# Enrollment Growth Forecast and Space Needs Projection

## Growth Forecast

### Overview

The enrollment growth forecast for College of the Desert is based on research and analysis conducted as part of the Educational Master Planning process. Long-range forecasting of enrollment is vitally important for a college, especially for planning facilities. Though the plan’s time horizon is five years, a longer horizon is used for projecting enrollment growth and facilities space needs. In this plan, the time horizon for the growth forecast is ten years.

The Enrollment Growth Forecast is the basis for projecting the amount assignable square feet (ASF) that the College is likely to need during the next decade, parking and transportation improvements; needs for open space; and infrastructure upgrades. This forecast is therefore a major link between the Educational Master Plan and the next update to the College’s Facilities Master Plan.

In creating this forecast, several metrics were analyzed. These include student participation rates, population age segmentation, historical enrollment trends, high school graduation rates, and the Chancellor’s Office Long-Range Growth Forecast.

**Population Growth**

The 2015 population of the Coachella Valley is 409,740 and has been growing at an annual rate of 1.6%. This growth rate is higher than the projected growth rate for the State of California.

**Population Age Profile**

The age segmentation of the population in the Coachella Valley is slightly older than that of the State of California. In the Valley, 26% of the population is under 20 years and 18% are between 20 and 34, versus 27% and 22% statewide.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Population Age: Coachella Valley Cities, 2015 | | | | | |
| **City/Area** | **<20** | **20-34** | **35-54** | **>55** |
| Blythe | 20% | 26% | 34% | 20% |
| Cathedral City | 29% | 20% | 26% | 25% |
| Coachella | 40% | 25% | 24% | 11% |
| Desert Center | 20% | 15% | 24% | 41% |
| Desert Hot Springs | 35% | 20% | 26% | 19% |
| Indian Wells | 3% | 3% | 12% | 82% |
| Indio | 31% | 20% | 25% | 24% |
| La Quinta | 25% | 13% | 23% | 38% |
| Mecca | 43% | 23% | 24% | 10% |
| Mountain Center | 64% | 29% | 0% | 6% |
| North Palm Springs | 7% | 11% | 33% | 49% |
| Palm Desert | 18% | 15% | 20% | 47% |
| Palm Springs | 15% | 13% | 26% | 46% |
| Rancho Mirage | 10% | 5% | 21% | 64% |
| Thermal | 31% | 27% | 30% | 13% |
| Thousand Palms | 25% | 20% | 19% | 37% |
| Whitewater | 26% | 14% | 32% | 28% |
|  |  |  |  |  |
| **Coachella Valley** | **26%** | **18%** | **24%** | **31%** |
| **Statewide** | **27%** | **22%** | **27%** | **24%** |
| Source: American Community Survey, 2011 to 2015 - Table DP05 | | | | | |

**Historical Enrollment Trends**

The College has experienced significant growth in enrollment over the past five years. From fall 2011 to 2015, FTES rose from 3,802 to 4,234, an annual increase of 2.7%. Over the same time period, student headcount grew from 10,182 to 11,849. This represents an annual growth rate of 3.9%.

**High School Graduation Forecast**

The data shown in the External Scan show that all the high school graduation rates in the three Coachella Valley high school districts have increased from 2011 to 2015.

**State Chancellor’s Office Long Range Growth Forecast**

The State Chancellor’s office Long Range WSCH forecast is based on several variables including: maximum participation rate, highest WSCH to enrollment ratio and the adult population projection.

The State Chancellor’s Office long-range enrollment forecast for College of the Desert is for FTES to grow at 3.2% annually, through 2021.

**Enrollment Growth Forecast**

Considering these data, the College anticipates annual growth in FTES of 3.2% through 2021, and 2.4% thereafter.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| District Growth Forecast | | |  |  |  |  |  |
| **Year** | **Headcount\*** | **FTEF** | | **Lec WSCH** | **Lab WSCH** | **WSCH** | **SEM FTES** |
| 2013 | 10,408 | 283 | | 88,441 | 15,131 | 116,364 | 7,758 |
| 2014 | 10,782 | 292 | | 91,393 | 15,636 | 120,248 | 8,017 |
| 2015 | 11,849 | 300 | | 94,437 | 16,157 | 124,254 | 8,284 |
| 2016 | 12,258 | 315 | | 97,585 | 16,696 | 128,395 | 8,560 |
| 2017 | 12,665 | 315 | | 100,828 | 17,251 | 132,662 | 8,844 |
| 2018 | 13,086 | 315 | | 104,176 | 17,823 | 137,067 | 9,138 |
| 2019 | 13,520 | 319 | | 107,630 | 18,414 | 141,612 | 9,441 |
| 2020 | 13,967 | 319 | | 111,192 | 19,024 | 146,299 | 9,753 |
| 2021 | 14,333 | 319 | | 114,107 | 19,523 | 150,134 | 10,009 |
| 2022 | 14,664 | 326 | | 115,819 | 20,890 | 153,592 | 10,239 |
| 2023 | 15,007 | 334 | | 117,556 | 22,352 | 157,187 | 10,479 |
| 2024 | 15,364 | 342 | | 119,319 | 23,917 | 160,926 | 10,728 |
| 2025 | 15,735 | 350 | | 121,109 | 25,591 | 164,818 | 10,988 |
| 2026 | 16,122 | 359 | | 122,926 | 27,382 | 168,871 | 11,258 |
| **2027** | **16,526** | **368** | | **124,770** | **29,299** | **173,097** | **11,540** |
|  |  |  | |  |  |  |  |
| Annual Growth 2013-2021\*\* | 4.1% | 1.5% | | 3.2% | 3.2% | 3.2% | 3.2% |
| Annual Growth 2021-2027\*\*\* | 2.4% | 2.4% | | 1.5% | 7.0% | 2.4% | 2.4% |
| \* Headcount forecast was based on a constant ratio of WSCH/student (10.5 in 2016)  \*\* State Chancellor’s Office Long Range Growth Forecast (through 2021)  \*\*\* Forecast developed as part of this Educational Master Plan | | | | | | | |

## Space Needs Forecast

**Overview**

The enrollment growth forecast shown in the previous table, the space standards enumerated in Title 5 of the Education Code, and several key assumptions, were used to determine the future space needs of the College. These space needs are a best guess estimate of the amount of space (square footage) that will be needed in the future.

The space needs forecast projects the College’s needs in five space categories. These are the five categories tracked (and sometimes funded) by the State Chancellor’s Office.

* Classroom
* Laboratory
* Office
* Library
* Instructional media

Refer to the glossary at the end of this section for definitions of these space categories.

It is important to bear in mind, this forecast is not intended to predict with precision, the square footage needs in a specified year. Rather, the forecast is predicated upon the College reaching a particular level of WSCH. The growth forecast projects that the College will reach 173,097 WSCH in the fall semester 2027. The College might reach this level earlier or later than fall semester of 2027. Whenever this level of WSCH is attained, the following square footages of space will be needed.

This calculation of the College’s future space needs is based on the following assumptions about headcount and FTEF (full-time equivalent faculty) growth.

* Total WSCH and FTES will grow at 3.2% per year through 2021 and 2.4% per year thereafter.
* Laboratory WSCH will grow at a faster rate than Lecture WSCH.
* Student headcount will grow at the same rate as WSCH. This implies that the average student load will remain at the 2016 level of 10.5 WSCH per student. This is important, especially for forecasting library space needs, which are predicated on headcount.
* The State Chancellor’s Office growth forecast has FTEF growing at a slower rate than WSCH (and FTES). This assumes an increase in WSCH/FTEF to 471. After 2021, FTEF is projected to grow at the same rate as WSCH. This means that WSCH per faculty load (FTEF) will remain constant. This is important for forecasting office space, which is predicated on total FTEF.
* The mix of disciplines generating WSCH in laboratory classes will not change dramatically. Title 5 standards allow different amounts of space for laboratory classes depending on the discipline (TOP Code). For example, diesel mechanic laboratories qualify for 856 assignable square feet per 100 WSCH, while art laboratories qualify for 257 and mathematics laboratories qualify for 150.

Since the process of planning, funding, and building new facilities takes several years, these projections will be updated periodically, taking into account new environmental factors including demographic and economic trends, student attendance patterns and pedagogical changes.

**Current Space Inventory**

The College currently has 232,739 assignable square feet of space in the five key space categories as shown below. The second column shows the capacity-to-load ratio (see glossary for definition). The next column shows the amount of space needed based on Title 5 space standards. The final column shows the net need or surplus of the College’s space in each category.

According to Title 5 space standards, the College shows a need for space in two categories (library and instructional media) and a surplus of space in three (classroom, laboratory and office).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Space Categories | Current Space Inventory | Cap/Load Ratio | Title 5 Space Needs | Current Space Need (Surplus) |
| Classroom | 88,493 | 192% | 46,090 | (42,403) |
| Laboratory | 64,083 | 140% | 45,774 | (18,309) |
| Office | 61,325 | 139% | 44,119 | (17,206) |
| Library | 18,282 | 63% | 29,019 | 10,737 |
| Instructional Media | 556 | 5% | 11,120 | 10,564 |
| **Total** | 232,739 |  | 46,090 | (42,403) |
| *Note: All figures are in assignable square feet except percentages*  *Source: Desert Community College District Five-Year Capital Construction Plan, California Education Code, Title 5 §57020, analysis by CBT* | | | | |

**Future Space Needs**

The following table compares the current space inventory and the space needs in 2027, or more accurately, the College’s need for space when WSCH reaches 173,097 for a semester. The College shows a need for space in three categories (laboratory, library, and instructional media) and a surplus of classroom and office space.

**Data Set 55: Space Inventory and Title 5 Space Needs 2027**

|  |  |  |  |
| --- | --- | --- | --- |
| Space Categories | Current ASF | 2027 Title 5 Space Needs | 2027 Net Space Needs (Surplus) |
| Classroom | 88,493 | 59,016 | (29,477) |
| Laboratory | 64,083 | 80,325 | 16,242 |
| Office | 61,325 | 51,491 | (9,834) |
| Library | 18,282 | 39,122 | 20,840 |
| Instructional Media | 556 | 14,991 | 14,435 |
| **Total** | 232,739 | 244,945 | 12,206 |
| *Note: All figures are in ASF*  *Source: Desert Community College District Five-Year Capital Construction Plan, Space Inventory (Report 17), California Education Code, Title 5 §57020, analysis by CBT* | | | |

Data in the following table assume completion of two projects in the College’s *Five-Year Capital Construction Plan* over the next several years. The table adjusts the College’s inventory of space and shows the remaining space needs **after** these projects are completed. The College will still require additional space of 13,629 ASF (assignable square feet) after the completion of the Liberal Arts Renovation and Administration Building Renovation projects. If the College opts to maintain all of its classroom and office space, the total space needs for 2027 are 49,662 ASF (16,086 + 20,840 + 12,735).

*Note: The net square footages of each space type in the future projects may change somewhat before actual construction. The numbers in the table show the net change in space for each project. Space types outside of the five key space categories are not included in this analysis.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Space Type | Current Space | Liberal Arts #5 Renovation | Administration Building #1 Renovation | Cumulative Total | 2027 Title 5 Space Needs | 2027 Net Space Need (Surplus) |
| Classroom | 88,493 | (6,392) |  | 82,101 | 59,016 | (23,085) |
| Laboratory | 64,083 | 156 |  | 64,239 | 80,325 | 16,086 |
| Office | 61,325 | (356) | 3,469 | 64,438 | 51,491 | (12,947) |
| Library | 18,282 |  |  | 18,282 | 39,122 | 20,840 |
| AV/TV | 556 | 1,700 |  | 2,256 | 14,991 | 12,735 |
| **Total** | **232,739** | **(4,892)** | **3,469** | **231,316** | **244,945** | **13,629** |
| *Note: All figures are in assignable square feet.*  *Source: Desert Community College District Five-Year Capital Construction Plan, California Education Code, Title 5 §57020, analysis by CBT* | | | | | | |

**Recommendations/Conclusions**

The following considerations may contribute to the analysis and use of this space planning data.

1. It is not necessary to remove spaces that are shown to be in surplus. The only space category at the College showing a surplus is classroom space. One option is to convert some of the classroom space to another space category.
2. Another important set of data to be considered by facilities planners is an analysis of space utilization. This will help to determine how to most efficiently use classroom and laboratory space to serve students.
3. It may be that remodeling and reconfiguration will create more efficient use of existing space. The sizes and resulting capacities of the rooms may be optimized for efficiency (e.g., to create large lecture halls; to balance the numbers of large and small classrooms; to repurpose underused laboratories, etc.)
4. Enrollment management policies and procedures are key factors in efficient space utilization, such as an examination of scheduling, room assignments, class sizes, etc.

**Space Needs Analysis: Glossary of Terms**

**Assignable Square Footage (ASF)** – The area of spaces available for assignment to an occupant (excepting those spaces defined as circulation, custodial, mechanical and structural areas).

**Capacity to Load Ratio (Cap/Load)** – This is the ratio of space the College has divided by the space it needs (according to Title 5 space standards). A Cap/Load ratio above 100% means the College has a surplus of space in that category. A Cap/Load ratio below 100% indicates a need for more space. E.g., if the college has 120,000 ASF of classroom space and Title 5 Standards show that the College qualifies for 100,000 ASF, the Cap/Load ratio (HAVE ÷ NEED) = 120,000 ÷ 100,000 = 120%.

**Classroom Space (also referred to as lecture space)** – Rooms used for classes that do not require special purpose equipment for student use.

**FTEF (Fill-Time equivalent faculty)** – Total full-time equivalents for all adjunct and full-time faculty. E.g., six adjunct faculty members, each teaching one-quarter of a full teaching load, is equal to 1.5 FTEF.

**FTES (Full-Time equivalent students)** – Total hours attended by one or more students, divided by 525. One FTES is equal to one student taking a course load of 15 units for two semesters.

**Gross Square Footage (GSF)** – The total square footage of a building, measured at the exterior of the walls, including all interior spaces.

**Headcount** – the number of individual people in a class or enrolled at the College

**Instructional Media Space (also referred to as AV/TV space)** - Rooms used for the production and distribution of audio/visual, radio and TV materials.

**Laboratory Space** – Rooms used primarily by regularly scheduled classes that require special-purpose equipment for student participation, experimentation, observation or practice in a field of study.

**Library Space** – Rooms used by individuals to study books or audio/visual materials. Rooms used to provide shelving for library or audio/visual materials. Rooms that support these uses such as book processing rooms, circulation desk, etc.

**Office Space** – includes faculty, staff and administrator offices as well as all student services spaces (e.g., A&R, Financial Aid, etc.).

**TOP Codes (Taxonomy of Programs)** – A system of numerical codes used at the state level to collect and report information on programs and courses, in different colleges throughout the state, that have similar outcomes.

**WSCH (weekly student contact hours)** – The number of class contact hours a class is scheduled to meet times the number of students. E.g., if a class meets three hours per week, and has 30 students enrolled, that would generate 90 weekly student contact hours.