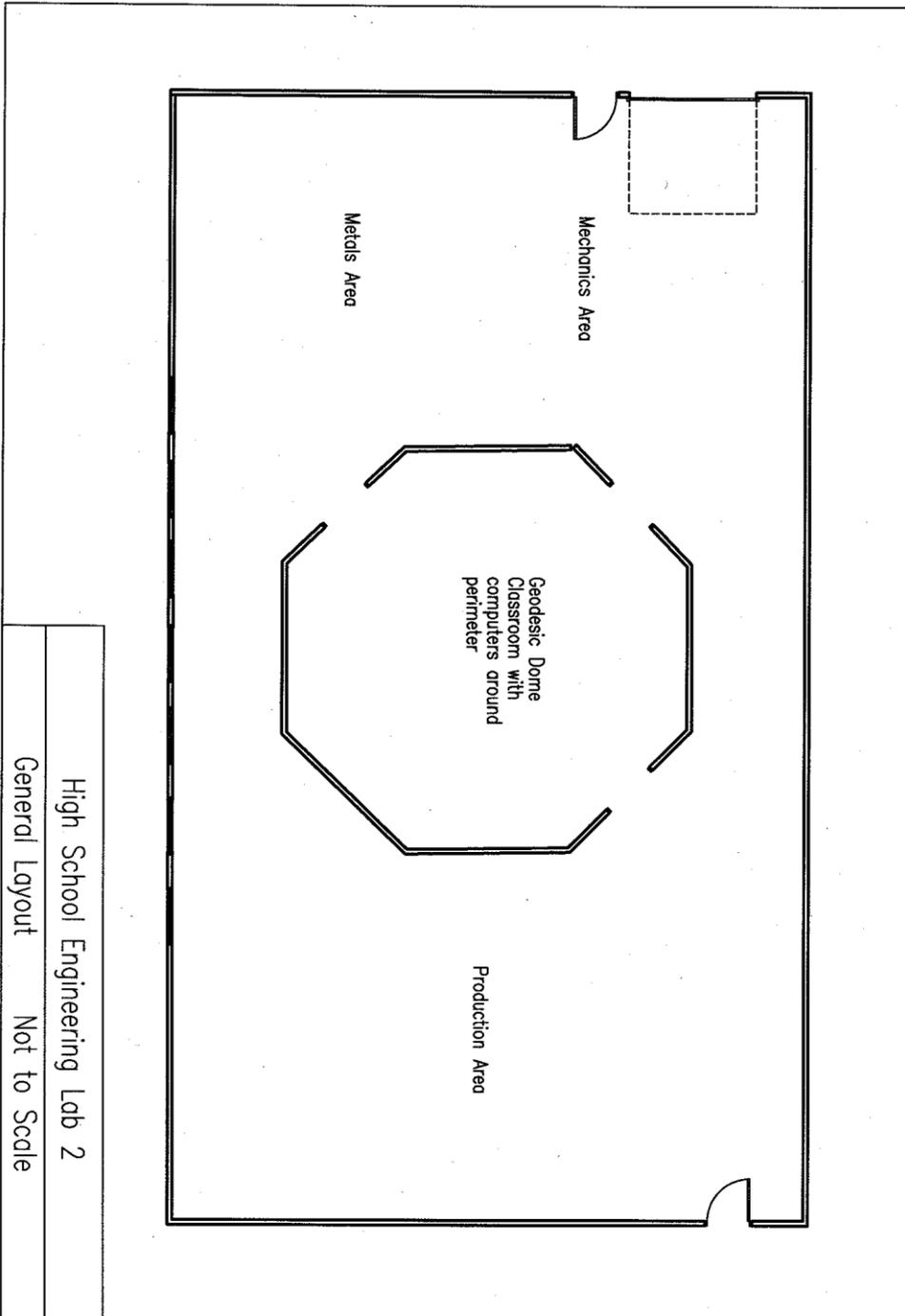


Middle School Modular Lab
 General Layout Not to Scale



High School Engineering Lab 1

General Layout Not to Scale



High School Engineering Lab 2

General Layout Not to Scale

**FAMILY AND CONSUMER SCIENCES EDUCATION
PROGRAM SPACE SQUARE FOOTAGE**

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

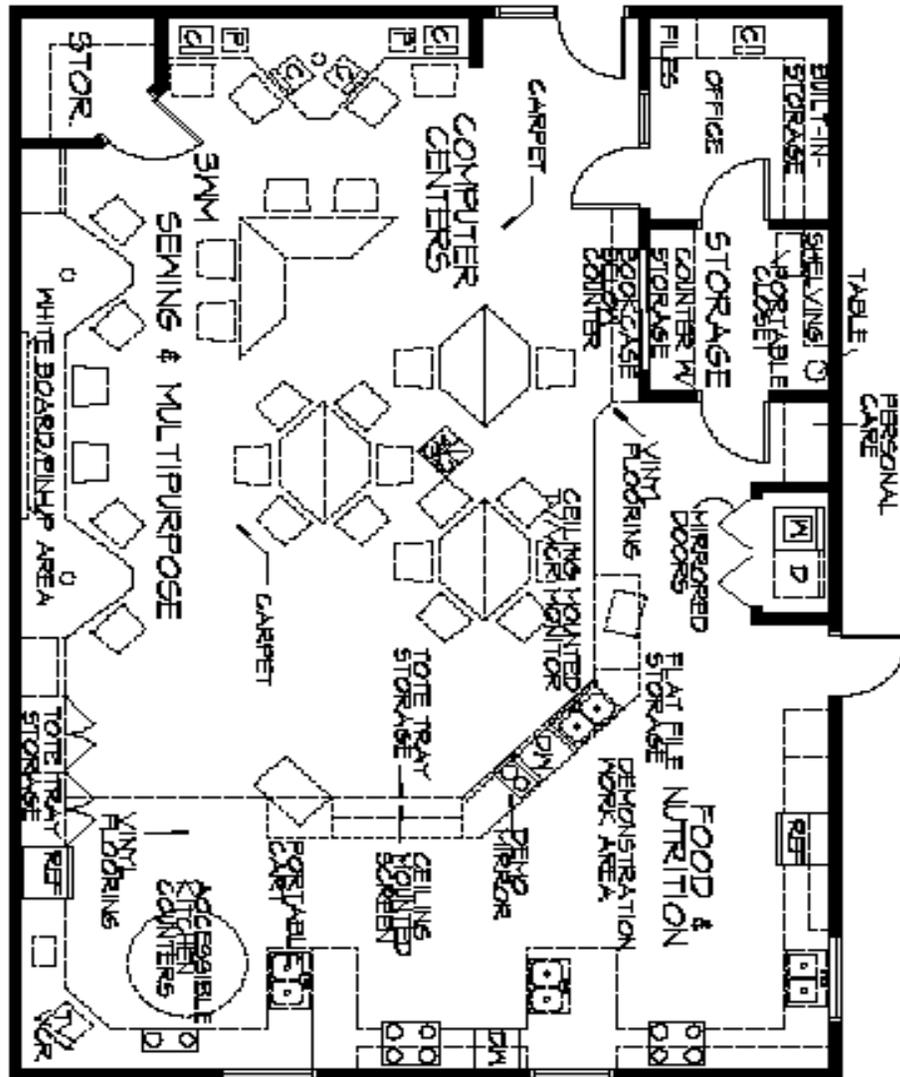
PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

*Minimum requirements may vary, dependent upon which FCS career pathway is offered.
Please reference requirements for specific pathways, if applicable.*

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	Classroom (750)	1850	Fire Extinguisher & Fire Blanket
	Lab (1,100)		
	Storage/CTSO	150	Lockable Filing Cabinets Lockable Door
High School	Classroom	750	
	Lab	Traditional FCS Ed	Fire Extinguisher & Fire

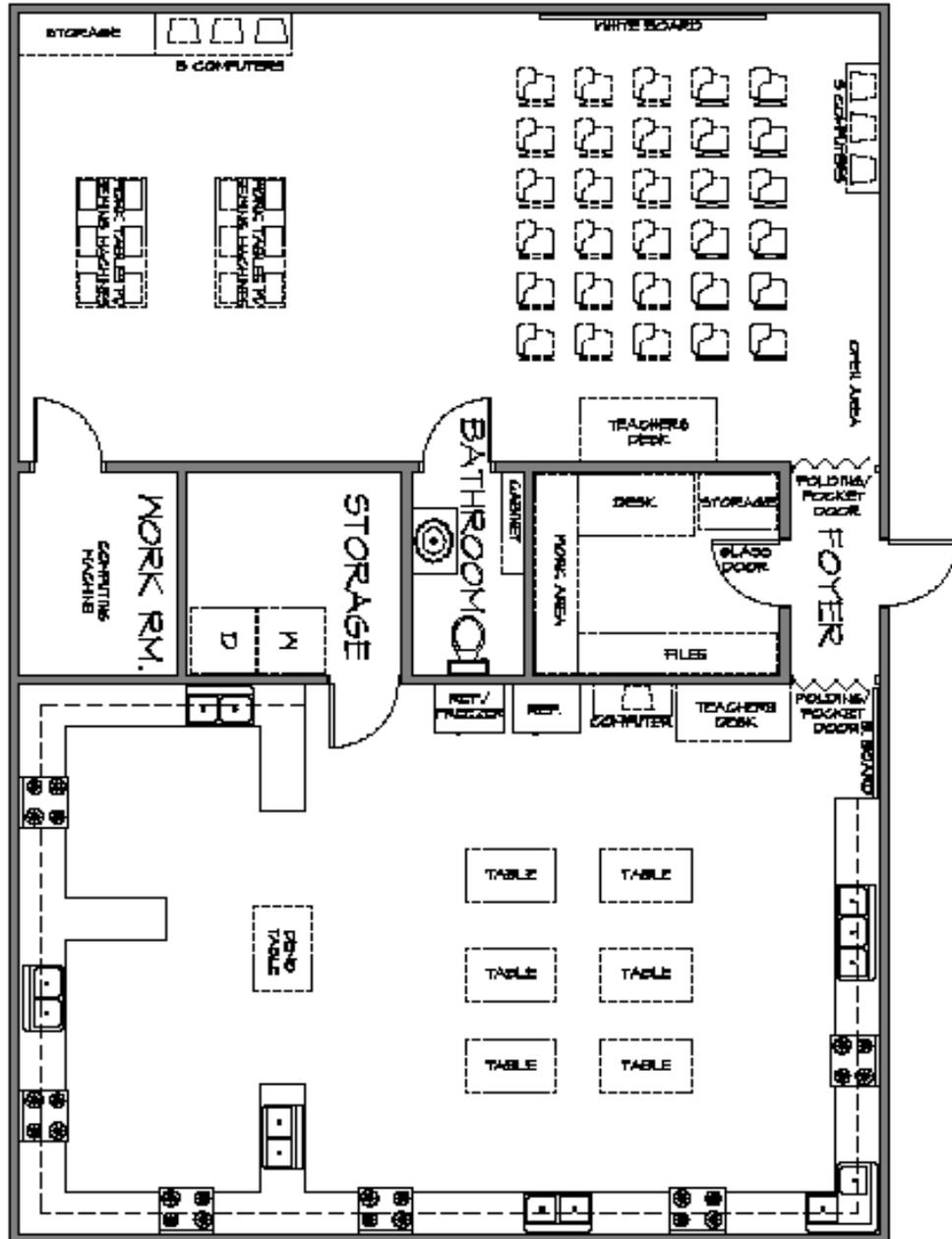
	(Identified according to possible pathways that require lab space)	1,700 sq. ft. minimum	Blanket Lockable Closet/Cabinet for Chemicals & Cleaning Supplies
		Commercial Culinary Kitchen 2,300 sq. ft. minimum	Fire Extinguisher & Fire Blanket Lockable Closet/Cabinet for Chemicals & Cleaning Supplies Commercial Ventilation System
		Fashion & Interior Design 2,300 sq. ft. minimum	Fire Extinguisher & Fire Blanket Handwashing Station
		Early Childhood Education 2,300 sq. ft. minimum	Handwashing Station Restroom Facility
	Office	One teacher: 150	Voice/Data/Power Outlets
		Two teachers: 200	Lockable file cabinets Lockable Door
		Three teachers: 250	
	Storage	150	Cabinets and shelving for the storage of books,

			<p>instructional materials, equipment, linens, etc.</p> <p>Outlets/Water Accessibility/Ventilation for Washing Machine & Dryer</p> <p>Lockable Door</p>
	<p>Pantry</p> <p><i>*** Specific to Traditional FCS and Commercial Culinary Arts Labs</i></p>	150	<p>Stainless Steel Shelving (minimum of 6" off of floor)</p> <p>Lockable Door</p>



FAMILY & CONSUMER SCIENCES MIDDLE SCHOOL
 KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 2015



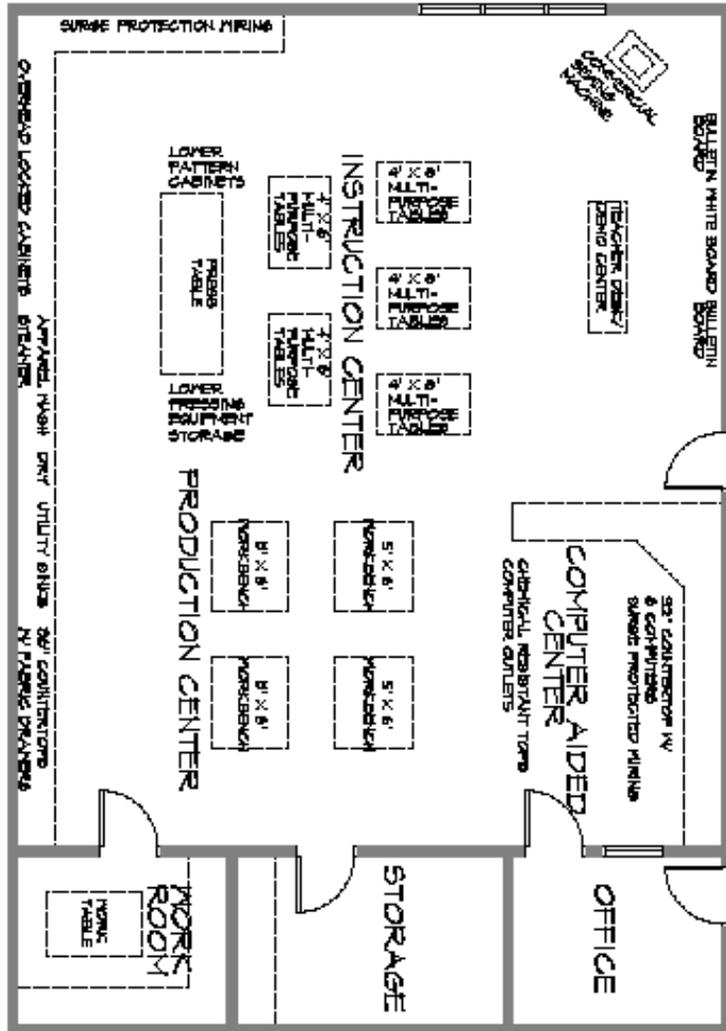


NOT TO SCALE



CONSUMER & FAMILY MANAGEMENT/FCM EDUCATION
 KENTUCKY DEPARTMENT OF EDUCATION
 DIVISION OF CAREER AND TECHNICAL EDUCATION
 200 NORTON AVENUE, 2ND FLOOR, RICHMOND, KY 40379
 PHONE: 502-759-2200





FINISHES
 FLOORING: POLYURETHANE
 WALLS: PAPER
 CEILING: POP
 LIGHT FIXTURES: RECESSED
 ELECTRICAL: 120V/240V
 TELEPHONE: 120V

FASHION AND INTERIOR DESIGN
 KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 200 West Street 200 Digital Plaza Tower
 Frankfort, KY 40601

HDDS
 HIGHER DESIGN DEVELOPMENT SYSTEM
 1000 West Street 200 Digital Plaza Tower
 Frankfort, KY 40601
 502.625.4300
 www.ky.gov/hdds

1/8" = 1'-0"
 NOT TO SCALE

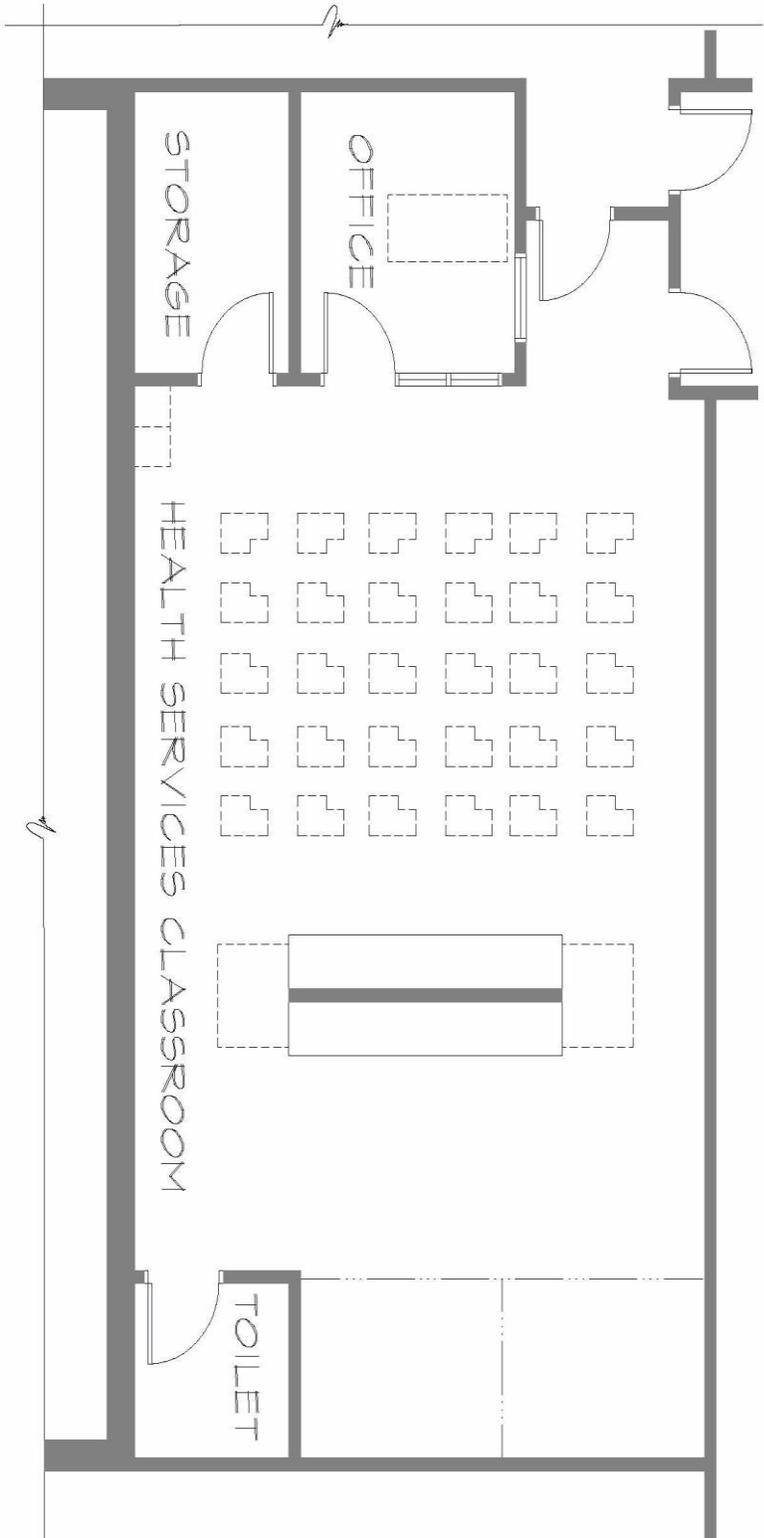
**HEALTH SCIENCE EDUCATION
PROGRAM SPACE SQUARE FOOTAGE**

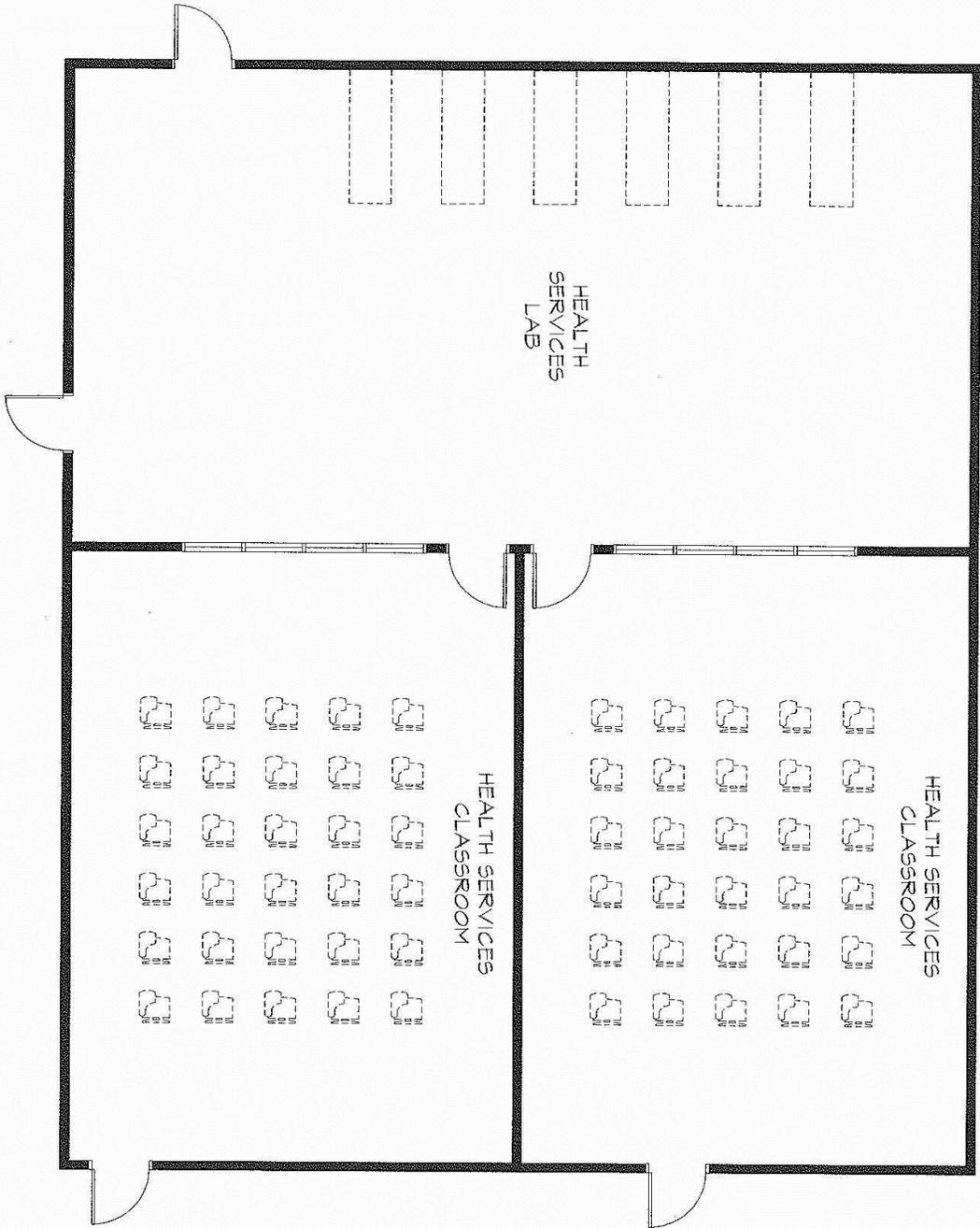
Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	750	1:30
High School	2,550	1:15-30

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	Classroom	750	
High School	Classroom	750	
	Lab	1,500	Sink with hot & cold water faucets
	Office	150	Voice/Data/Power Outlets Lockable Door
	Storage	150	Shelving

			Lockable Door
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NOT TO SCALE

PROJECT NUMBER

PROJECT TITLE



HARRIS DESIGN GROUP
 1000 W. MARKET STREET
 SUITE 101
 COVINGTON, KY 40303
 606.586.3000
 WWW.HARRISDESIGN.COM

HEALTH SERVICES LAB
 KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 500 Mars Street 218 Capital Plaza Tower
 Frankfort, Ky 40601

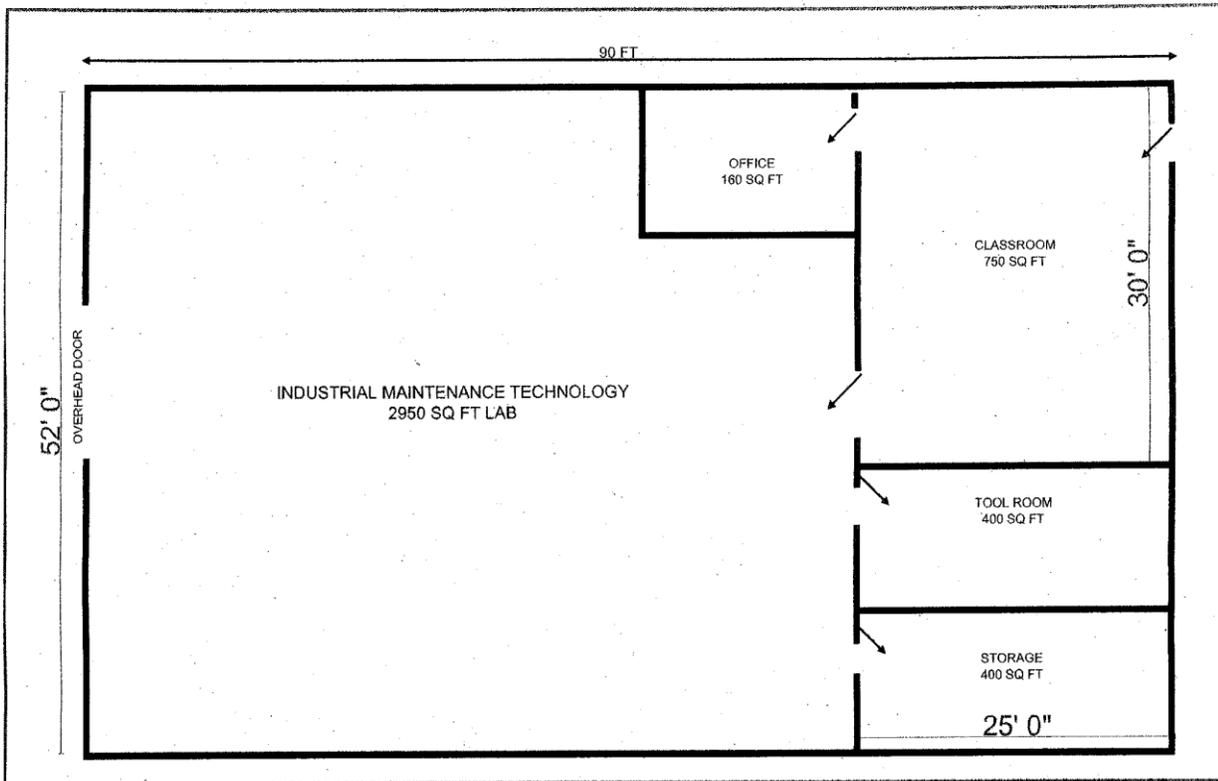
PROJECT NO:	2012-051
DRAWN BY:	WESLEY
CHECKED BY:	WESLEY
APPROVED BY:	WESLEY
REVISIONS:	

**INDUSTRIAL MAINTENANCE TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	4,660	1:18

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	
	Lab	2,950	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



INDUSTRIAL MAINTENANCE

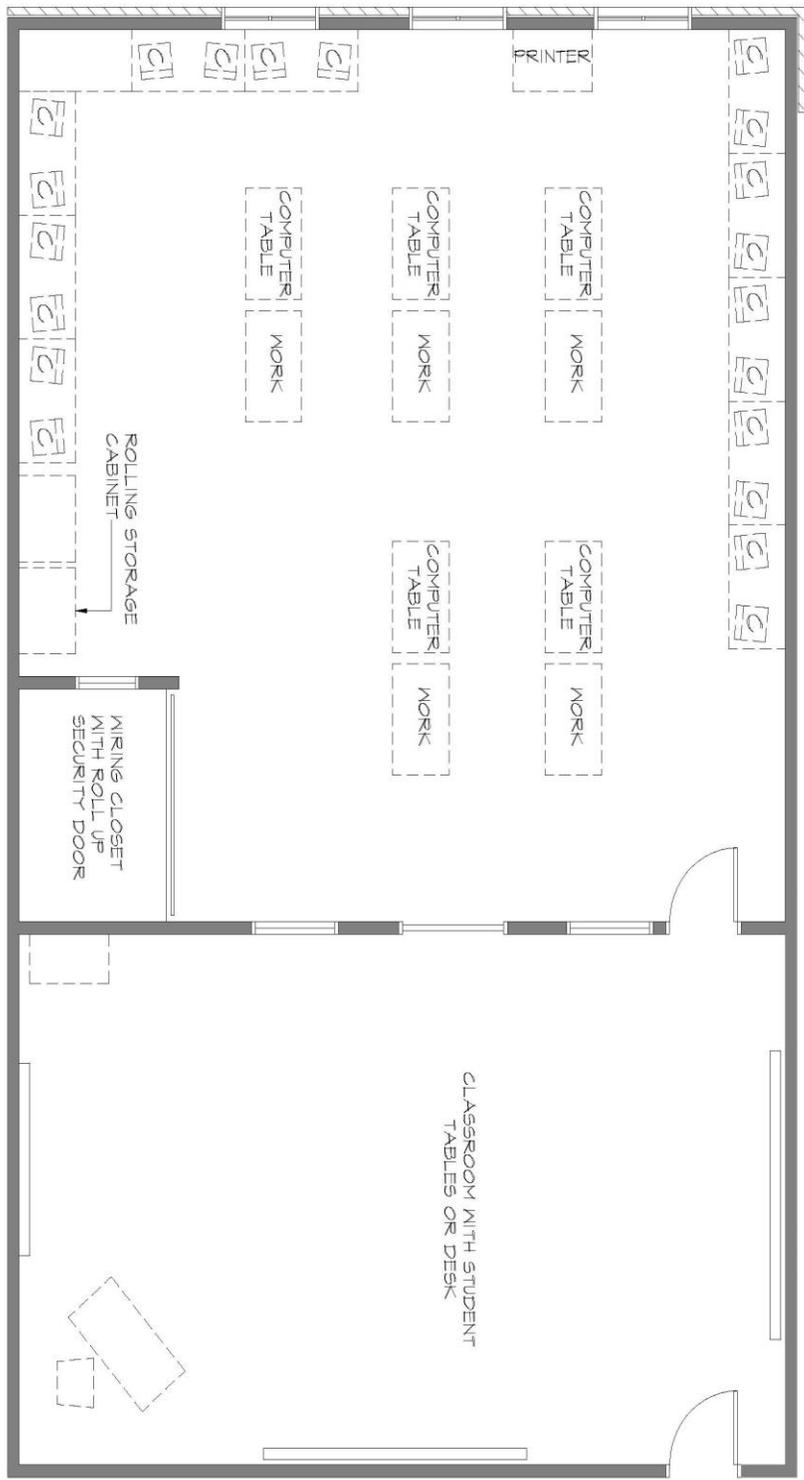
INFORMATION TECHNOLOGY EDUCATION
PROGRAM SPACE SQUARE FOOTAGE

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

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	Room for 20 student desks, wireless network access for at least 20 student computers. Teacher computer workstation with network access and LCD projection

	Lab	1,450	20 student computer equipped work stations with network outlets for each. Teacher workstation with LCD projection. Four 4'x4' work tables with storage underneath
	Office	150	Provide voice and data outlets: lockable file cabinets for confidential student records and lockable storage cabinets for electronics
	Storage	300	Lockable room with shelving for instructional materials, computer parts, tools, testers
	Mock Wiring Closet	100	Rolling overhead closure to secure router rack, network routers and switches, cable ladder rack



NOT TO SCALE

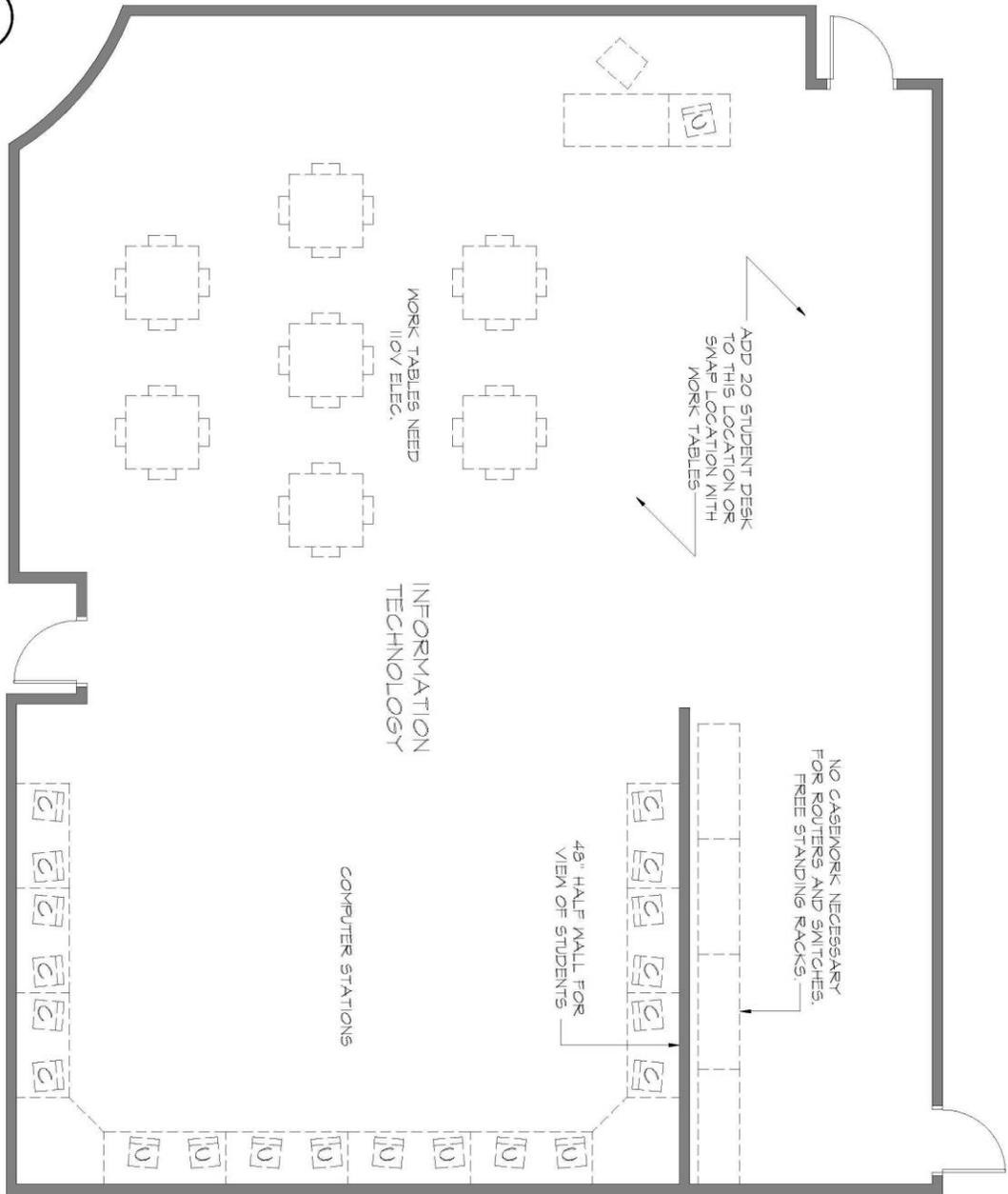


HDDS
 inc

1000 W. MAIN STREET
 FRANKFORT, KY 40601
 502-223-1111
 WWW.HDDS.COM

INFORMATION TECHNOLOGY LAB - 1
 KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 500 Metro Street 219 Capital Plaza Tower
 Frankfort, Ky 40601

PROJECT NO: _____
 DRAWN BY: _____
 CHECKED BY: _____
 APPROVED BY: _____
 PLOT DATE: _____
 REVISIONS: _____



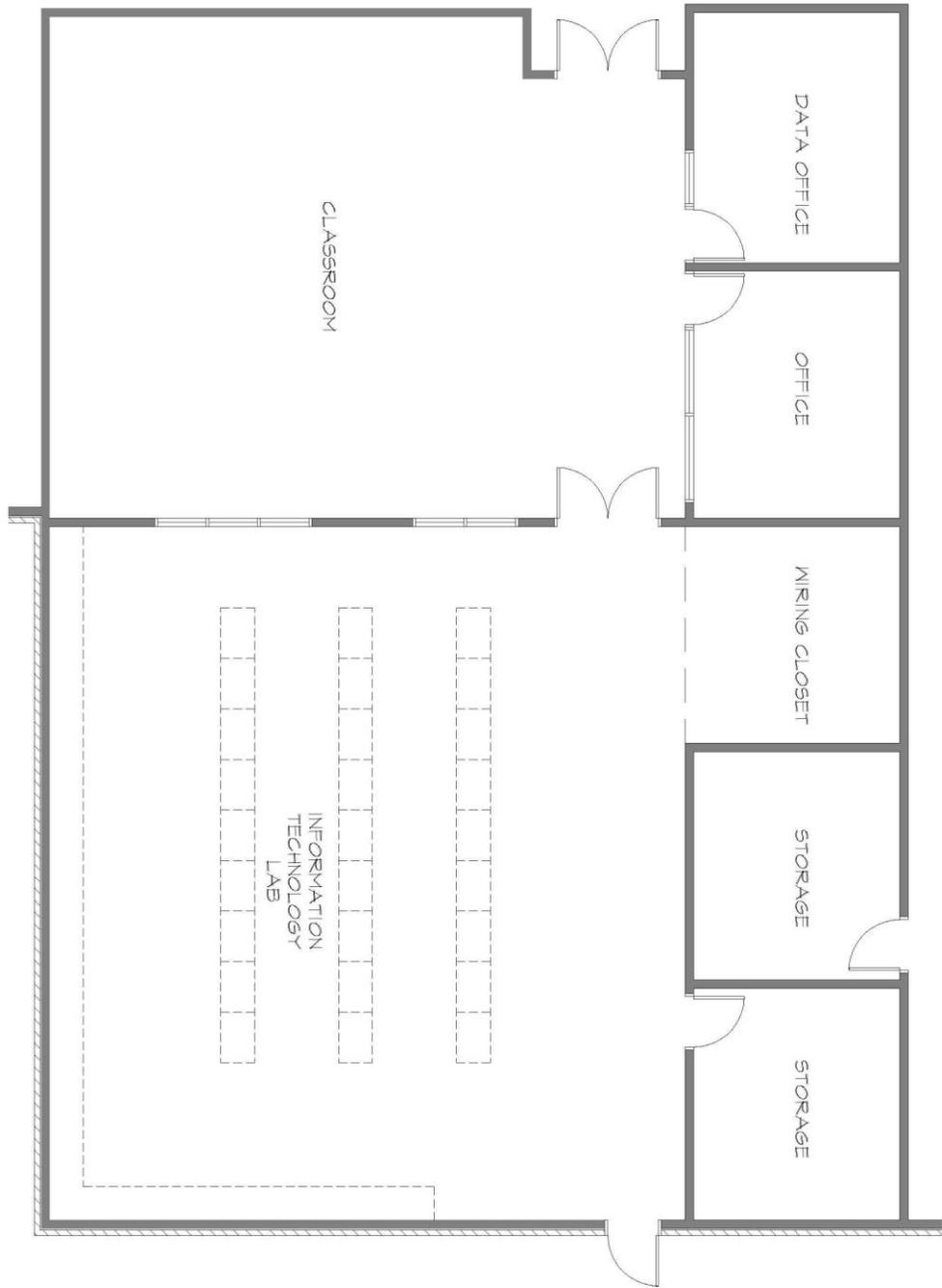
NOT TO SCALE

HDDS
inc

1000 S. CENTRAL EXPRESSWAY
 SUITE 100
 FRANKFORT, KY 40601
 502-226-1100
 WWW.HDDSINC.COM

INFORMATION TECHNOLOGY LAB - 2
KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 600 Metro Drive 219 Capital Plaza Tower
 Frankfort, Ky 40601

PROJECT NO.	
DATE	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
PLANT DATE:	
REVISIONS:	



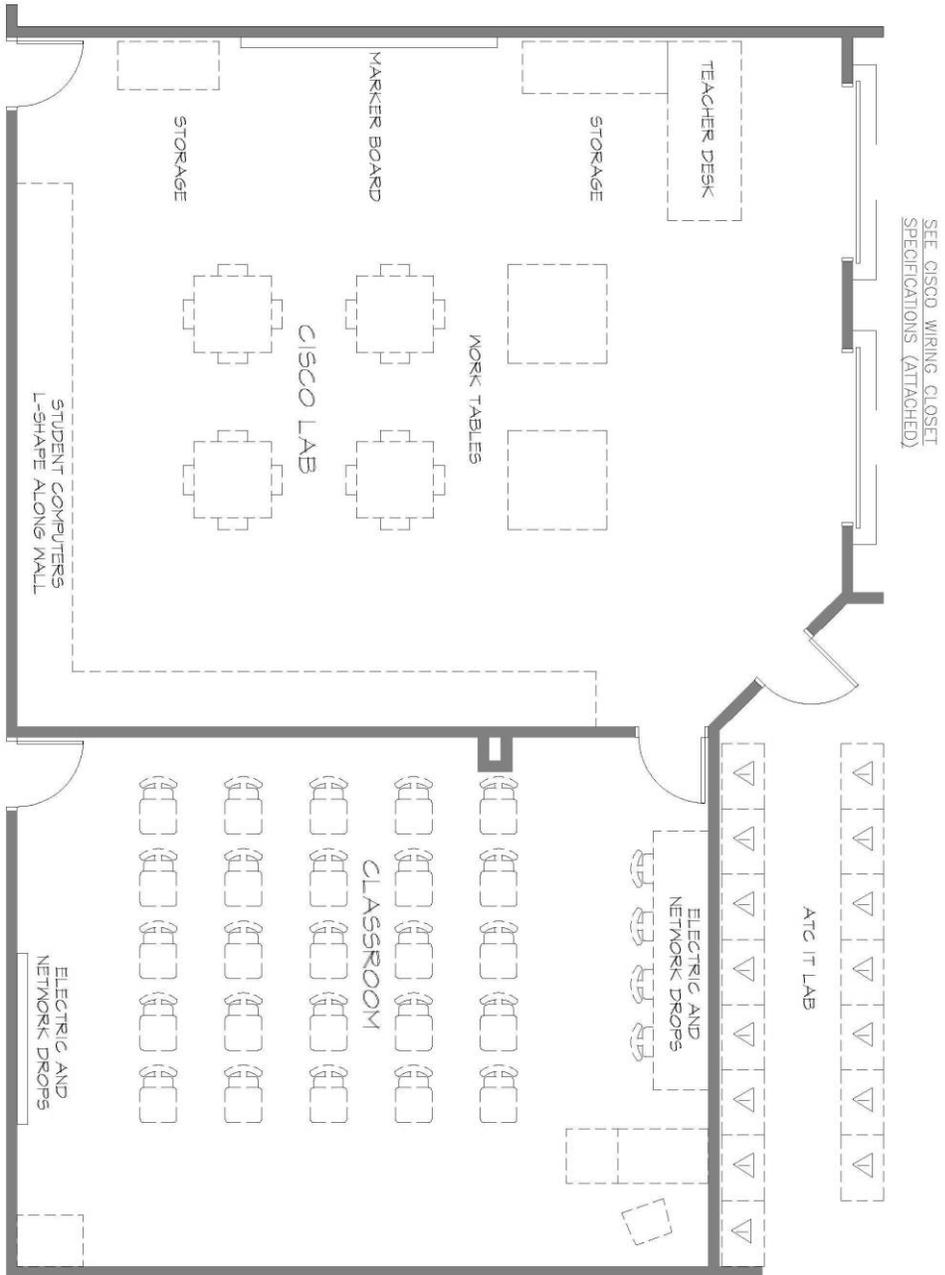
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HD DS
inc

1000 S. MAIN ST. SUITE 100
 FRANKFORT, KY 40601
 502-226-1111
 WWW.HDDSDS.COM

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

PROJECT NO: 2008-031
 DRAWN BY: [REDACTED]
 CHECKED BY: [REDACTED]
 APPROVED BY: [REDACTED]
 PLOT DATE: 4-4-2009
 REVISIONS: [REDACTED]



SEE CISCO WIRING CLOSET SPECIFICATIONS (ATTACHED)

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1000 S. CENTRAL EXPRESSWAY
 SUITE 100
 FRANKFORT, KY 40601
 TEL: 502-226-8800
 FAX: 502-226-8801
 WWW.HDDSINC.COM

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

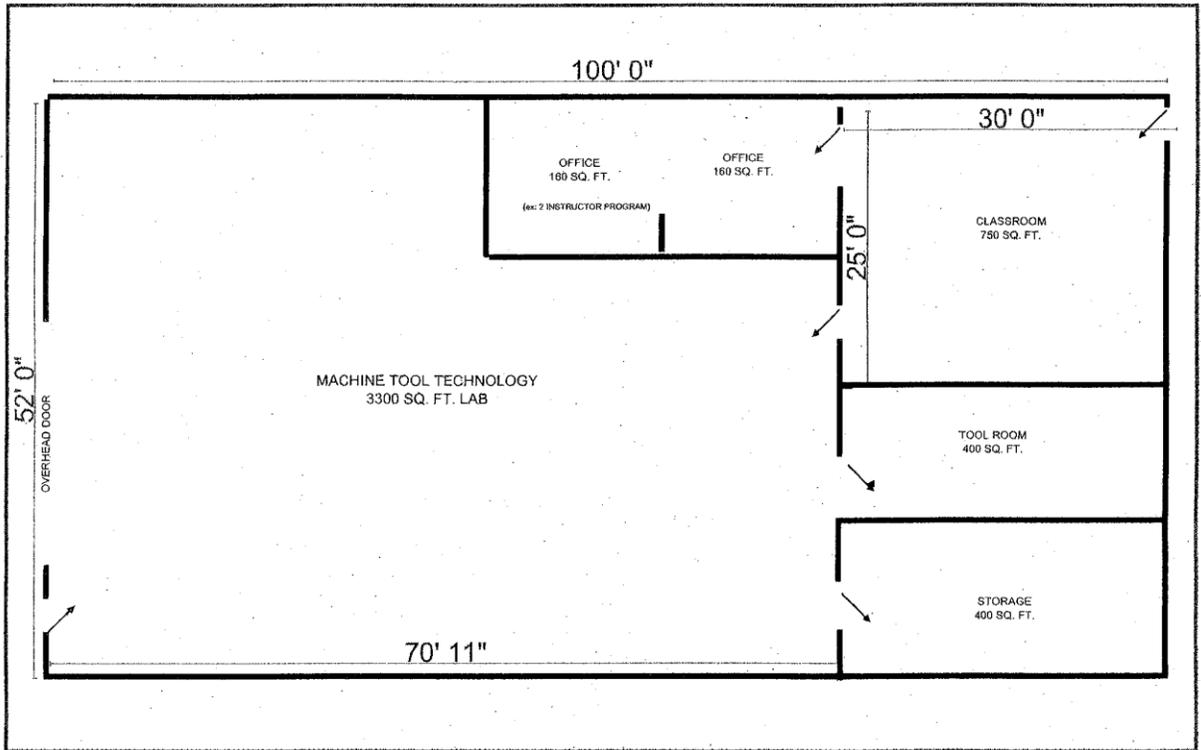
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 PROJECT NAME: CISCO LAB CLASSROOM
 PROJECT LOCATION: FRANKFORT, KY
 PROJECT START DATE: 12/15/14
 PROJECT END DATE: 12/15/14
 PROJECT STATUS: COMPLETE
 PROJECT MANAGER: JEFFREY L. BROWN
 PROJECT COORDINATOR: JEFFREY L. BROWN
 PROJECT DESIGNER: JEFFREY L. BROWN
 PROJECT CONSTRUCTOR: JEFFREY L. BROWN
 PROJECT APPROVED BY: JEFFREY L. BROWN
 PROJECT DATE: 12-15-2015
 REVISIONS:

**MACHINE TOOL TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	5,010	1:18

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	
	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



MACHINE TOOL TECHNOLOGY

**MARKETING EDUCATION
PROGRAM SPACE SQUARE FOOTAGE**

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	750	1:30
High School	1,600	1:30

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	Classroom	750	
High School	Classroom	1,300	Room for 30 student desks and network outlets for at least 30 student computers (or wireless). Teacher workstation with LCD projection, network outlet, and computer.
	Sales Training Lab		*Only needed if school wishes to operate a student enterprise.
	Office	150	Voice and data outlets Lockable filing cabinets

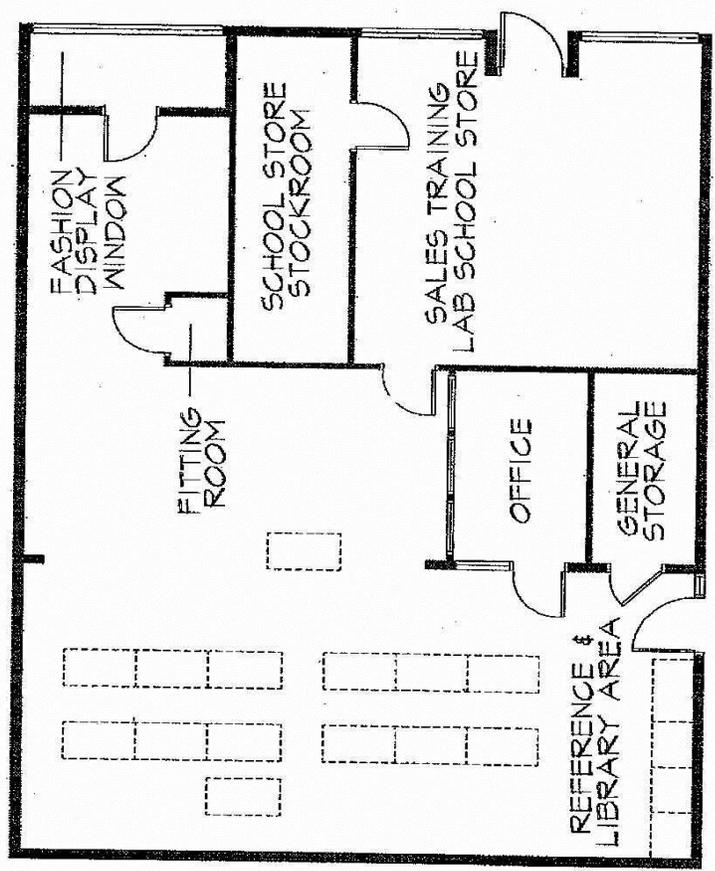
	Storage	100	Lockable Door Shelving for instructional materials
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STUDIOS COLLECTION
 2013-2014
 CHALLENGE



MARKETING; RETAIL; FOOD MARKETING APPARELS & FASHION
 KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 600 Mars Street 210 Capital Plaza Tower
 Frankfort, Ky 40621

PROJECT NO: 10000000000000000000
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 APPROVED BY: [Name]
 REVISIONS: [List]

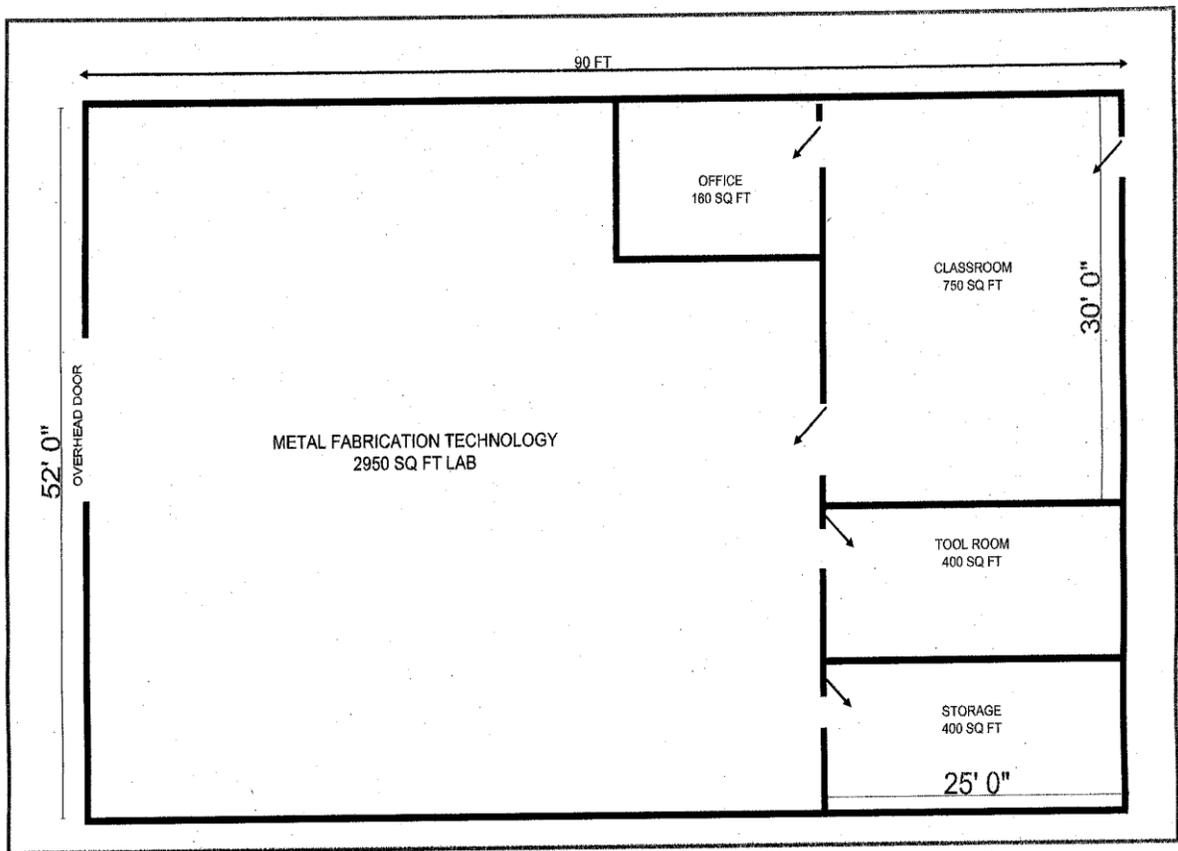


**METAL FABRICATION TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	4,660	1:18

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	
	Lab	2,950	Eye Wash Stand Handwashing Station
	Office	150	Voice/Data/Power Outlets Lockable Door
	Storage	400	Lockable Door
	Tools & Supplies	400	Lockable Door



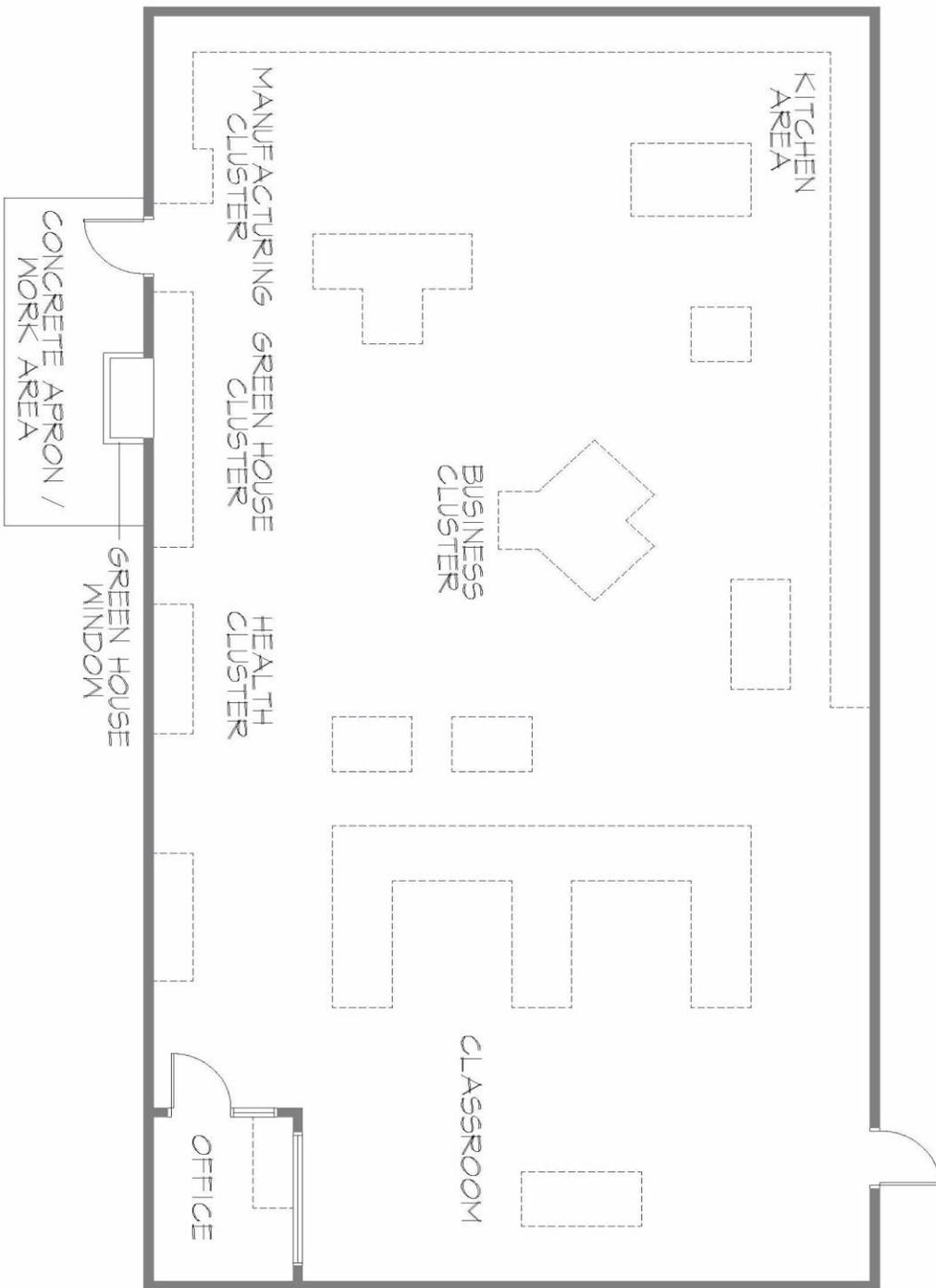
METAL FABRICATION

**PATHWAY TO CAREERS EDUCATION
PROGRAM SPACE SQUARE FOOTAGE**

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

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level		Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High		Classroom	750	
High School	OPTION 1	Classroom w/ Lab	1,800	Lab/Office space included <i>(Refer to floor plan)</i>
		Storage	200	Lockable Door
	OPTION 2	Classroom w/ Flex Space	1200	
		Storage	200	Lockable Door



PROJECT NO: 2008/031
 DRAWN BY: TCS/TK
 CHECKED BY:
 APPROVED BY:
 PLOT DATE: 11/20/08
 REVISIONS:

PATHWAY TO CAREERS PROGRAMS
 KENTUCKY DEPARTMENT OF EDUCATION
 Division of Career and Technical Education
 500 Mero Street 2119 Capital Plaza Tower
 Frankfort, Ky 40601

HDDS
 WEST HAVEN STREET
 LEXINGTON, KY 40502
 606.299.3000
 FAX: 606.299.3000
 WWW.HDDS.COM

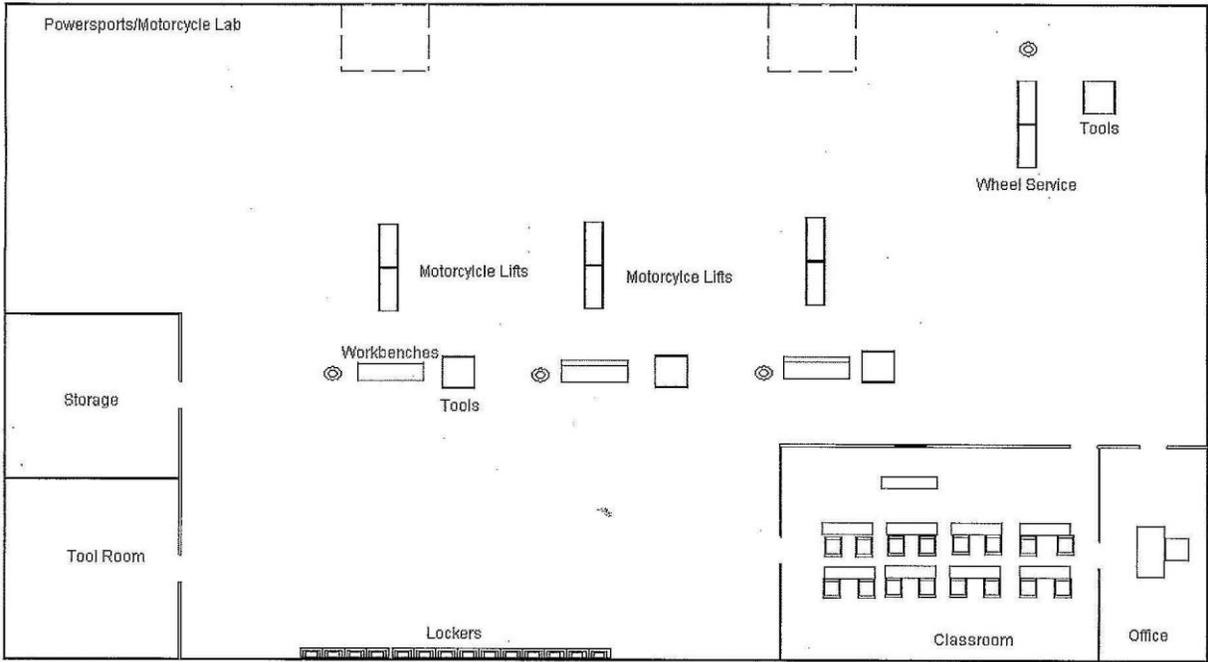
SHEET TITLE
 A-
 SHEET NUMBER
 22 OF 21
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POWERSPORTS / MOTORCYCLE TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	4,200	1:16-20

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	Computer Stations
	Lab	2,500	Fire Blanket Eye Wash Stand Handwashing Station
	Office	150	Voice/Data/Power Outlets Lockable Filing Cabinets & Doors
	Storage	400	Lockable Door
	Tools/Supplies	400	Lockable Door



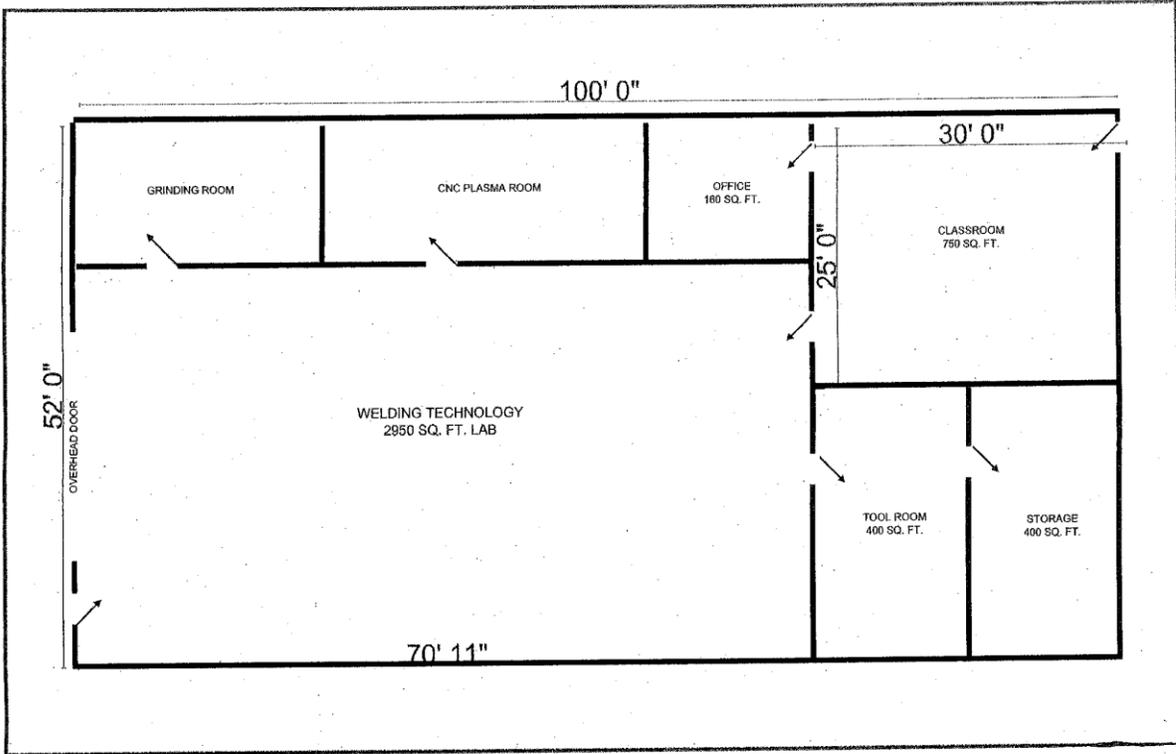
**WELDING TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	5,060	1:18

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	
High School	Classroom	750	
	Lab	2,950	Ventilation System Eye Wash Stand Handwashing Station *Minimum of 400 sq. ft. must be allocated for CNC Plasma Machine.
	Office	150	Voice/Data/Power Outlets Lockable Filing Cabinets

			Lockable Door
	Storage	400	Lockable Door
	Tools & Supplies	400	Lockable Door
	Grinding Room	400	



WELDING TECHNOLOGY

**WOOD MANUFACTURING TECHNOLOGY
PROGRAM SPACE SQUARE FOOTAGE**

Grade Level	Minimum Program Area (Square Feet)	Recommended Unit / Student Ratio
Middle/Junior High	N/A	N/A
High School	4,660	1:18

PROGRAM SQUARE FOOTAGE BY SUPPORT SPACE

Grade Level	Support Space Room Name	Minimum Area (Square Feet)	Special Features
Middle/Junior High	N/A	N/A	N/A
High School	Classroom	750	
	Lab	2,950	Eye Wash Stand Handwashing System Sawdust Exhaust System
	Office	150	Voice/Data/Power Outlets Lockable Filing Cabinets Lockable Door

	Storage	400	Lockable Door
	Tools & Supplies	400	Lockable Door
	Finishing Room	400	Ventilation per EPA standards

BLUEPRINT
COMING
SOON!

APPENDIX

Kentucky Administrative Regulations

- ❖ 705 KAR 4:231, *General Program Standards for Secondary Career and Technical Education*
- ❖ 702 KAR 4:180, *School Facilities Planning Manual*

Other Resources

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