

## General Space Considerations for Family and Consumer Sciences Facilities

<b>General Classroom</b> (Space considerations are the same for high school and middle school)	<b>Minimum Recommendations in Square Feet</b>
Instruction	30 per student
Computer Lab Space	3 per computer station 1 station:3 students
Office	150
General Storage	275
Resource and Reading Area	100
Modular	See specifics from contracted company
<b>Nutrition and Foods</b>	
Instruction	30 per student
Lab Space	80 per student
Computer Lab Space	3 per computer station 1 station:3 students
Storage	450
<b>Human Development</b>	
Instruction	30 per student
Lab Space	35 per child
Computer Lab Space	3 per computer station 1 station:3 students
Storage	270
Restrooms	100
Observation Space	75
Outdoor Play	75 per child
<b>Housing Environments and Design</b>	
Instruction	30 per student
Computer Lab Space	3 per computer station 1 station:2 students
Storage	150

Additional courses may be developed and implemented to meet local needs. These courses may have their own unique space considerations, although the recommendations listed in the graph can assist in determining space needed.

Note: (The recommended space allotments provided above were derived by the Missouri Facilities and Safety Supplement Project Advisory Committee after looking at the space requirements determined by several other states, department needs of advisory committee members, current building projects and requirements determined by accrediting agencies

for the career focused program areas. Special considerations were discussed and the chart conveys the suggestions proposed by the advisory committee.)

## Family Focused Programs

Approved family focused programs include course offerings from four core areas: Exploratory Family and Consumer Sciences (below the ninth grade), Family/Human Development, Nutrition and Wellness, and Family/Consumer Resource Management. Additional courses, besides those listed for each core area, may be developed and implemented to meet local needs.

A department that is set up to be a family focused curriculum needs to allow for adaptable facilities. The chosen facilities should be based on ensuring safety, meeting curriculum needs and following a logical long-range plan to allow the best use of space in meeting the changing needs of the program.

The design of a family focused program must be based on the activities and classes that will be administered within the designated facility space. The following should be used as guidelines in designing or reconstructing a family focus program:

- Educational objectives and student safety must be the driving forces behind any decisions made. Considerations include:
  - project-based learning, table-demonstrations, technology, videos/DVDs and projection equipment, lecture/discussion, individual work and testing areas, group/cooperative work, physical activities, problem-solving, camera work/video production
  - house design/drawing, textiles and apparel design, computer-aided research and design, student project storage, child care lab areas, food preparation lab areas, commercial food service lab areas
  - recycling and disposal of waste, ventilation, utility access and safety codes
  - storage, organization, records documentation and privacy
  - technology, networking and computer use
- Accessibility to facilities must accommodate the diverse and varying needs of all students
- Support of collaborative planning and use among appropriate staff members should be considered
- Flexibility and mobility of equipment and furnishings for most efficient and effective use
- Storage space for the many aspects of the program, that includes appropriate space for staff members to report and secure documentation safely
- Storage for FCCLA supplies, student projects, officer tools, ceremonial supplies, and other equipment needs

The location within the school building also requires special consideration. The relationship of the program to others can allow for sharing of facilities and better use of

lab space. It is also recommended that technology be evaluated and that program facilities support the technology needs of curriculum for present and future learning environments of the school. A ground-level location that is easy to access is recommended to alleviate problems in delivering supplies, installing equipment and providing access for special populations such as young children and older adults.

## Specific Facility and Safety Considerations by Core Area:

### Nutrition and Wellness Core Area

Approved family focused course requirements within this category are: Nutrition and Wellness, Food Science, and Family/Individual Health. Additional courses may be developed and implemented to meet local needs.

### Facility Considerations

Facilities may be used by students studying nutrition, food preparation and food science. Students will apply concepts relating to nutrition, science and finance to labs involving meal and time management, planning, purchasing, preparing and serving food. Course offerings should be the driving force in determining specifications of the facility. All facilities should include:

- an instructional area
- a demonstration/teaching area
- student labs including a food preparation and service center, a planning center, a cleaning and sanitation center, and a storage center
- A handicapped accessible lab accommodating students with special needs. One source for more information on designing an accessible lab:

Enable Mart, phone: 888-640-1999, or visit their web site at:

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

This site gives ideas for technological support as well as food labs under their assisted living section.

Accessibility to the facility, space and storage considerations should be part of the planning. The facility should:

- provide locked storage to keep hazardous products unavailable to students and visitors.
- be on ground-level to allow for ease in accessing food and other supplies, and equipment.
- allow for ease in waste removal.
- contain laundry facilities.

- allow for easy access to gas, electric, and water shut-off valves, as well as to a telephone with outside communication.
- provide six feet of counter space per student center with counters being standard height (thirty inches) and depth (twenty-one inches).
- provide a specific place to eat and serve food separate from the work area.
- contain adequate storage space for refrigerated items as well as dry goods.
- be equipped with appropriate tools, equipment and accessories to accommodate multiple users.
- provide drawers for linens and specific cabinets for cleansers.
- allow for a separate area for storing personal belongings.

Facilities of this nature are expensive and can pose liability risks. The functions and uses of the lab should be assessed through a collaborative process including teachers, administration, advisory committee members, and others who may be directly affected by decisions made within this assessment process. If access by community members for adult education classes is seen as a priority by the committee, then this also should be a consideration.

Food Science courses will require more scientific equipment and locked storage for the equipment and supplies/chemicals. This course may also be taught in a collaborative manner with a science teacher or within the science department facilities. See page 19, 20 for a list of basic food science equipment.

Family/Individual Health course instruction may require open space for demonstration and performance of exercises as related to the local curriculum. Depending on the local curriculum, these courses may also require additional storage space for exercise and fitness equipment.

## Safety

Safety is the number one consideration for food preparation and food science lab facilities. Food safety and sanitation principles must be considered and fully implemented. When creating a lab setting, be aware of Occupational Safety and Health Administration (OSHA) and state food safety and sanitation standards and consider implementing recommended safe work practices such as:

- Using ground fault circuit interrupters (GFCIs) in situations where electricity and wetness coexist.
- Using GFCIs on all 120-volt, single-phase, and 15- and 20-ampere receptacles.
- Ensuring that exposed receptacle boxes be made of nonconductive material.
- Using plugs and receptacles designed to prevent energization until insertion is complete.
- Ensuring that all circuit breakers or fuse boxes bear a label for each breaker or fuse that clearly identifies its corresponding outlet and fixtures.
- Using cleaning chemicals that are not considered hazardous.
- Automating the dispensing of cleaning chemicals whenever possible.

- Limiting student contact with dishwashing detergents by using dishwashing machines and automated detergent dispensers.
- Ensuring that chemicals that are not compatible with each other are not stored together. (Check Material Safety Data Sheets (MSDS) for these chemicals.)
- Labeling cleaning bottles and containers.
- Storing liquid chemicals on lower shelves.

(Curtis, Shipley Brown, Nester, 2006) More information regarding OSHA rules and regulations can be obtained at the following web site:

<http://www.osha.gov/index.html>

Water and food storage temperatures must be regularly assessed and maintained according to industry standards. Proper sanitation requires working utilities with GFCI outlets installed for major appliances, as well as enough outlets for small appliances in each student center. Outlets should be wired according to state safety standards. Each of the outlets should allow for emergency shut-off. Each student center should have a sink for every four students. There should also be one large utility sink within the lab area for washing hands and larger pieces of equipment. Ventilation must also be considered. An exhaust hood should be above oven and cook-top equipment.

First aid kits, a fire blanket and appropriate fire extinguisher must be kept in the lab and should be located near the entrance of the lab. It is advisable to have first aid kits within each of the student centers.

Food science labs require more specific safety considerations. An eye wash station is recommended as well as more lockable storage space for chemicals and other potentially hazardous materials. A sample equipment list is provided for food science courses.

Safety information and samples of relevant safety forms to be used with students in food preparation and food science lab settings can be found in the Appendix.

Two sources for more information on safety within a science lab are:

Education Facilities at the National Institute of Building Sciences,  
phone: 888-552-0624, or visit their web site  
at: <http://www.edfacilities.org/rl/science.cfm>

Flinn Scientific, Inc, phone: 800-452-1261, or visit their web site  
at: <http://www.flinnsci.com/Sections/Safety/safety.asp>

## Family and Human Development Core Area

Approved family focused course requirements within this category are: Family Living and Parenthood, Child Development, Care and Guidance, and Child Development, Care and Guidance (Advanced). Additional courses may be developed and implemented to meet local needs.

### Facility Considerations

Lab facilities will be used by students studying human and child development. Students practice interpersonal skills such as communication, management and problem solving. A child development lab allows students to interact with others and gain real-life, practical experience. A community setting, such as a day care, may be used to substitute for the lack of an on-campus lab. The lab will allow students to learn in a safe, supportive setting, controlled by their teacher, within their school. Sample forms and documents for off-campus lab experiences can be found in the Appendix.

Accessibility, storage and space considerations for this program include the following:

- Facilities should be accessible to children, parents/guardians, and students
- The facility should provide a door leading directly to the outdoor play area
- Space used for laundry and food preparation should also be convenient for students
- Bathrooms, both adult and child-sized, should be easily accessible
- Children's bathrooms would need to be within the lab to allow for constant supervision
- Storage of indoor and outdoor equipment
- Drawers, adjustable shelves with dividers as well as tote trays may all be options for storage
- Teachers, students, and guests to the lab setting would ideally have separate areas to store personal belongings
- Locked storage may be needed to provide safety and liability reassurance

Student needs should determine the use of space, as well as those of the young children or adults that may be using the facilities. In a general, child development setting lab centers can be created by moving furniture and equipment. Centers can be created and used for meeting multiple needs. For example, a child's science center could easily become the math center, or art and music centers could easily be shared within an area that provides extra storage.

### Safety

There are many safety considerations in child/human development lab settings because so many populations could be served through the lab. When creating a lab setting for children, be aware of the licensing rules for child care centers. Outdoor areas require a fence to be 42 inches high and should be constructed to prevent children from crawling or falling through or becoming entrapped. Indoor areas should be consistently evaluated

and maintained for child safety. In general, indoor space should allow for at least 35 square feet of usable floor space for each preschool and school-age child coming into a facility. Visibility should not be compromised, and windows between indoor and outdoor play areas, as well as lab centers, should be considered.

Cleanliness and sanitation are also safety concerns. Tables, chairs, toys, and other items that children come into contact with should be cleaned after each class. Cleaning material should be easily accessible by teachers and students. Waste removal poses concerns based on the ages of the children that the lab may serve. Food waste, paper waste, and diapers should all be disposed of in separate receptacles.

One source for more information on safety regulations within child care programs is:  
Missouri Department of Health, Bureau of Child Care,  
phone: 573-751-0624, or visit their web site  
at: <http://www.dhss.mo.gov/ChildCare/ContactUs.htm>

## Family and Consumer Resource Management Core Area

Approved family focused courses within this category are: Family/Consumer Resource Management, Housing, Environments and Design, and Personal Finance. Additional courses may be developed and implemented to meet local needs.

### Facility Considerations

Facilities will be used by students studying personal finance and consumerism as well as housing and environmental design aspects. Students will apply communication, management, and problem solving to real-life situations involving their family and resources.

To fully address course competencies and incorporate technology within the instructional program in this core area, computer technology should be utilized. In the instructional classroom setting, it is recommended that there be a 2:1 student to computer ratio. If a computer lab outside of the department must be used, it should be equipped with appropriate design programs and should be easily accessible to students. There should also be space for students to work with design materials as needed.

Space for this core area should include tables for student projects. There should also be display areas to showcase student projects. A clean-up station including a lavatory is needed during design and project work.

Storage may be needed for resource materials and books. Storage for student projects is also needed.

## Career Focused Programs

### Culinary Arts and ProStart

Culinary arts and ProStart programs would require more storage, commercial preparation and serving equipment. One source for more information on local equipment suppliers:

Foodservice Equipment Reports, phone: (630) 288-8281, or visit their web site at: <http://www.fesmag.com/awards/top-achiever.asp>

(National Restaurant Association Education Foundation, 2007) The ServSafe, an organization sponsored by the National Restaurant Association Education Foundation, offers high quality training options for food service managers and educators. From the classroom to online, and in a variety of languages, this is your food safety training solution. For more information on becoming ServSafe certified or offering this certification in your program, contact:

Course Administration Department, phone: 800-765-2122 ext. 703 or visit their website at: [www.nraef.org/index.asp](http://www.nraef.org/index.asp)

### Child Care

Approved career focused courses within this category are: Adult Development and Aging, Child Care Provider/Assistant, and Child Care and Support Services Management. Additional courses may be developed and implemented to meet local needs.

### Occupational Child Care

Departments considering an occupational child care program need to be aware of the *Licensing Rules for Group Child Care Homes and Child Care Centers* available through the Missouri Department of Health and Senior Services as well as the United States Consumer Product Safety Commission's *Handbook of Public Playground Safety*. These documents and other information can be found at:

<http://www.dhss.mo.gov/ChildCare/LawsRegs.htm>

Or for more information specific to Missouri child care/early childhood programming contact:

Bureau of Child Care  
Missouri Department of Health and Senior Services  
PO Box 570  
Jefferson City, MO 651002  
Telephone: 573-751-2450  
Fax: 573-526-5345  
Email: [info@dhss.mo.gov](mailto:info@dhss.mo.gov)



The lab for an occupational program should include a lab area, classroom, bathrooms, storage and outdoor play area. The student instructional area should allow for computers and technology as well as planning space. Observation space should be considered. This could be provided through an observation room which allows students to observe children.

Arrival and departure issues also are considerations in planning a child care lab. Parents need accessible parking and an easily accessible entrance to the facility. The facility must also have designated space for the paperwork required in the drop-off and pick-up of children.

Depending on the ages of children that the lab serves and the hours of operation, there may be other space considerations and requirements. Please see the following sites for more information on the rules and regulations for licensed facilities.

<http://nrc.uchsc.edu/STATES/MO/missouri.htm>  
[www.daycare.com/missouri/](http://www.daycare.com/missouri/)

The Child Development Associate Credential is awarded to a student who successfully completes course work, spends time working with children, and completes the assessment process. The CDA credential is administered by the Council for Professional Recognition. For more information on becoming CDA certified or offering this certification in your program, contact:

The Council for Professional Recognition  
2460 16<sup>th</sup> Street, NW  
Washington, DC 20009-3575  
Or visit this web site: <http://www.cdacouncil.org>

Samples of safety forms for use in a human and child development lab can be found in the Appendix.