

## 9.3 Guidelines for Facility Planning Improving Capacity to Load Ratios

# **Guidelines for Facility Planning**

## **Improving Capacity to Load Ratios**

### **Gavilan College**

#### **Purpose:**

The purpose of this document is to suggest some guiding principles to be used in the long-range facility planning process. The goal is to achieve a facility configuration that optimizes the use of operational funds and improves the long-term conditions of eligibility of the College/District in the State Capital Outlay program. While the primary focus of this set of guidelines is the improvement of the capacity to load ratios, it is critical to assure that the spaces of the college support the pedagogies and conditions necessary for a teaching/learning environment that is current, comfortable, safe, and beneficial to the students, faculty, and staff.

#### **Existing Conditions:**

Capacity-to-load ratios establish a measure of the “effectiveness” of the utilization of certain spaces on a community college campus. Essentially the ratios compare what the existing space in a college’s inventory can support *to* the actual demand for the space. For lecture and laboratory spaces, enrollment in terms of weekly student contact hours (WSCH) is the basis for determination of the demand. If a ratio exceeds 100% it means that there is more space than is needed; or, in other words, the college can ABSORB additional enrollment without creating new space.

The State of California Education Code establishes the basis for computation of the capacity of five types of spaces: lecture, laboratory, office, library, and AV/TV/Media. The capacity-to-load ratios are reported annually in the mandatory submittal of a Five-Year Construction Plan to the State Chancellor’s Office. The ratios are then used to determine the College’s eligibility for the funding of projects in the State Capital Outlay Program.

In May 2005, the District submitted a Five-Year Construction that indicated starting capacity-to-load ratios for 2005 as follows:

#### **Capacity-to-Load Ratios**

Fall 2005

<u>Space Type</u>	<u>Room Type</u>	<u>Ratio (%)</u>
Lecture	110-115	184%
Laboratory	210-255	113%
Office	310-355	95%
Library	410-455	101%
AV/TV/Media	530-535	79%

*Over 100% indicates overbuilt condition*

In general, these ratios are indicating there is no need for new space in three of the categories; furthermore, there is “little” need for additional office space. The “deficient” amount of AV/TV/Media space translates into approximately 1,700 assignable square feet of need. Therefore, it can be concluded that current enrollment cannot support any additional new spaces.

What Can Be Done?

A number of concepts can be employed during the renovation and remodel of facilities on the campus in an effort to improve the capacity-to-load ratios, the space array, and the teaching/learning environment:

**Reconfigure classrooms to be more consistent with the scheduled sizes of the class sections.** If a large number of class sections are sized for 30 students, it is counter-productive to have a large number of classrooms sized for 45 or more students; in particular, if there are very few section sizes exceeding 70 students, it is even more counter-productive to have a large number of rooms sized for 70-plus students.

**Employ a multi-use philosophy in the development of space that allows for “peak load” lecture instruction.** For whatever reasons, colleges seem to have peak demands for lecture space (for example, 9:00 am to 11:00 am). Rather than creating “lecture rooms” around this peak demand, it is suggested that non-capacity spaces such as meeting rooms, lounge space, breakout dining rooms, sectioned library study areas, and theater rehearsal rooms be created that can serve occasionally for lecture classes.

**Create breakout lecture area within large vocational labs rather than creating separate lecture rooms.** Formulas for computing laboratory capacity are more generous in terms of their effect on capacity-to-load ratios than those used for computing lecture capacity. The expected computed capacity of lecture space can be between 3-20 times greater than lab space depending on the discipline (TOPS code) of the program.

**Employ the policy of general use classrooms.** Capacity formulas are based on the expectation that a lecture room is in use 75% of a 70-hour week (M-F, 8am-10pm). Avoid single user lecture rooms. Sometimes it is difficult for instructors in certain disciplines to share lecture rooms because of certain permanently mounted support materials in the room. Having charts, maps, and other support teaching materials in place and protected from vandalism is critical to an unencumbered delivery of the course. Remodeling and/or renovation projects should take this into account providing for built-in protection while creating a room that continues to be available for general usage.

**Remove ineffective space from the inventory.** Two methods come to mind: demolish the space or lease it out to another entity (which pays for operation and upkeep). The latter might include a provision in the lease agreement that permits the peak period usage of some spaces by the college.

**Use the classification of meeting rooms rather than conference rooms.** A meeting room is a room that is available, sometimes on a scheduled basis, to anyone. A conference room is a room that is available to serve the purposes of an individual. In the computation of capacity-to-load ratios, conference rooms are counted as office space; meeting rooms are non-capacity.

**Change the net-to-gross building ratio.** In the event that the current conditions of a building are such that it is necessary to improve the internal circulation (passageways), increase the size of restrooms, or add support facilities (janitorial or telecommunications), a remodeling or renovation project offers the opportunity to address these issues. This is especially the case where resizing of lecture spaces is an appropriate consideration.

**Adopt the policy of shared and mixed discipline usage of computer labs.** The use of a lab by a number of disciplines offers the opportunity to classify the space in the lab category to the advantage of the College. The following example is offered to illustrate this advantage.

Room 101 in Bldg X is a 1,200 assignable square foot laboratory with 40 computers. It is used three times a week for Accounting. It is suggested that during the hours of the week that the lab is not in use that courses in ESL and Graphic Arts be scheduled in the room. The **expected** enrollment production is currently computed at 938 WSCH; making the change results in an enrollment production expectation of 467 WSCH or roughly half the current level.