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## **APPENDIX A: CAPACITY/LOAD CALCULATION**

### **Capacity/Load Ratios**

The capacity/load ratio (cap load) is a measure of space utilization efficiency according to Title 5 community college space standards. This ratio, expressed as a percent, is the totaled capacity of a space type divided by the actual or projected usage of the space. Ratios above 100% indicate an excess of space; ratios below 100% indicate a deficiency of space and may qualify a district for state capital outlay funding for a more efficient use of space.

### **Weekly Student Contact Hours (WSCH) to Assignable Square Feet (ASF) Relationship**

The Chancellor's Office uses annually generated WSCH enrollment forecasts and the District's annual Space Inventory Report to create a mathematical analysis (calculated in FUSION) to measure capacity load for space utilization. Title 5 statutes define the five types of space usage as well as the state space standards for each type of space. The categories are lecture, lab, office, library, and AVTV.

### **The Load Component of Capacity/Load Ratios**

The load portion of a capacity/load ratio for instructional space is derived from the actual and projected enrollments of a district. Each year the Chancellor's Office generates enrollment projections based on Department of Finance demographic projections and actual district enrollment. Enrollments are reported in weekly student contact hours (WSCH) and the reported WSCH is calculated as an average of both fall and spring semesters (summer sessions are not included in the calculation). Once WSCH is isolated to the campus level, it is divided into four categories. WSCH generated off site, for example classes taught at a high school at night, is deducted from the campus total. The percentage of physical education WSCH earned in laboratories or in exterior spaces is deducted from the remaining total. The remaining WSCH is divided into lecture and lab.

### **Teaching Spaces and Capacity/Load Ratios**

Teaching spaces are identified as either lecture or laboratory depending on the nature of the student's participation in the instructional process. If the student requires the regular use of special equipment in the class it usually is considered a laboratory. A room designed to accommodate a laboratory activity is classified as a lab even if lecture activities take place in the room. For example, room type 210-250 which is a space

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constructed for an instructional activity that the student must be present — the student initiates and performs the actions required in the course at the station constructed for that purpose. When the student leaves, the activity in the space ceases. The spaces are specifically designed and equipped for student use. Whereas, room type 550 is a space constructed for an activity that takes place regardless of whether a student taking the course is present. An example is a child development facility where the activity is continuous; students enrolled in the course come and go, but the activity continues.

The cap load computation for lecture space is straightforward; TOP (Taxonomy of Program) Codes have no effect on lecture spaces. A capacity/load ratio of 100% in lecture space is equivalent to one station every 15 ASF that is filled to 66% capacity for 48 hours per week (Title 5 standard). For example, a 900 ASF (900 ASF divided by 15 ASF = 60 desks) lecture room should have an average of 40 desks (66% of 60) occupied for 48 hours each week to meet Title 5 standards. If one or more of the three variables is reduced, the other two variables can make up the difference by being increased. For example, if there were an average of 30 stations filled for the same room, the room would need to hold classes for 61.5 hours per week. Conversely, if there were an average of 50 stations filled, the room would need to hold classes for 38 hours per week. The key is not how many desks are in the room, but how many desks should be in the room according to Title 5 standards.

If a campus were to have a lecture capacity/load ratio of 90%, this would suggest a deficiency of space and the campus may qualify for state capital outlay funding to construct more lecture space. The campus would qualify for enough space to increase their capacity/load ratios from 90% to 100% in the year the project is scheduled to be completed, i.e., as reflected in FUSION by the occupancy date.

The computation of cap load ratios for lab space is more complex. Title 5 contains more than 30 different ASF per 100 WSCH standards dependent on lab TOP Code type. A cap load ratio of 100% in a laboratory means that the lab and its associated service space generates WSCH equivalent to classes for 27.5 hours per week at 85% of the maximum capacity of students/stations per Title 5 space standards. For example, Title 5 specifies 55 ASF per station for a biology lab. Therefore a 1,320 ASF biology lab (1,320 ASF divided by 55 ASF = 24 stations) must house an average 20 students (85% of 24 students) in each class for 27.5 hours per week to equal a 100% capacity/load ratio. The space standards for laboratories vary based on the individual type of TOP Code for the lab. An automotive lab, for example, is allowed 200 ASF per station, whereas a business computer lab is allowed 30 ASF per station.

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### **Office Spaces and Capacity/Load Ratios**

Office spaces are typically equipped with one or more desks, tables, chairs, bookcases and or filing cabinets. Included in this category are rooms generally referred to as faculty offices, clerical offices, administrative offices and student offices. There are also a few types of space that count towards a campus's allocation of offices even though they do not appear to be offices. These types of spaces are office support spaces such as file rooms, copy rooms, private break rooms, private restrooms and conference rooms. Title 5 calculates the capacity/load ratio for office space by allocating 160 ASF per full time equivalent faculty (FTEF) on campuses with 35,000 WSCH or less and 140 ASF for campus's with more than 35,000 WSCH.

### **Library and AV/TV Capacity/Load Ratios**

Library and AVTV capacity are based on a complicated formula which takes into account the Day Graded Enrollment figures from the Chancellor's Office enrollment forecasts and the space identified as Library & AVTV in the Space Inventory Report. There are formulas in Title 5 that allocate an initial increment and then add additional space based on enrollments that calculate for Stack space, Staff space, Reader Station space, and total space allowance. Non-assignable spaces such as restrooms, corridors, stairs, etc. are not included in the calculation. See Title 5 Section 57030 for specifics.