

community, growth will be natural and organic. In turn, this will allow the Campus to thrive and be a greater asset to the community and College as a whole.

## **Growth and the Future Program of Instruction**

### **The View from the College**

#### **Overview**

Cerro Coso Community College serves an area of approximately 18,000 square miles. It is the only postsecondary educational institution within this vast area. The College has five campuses (one of which is an on-line campus) that accommodate its population-base. The extreme diversity, both in terms of land mass and distribution of the population, represents a significant challenge for the College. The land area ranges from the desert to the Sierra Nevada Mountains; it touches three of the 58 counties in the state.

The population-base of the College's greater service area is a blend of individuals and families that support the military, the trade industries, commercial/retail operations, the health care industries and tourism and recreation. Overall, the population-base is growing very slowly, at less than 1% per year. In some sectors of the service area, the growth rate is actually regressing. The population-base is characterized as older versus younger. It is home to a significant number of retirees. The younger age segment (0 to 14 years of age) comprises only 12% to 20% of the population-base. While the younger segment is holding steady as a percentage share of the population, it is not increasing. For the foreseeable future, the College will not be able to count on a natural growth spike within the younger age segment of the population. The challenges for Cerro Coso Community College in meeting the demands of its vast service area are many; they are formidable as well.

#### **Approach to Interpreting Data and the Forecasting Process**

To capture the educational delivery dynamic employed, the approach to presenting data and perspectives for this section of the Educational Master Plan (i.e. projecting future growth and applying that growth to the future program of instruction) will alternate between the College overall and each of its campuses individually. The goal for data presentation will be to provide both the greater perspective of the College while at the same time providing usable and relevant information that is specific to each of the campuses. Characteristics that are common to all of the campuses will be presented as those of the College; additionally, specific data will be provided for each campus.

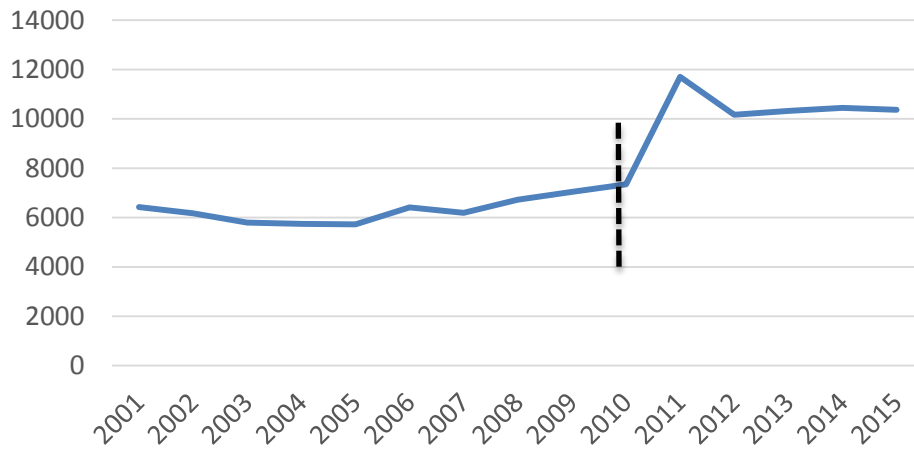
#### **Historical Trends that Will Influence Future Growth**

As the College looks to the future, it is always helpful to include a review of the past – i.e. what has occurred historically and, more particularly, what has occurred since the last Educational Master Plan was completed.

Over the past 5-years, there have been some significant changes at Cerro Coso Community College. Student headcount at all of the six locations has generally trended upward while the generation of weekly student contact hours (WSCH) and full time equivalent students (FTES) has trended downward. The decline in the production of WSCH and FTES is a great concern for the College. Aside from the other historical trends that will impact the future of the College, including those identified in the External and Internal Environmental Scans that are part of the Educational Master Plan document, the ability of the College to attract, retain and expand the educational presence of students (i.e. greater course loads) at each of the campuses will be critical for future growth of the College. Because the generation of WSCH is the key element for determining future space needs, the current trends for student enrollment and WSCH stand to have a significant impact on the qualification for space.

The following graphics are presented to help illustrate the changes that have taken place over the past 5-years with regard to student enrollment and WSCH generation. The data gathered represents the College collectively, i.e. it was derived from an assemblage of data from each of the campuses.

**Trending Student Enrollments**

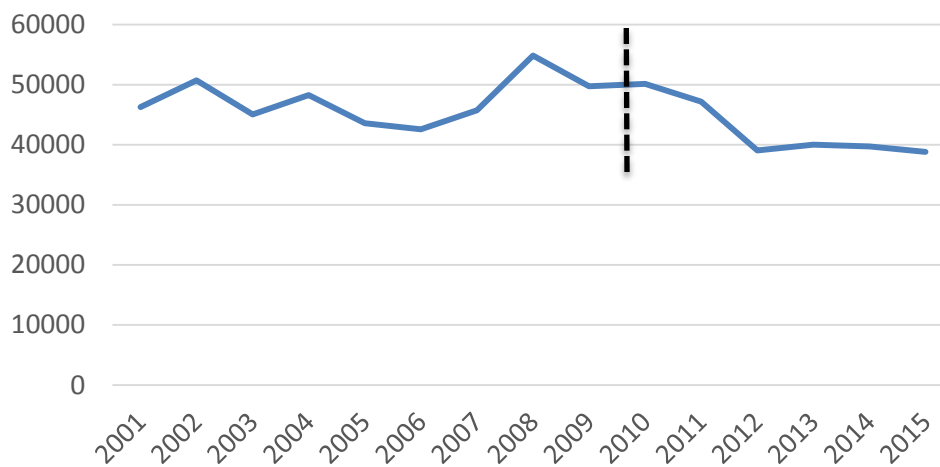


Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

The College has seen an uptick in student enrollment, particularly over the past-five years. Starting from a mark of 6,428 in 2001, enrollment growth increased at a steady rate through 2010. It spiked in 2011 to a 15-year high of 11,705 and has maintained, on average, a rate of approximately 10,300 students annually since that time. For 2015, the student enrollment mark was 10,369. The annual percentage rate of growth of 6.85% over the past 5-years is particularly noteworthy.

A look at the measure of WSCH generated over the view period, again from the perspective of the College, finds a trend line that travels in the opposite direction. WSCH have declined significantly over the past several years, and more particularly since year 2010.

**Trending WSCH**



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

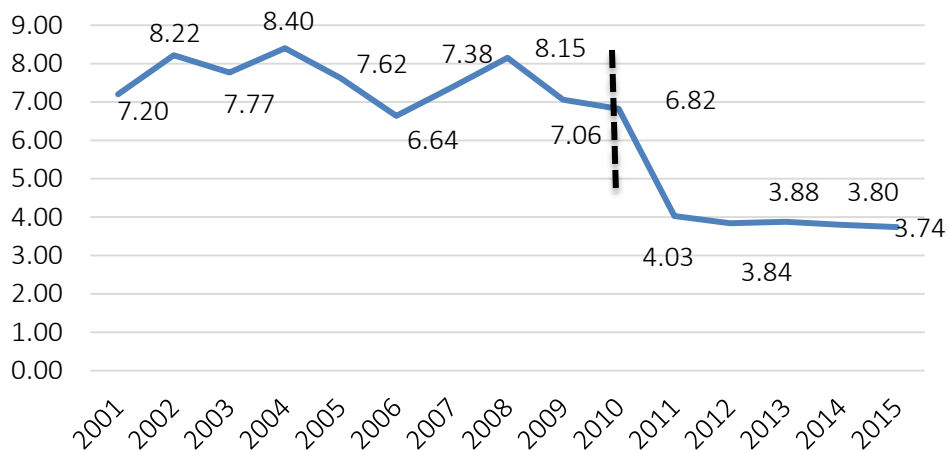
WSCH began at 46,270 in 2001 and declined to 38,829 in 2015. The apex for WSCH was in 2008 when it reached 54,857. It exceeded the 50,000 mark again in 2010 when it registered 50,135. Of particular note, however, has

been the WSCH decline over the past five years, i.e. from in 2010 to 2015. Over that period, the total loss for WSCH was -22.55%. This translates to an annual average decline of -4.51%.

The combined impact of and changes in student enrollment and WSCH trends is most telling when the measure of WSCH generated per enrollment is considered. The dramatic drop in WSCH per enrollment suggest a possible change in the attitudes and / or preferences of students. This trend is not just a Collegewide condition. It is a trend that is prevalent at all of the campuses.

The following graphic presents a perspective on the measure of WSCH per enrollment as a composite for Cerro Coso Community College.

### Composite WSCH / Enrollment



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

WSCH per enrollment hit its high point in 2004 when it was 8.40. It exceeded the 8.00 mark again in 2008, when it recorded WSCH per enrollment of 8.15. From 2001 to 2010, WSCH per enrollment averaged 7.53. Since 2010, there has been a steady decline. WSCH per enrollment reached its lowest mark in 2015, when it was 3.74. The data suggest that while more students have been attending the College, they are taking substantially reduced course loads. Currently (year 2015), students attending the campuses of the College are taking, on average, the equivalent of a course load of only 1.25.

Going forward, the College will need to address the measure of WSCH per enrollment if it is to prevail and grow. A cause needs to be determined and an adjustment in the delivery of the program of instruction needs to be considered to move the current trend line in a positive direction. These may include addressing the latter-born millennials who are more driven by communications, media, and digital technologies and are concerned over both their immediate and long-term economic well-being. There may be a changing value for the priority of education within the College's service area. Students graduating from four-year institutions today are averaging \$80,000 in school loan debt. While students attending community colleges enjoy a postsecondary education at very reasonable costs, the reality or goal of a postsecondary education may not be as high a priority as it has been in past. On the plus side, the College has a long, storied and successful past of having to adapt and reinvent itself in the way it serves its diverse population base. Addressing falling rates for student course loads will be yet another significant challenge to overcome.

Another change that has occurred since the last Educational Master Plan is the method for delivery of the program of instruction. Collegewide, the delivery of curriculum has moved towards more of a lecture orientated preference and less towards a laboratory orientation. Using 2010 Fall Semester as the baseline for the last Educational Master Plan, the College's ratio of lecture to laboratory time was 64% to 36%. For the 2015 Fall Semester, the baseline for the current Educational Master Plan, that ratio was to 70% to 30%. The State's formulas for space favors laboratory-based WSCH over lecture-based WSCH. Laboratory-based WSCH receives on average three to five

times the allocation for space as compared to lecture-based WSCH. The College's qualification for future space will be impacted by the selected method of curriculum delivery.

With the decline in WSCH production and the change in delivery of the curriculum, the College can expect to see a lesser need for space (as defined by the State Title V guidelines) than it did five years ago, when the last Educational Master Plan (EMP) was completed.

## Common Premises for Constructing the Growth Forecasts

While assumptions for future growth relied heavily on the historical trends for the growth of student enrollment and WSCH, it also took into consideration other tangible factors as well as some intangible factors, such as the College's strong track record for adapting to change and meeting challenging situations in a head-on manner. The factors predominantly considered included the following:

1. The population will be growing, but slowly. The College will be able to rely on a population base that is not regressing. While the growth rate will be very slow (under 1%), it will at least be positive.
2. The age segment of 0 to 14 years will maintain its current percentage share of the population. Depending upon location, the population segment 0-14 years represented 12% to 19% of the population in 2016. Projected to the year 2021, the greater College area (all campuses) can expect to have a student pool similar to that which presently exists.
3. Comparable and consistent rates of high school graduation. While there is no specific data on the long-range high school graduation rates for the each of the campuses of the College, the high school graduation rates for the College's home County (Kern) reflects a 1% annual increase through 2024. This is not rapid growth but it is positive growth. Not every county in the state will see positive growth for high school graduates.
4. Capacity to attract students to the College who are less academically prepared. The levels of educational attainment within the greater College service area suggest a growth opportunity for students who are less academically-prepared – i.e. students who will either be fringe postsecondary education possibilities or who are mentored into a postsecondary education. This opportunity will need to be facilitated by a strong program of Basic Skills education. Basic Skills education will continue to be an important point of entry into the mainstream program of academics at Cerro Coso Community College.
5. Attracting and retaining students through an emphasis on academic success. Enough cannot be said about the value of creating an inviting campus and for placing emphasis on the success of the students. It is always easier to retain an existing student than it is to attract a new student. Students who succeed in their academic missions also serve to attract more students to the College.
6. Maintaining a competitive edge through productivity. Higher productivity values will need to be achieved through greater class sizes and better utilization of existing space. The future capacity for growth will depend on simply doing better in the basic measures of curricular productivity.

## Common Premises for the Application of Growth to the Future Programs of Instruction

Applying forecasted growth to the future programs of instruction is the juncture where the proverbial "rubber meets the road". The application of growth for this section of the Educational Master Plan used the following methodology and / or references for all of the campuses of the College.

### Existing Program of Instruction Used as the Foundation Model

While a planned program of instruction could have been constructed within each department at each campus to create appropriate class sections, WSCH, FTES generation, the number of lecture and laboratory hours required and the application of reasonable standards for efficiency, the current program of instruction was found to serve as a strong foundation from which to build. It is assumed that adjustments will be made to curricular content and

the methods of instructional delivery but that the core of the current instructional program will remain similar to what it is presently. It is expected that Career/Technical Education and Basic Skills Education will change and increase proportionately with the needs of each of the campus service areas and that programs within these two areas will reflect the environmental conditions and changes within the student body.

## **Growth Projections Were Made at the Discipline/Program Level**

Service area demographics, external and internal factors, past performance, efficiency values, and overall curriculum balance were factors that were taken into consideration for each discipline/ program in the forecasting process. This caused each program / discipline to grow at different rates over time. The results and conclusions from this method of growth application were then aggregated into each respective department at each of the campuses of the College.

## **WSCH Used as the Basis for Forecasting the Characteristics of the Future Program of Instruction**

While the College measures its progress and success in terms of FTES, the state measures growth and the need for space in terms of WSCH. WSCH represents the average number of hours of student instruction in a given week. A class of 35 students meeting three hours per week produces 105 WSCH. The state uses this (WSCH) measure to define the need for and the capacity of facilities at every campus location. WSCH, therefore, was used as the foundation element to project growth relative to the future programs of instruction.

## **Key Reference Documents**

Projections for the future program of instruction also relied on key reference documents. Those that carried the greatest weight included the following:

- The 2017/18 Kern Community College District, Report 17 ASF/OGSF Summary & Capacities Summary (State Chancellor's Office)
- The 2017/2018 Kern Community College District's Five-Year Construction Plan (State Chancellor's Office)
- The 2017/2018 Long Range Enrollment and WSCH Forecast (State Chancellor's Office)
- Data reports and information provided via Cerro Coso Community College, Office of Institutional Research for the 2015 Fall Semester
- Cerro Coso Community College's 2012 Educational Master Plan
- MAAS Companies database for over 60 community college in the state

## **Planning Assumptions**

The following assumptions were also incorporated into the growth forecast for the future program of instruction.

- The organizational structure at the campuses of the College was projected to be similar to that which currently exists with greater demands on curricular direction and support services.
- Delivery of the academic program of instruction was projected to remain similar to that which currently exists.
- The campuses of the College will continue to make strides in its instructional efficiency values and, for the future, trend higher in the key elements that measure overall viability.
- The College will use existing space to its intended capacity to meet the state standards for facility utilization.
- Based on the use of Title V standards, the College will strive to keep itself in a funding worthy position with the state.

## The View from the Campuses

The data provided for this section will focus on the key historical trends that will influence future growth, the current conditions at the campus, the capacity for growth and need for future space for each of the campuses that comprise Cerro Coso Community College. These include the Indian Wells Valley Campus, the On-line Campus/Program of Instruction, Eastern Sierra College Center (including the sites at Bishop and Mammoth), East Kern Education Center at Edwards AFB (including course offerings at Tehachapi) and the Kern River Valley Campus located in Lake Isabella.

### The Indian Wells Valley Campus

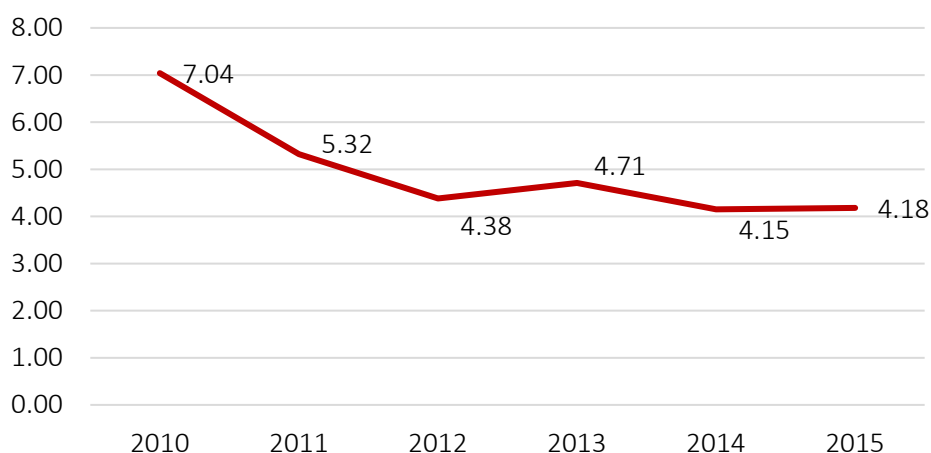
#### Overview

The Indian Wells Valley (IWV) Campus is the largest and most developed of the campuses of Cerro Coso Community College. The Ridgecrest area that supports the IWV Campus has the largest population-base of any of the municipalities in Eastern Kern County. It is home (China Lakes) to the Naval Air Weapons Center, Warfare Center (NAWCWD). This military operation drives the economy and the population dynamics of the IWV Campus service area. The IWV / Ridgecrest area is growing slowly (less than 1% per year) and is trending older than younger. The 0-14 year population, although less than 20%, is projected to remain fairly constant in terms of percentage share of the population over the next 15-years.

#### Historical Trends that Will Influence Future Growth

The trends for student enrollment at IWV follow a similar pattern as those of the College overall. Enrollments have shown steady gains over the past 15-years, increasing from 2,414 in 2001 to 3,509 in 2015, with a high-water mark of 3,667 reached in 2014. The 15-year increase represents a gain of 45.4% overall or an average of 3.0% annually. WSCH has trended downward over the past 15-years. First-census, Fall Semester WSCH has gone from 23,206 in 2001 to 15,222 in 2015. This represents an overall decline of 36.7% and translates to an annual average loss -2.5%. Data compiled for WSCH per enrollment is presented in the graphic that follows. It more accurately makes the connection between these two most significant measurables, student enrollment and WSCH.

#### Indian Wells Valley Campus: Past 5-Year Trend WSCH / Enrollment



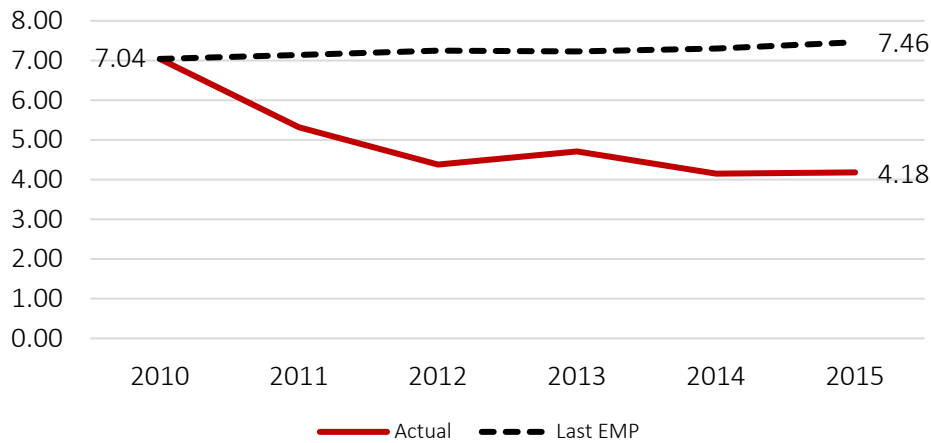
Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

While the measures for WSCH per enrollment at IWV outpaced those of the College in the aggregate, there has been steep and consistent decline that is evident in the course loads taken by students attending the IWV Campus over the past 5-years. Also evident, and a contributing factor for the measure of WSCH enrollment, has been the impact of the Administration of Justice program (Department of Public Services). This program presently accounts

for 70 of the 199 class sections offered at the IWW Campus. Overall, it represents 35% of all curricular offerings. Alternately, it generates slightly more than 20% of all WSCH. This would suggest a short-term course that accommodates a substantial enrollment with a small course load.

The following graphic compares WSCH per enrollment as projected in the last Educational Master Plan as compared to the actual level of WSCH per enrollment achieved.

**Indian Wells Valley Campus: Actual vs. Projected WSCH / Enrollment**



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

WSCH per enrollment, which ran as high as 11.50 in year 2008 and was consistently in the mid-9.0 range from 2001 to 2009, was projected to maintain a pace of at least 7.0 and above in the last Educational Master Plan over the period 2010 to 2015. As noted above, this projected range was never met. In fact, the gap between projected and actual WSCH per enrollment widened over the view term. By the 2015 Fall Semester, it reached a delta of 3.28.

**Current Status**

**Existing Program of Instruction**

The existing program of instruction (2015 Fall Semester) at Indian Wells Valley Campus is summarized, at the department level, in the table that follows. It provides an excellent starting point from which to build in the future. Whether it is for academic purposes, for accommodating support and administrative services or for defining the physical structures on the campus, all needs on campus relate to and emanate from the program of instruction.



## Indian Wells Valley Campus: Characteristics of Fall 2015 Program of Instruction

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	FTES	FTEF	Lec. Hrs	Lab Hrs.	On-Line Hrs.	Indep. Study
Allied Health	16	222	13.88	1,188.82	74.30	36.91	4.50	1,496	1,188	234	792
CIS / Business	8	130	16.25	507.93	63.49	15.77	1.80	486	252	0	0
Child Dev./Education	2	168	84.00	102.42	51.21	3.18	0.25	0	0	0	108
Counseling	3	99	33.00	225.46	75.15	7.00	0.00	108	0	0	0
English	21	463	22.05	2079.06	99.00	64.55	5.20	1,944	0	0	0
Industrial Arts	10	206	20.60	953.05	95.31	29.59	2.80	756	648	0	0
Library	1	21	21.00	46.38	46.38	1.44	0.00	36	36	0	0
Mathematics	15	405	27.00	1,898.05	126.54	58.93	4.14	1,188	0	0	0
Physical Education	19	213	11.21	1,029.39	54.18	31.96	2.57	1,268	0	0	0
Public Service	70	919	13.13	3,040.81	43.44	94.41	0.40	1,849	1,080	0	0
Science	12	255	21.25	1,887.75	157.31	58.61	4.53	1,242	1,476	0	0
Social Science	13	230	17.69	797.81	61.37	24.77	2.21	972	0	0	0
Visual & Perf. Arts	9	178	19.78	926.00	102.89	28.75	2.37	792	432	0	0
<b>TOTAL</b>	<b>199</b>	<b>3,509</b>	<b>17.63</b>	<b>14,682.93</b>	<b>73.78</b>	<b>455.87</b>	<b>30.77</b>	<b>12,137</b>	<b>5,112</b>	<b>234</b>	<b>900</b>

Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

The current program of instruction is characterized as having thirteen departments. For the baseline semester used (Fall 2015), the program of instruction featured a total of 199 class sections. These class sections generated 14,683 WSCH and accounted for 455.87 full-time equivalent students (FTES). Overall, class sizes averaged 17.63 enrolled seats per section. The 199 classes sections generated, on average, 73.78 WSCH per section. The instructional delivery method favored lecture over laboratory. Lecture hours accounted for 12,137 of the total instructional hours taught while laboratory hours totaled 5,112. In terms of relative values, lecture hours comprised 70% of the instructional delivery hours while laboratory was responsible for 30%. The average WSCH per load (FTEF) for the 2015 Fall Semester was 477.18.

As compared to 2012 Educational Master Plan (2010 Fall Semester), the program of instruction at the IWV Campus has decreased in the number of sections offered. Class sections offered for 2010 totaled 214. There has also been a decline in WSCH from the 2010 Fall Semester. In 2010, WSCH generation was 16,972 as compared to 14,682 for the 2015 Fall Semester. The measure for enrolled seats per section increased slightly in 2015 (17.63) from the 17.10 measure in 2010.

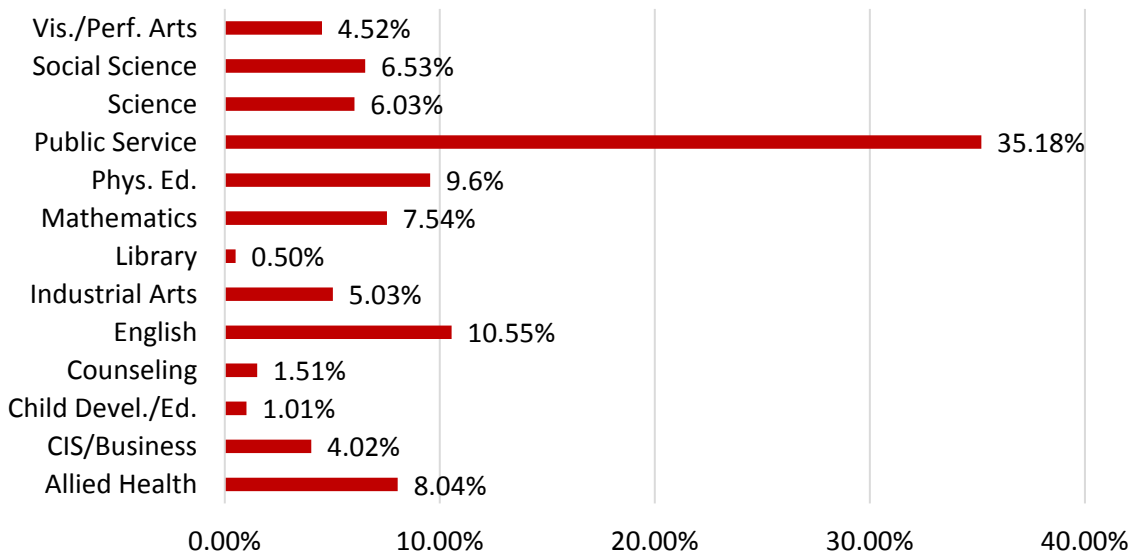
### Distribution of the Curriculum

The existing program of instruction at the Indian Wells Valley Campus is dominated by the Department of Public Service/Administration of Justice Program. This department alone accounts for more than one-third of the current curriculum at the IWV Campus. It is followed by English at 10.55% of the curriculum, Physical Education at 9.60% and Allied Health at 8.04%. Social Science and Science account for 6.53% and 6.03% respectively. Cumulatively, the top four departments (Public Service, English, Physical Education, and Allied Health) are responsible for 63.4% of the curriculum.

The graphic that follows captures the current curriculum distribution for all thirteen departments at the Indian Wells Valley Campus.



**Indian Wells Valley: Current (2015) Distribution of the Curriculum**

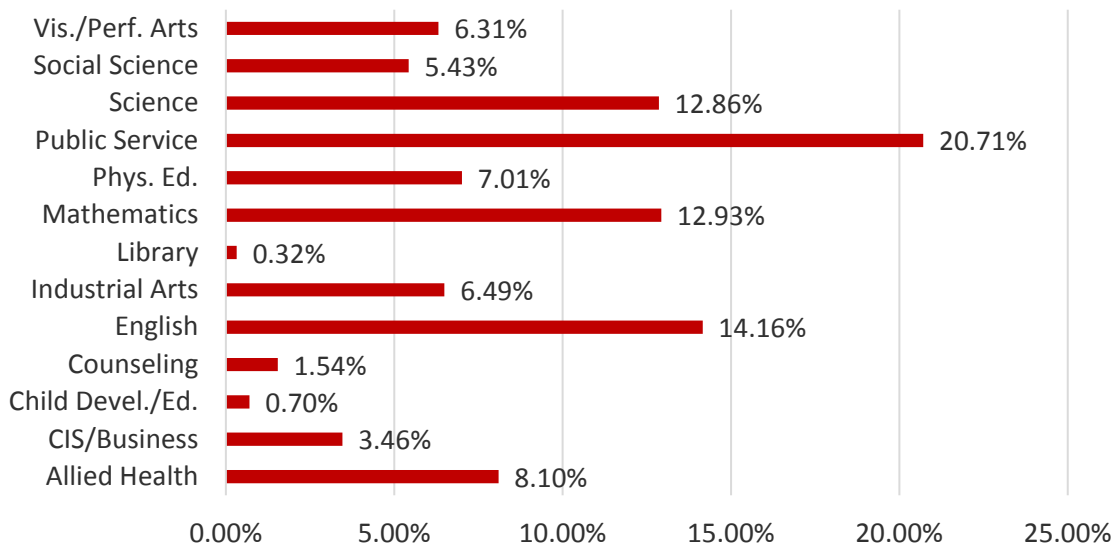


Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

**Distribution of WSCH**

The current distribution of WSCH generation was also assessed as a characteristic of the current program of instruction. Public Service (Administration of Justice Program) led all departments, generating 20.71% of the WSCH at the IWV Campus. The departments of English (14.16%), Mathematics (12.93%) and Science (12.86%) followed. Combined, these four departments accounted for 60.66% of all WSCH at the Campus. The graphic that follows depicts the measure of WSCH generation for all thirteen departments.

**Indian Wells Valley: Current (2015) Distribution of WSCH**



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

**Balance of the Program of Instruction**

While the IWV Campus offers a diversified curriculum, supporting General Education/Transfer Education, Career/Technical Education, And Basic Skills, it is vigilant in its efforts to identify new opportunities and curricular

direction that address the needs of its diverse service area. General and Transfer Education is a mainstay at the IWV Campus. Additionally, there is a very strong orientation to the provision of opportunities for Career/Technical Education. Stronger links with existing business and industry are anticipated to be the catalyst for future changes in the CTE area. Basic Skills Education to support underprepared students is also well represented at the IWV Campus. A significant majority of students attending the IWV Campus avail themselves of course offerings in Basic Skills Education. It is anticipated that this will be a continued need in the future.

### **Current Space Holdings to Support the Program of Instruction**

Space holdings are defined as the physical facilities owned by the District and used by each campus to support the program of instruction and support services.

For the 2015 Fall Semester, the IWV Campus recorded total space availability of 162,469 assignable square feet (ASF). Currently, 37,469 ASF is classified as “inactive space” – i.e. space that is either under repair or not usable for other reasons. The remaining “usable” space not only supports the 199 class sections offered, the 14,683 WSCH generated, and 456 FTES produced but it also accommodates all of the administrative and support services space required for operating the Campus. In contrast, when the last Educational Master Plan was completed, the program of instruction was supported by 139,117 ASF.

Comparing 2010 data with 2015 data, there has been a decrease in lecture space holdings of approximately 800 ASF at the IWV Campus. Alternately, laboratory instructional space increased significantly, with more than 10,000 ASF added to the space inventory. In other key space categories, Office space on campus increased by approximately 6,500 ASF while Library space added almost 4,000 ASF. Instructional Media (AV/TV) space decreased slightly more than 2,000 ASF. Overall, the District’s Report 17 reflects a change of +23,352 ASF from 2010 to 2015. The IWV Campus still reflects a significant amount of Inactive space. This is up approximately 17,000 ASF from the space inventory of 2010. Plans to bring this space back on-line are expected to materialize over the next 5-years.

A comparison of the space holdings from when the last Educational Master Plan was completed (data from 2010) and the current Educational Master Plan (data from 2015) is provided in the table that follows.

## Indian Wells Valley Campus: Space Holdings

State Rm. Code	Description	2010 Space Inventory	State Rm. Code	Description	2015 Space Allocation
0	Inactive	20,120	0	Inactive	37,469
100	Classroom	7,174	100	Classroom	6,345
210-230	Laboratory	17,732	210-230	Laboratory	27,846
235-255	Non-Class Laboratory	-	235-255	Non-Class Laboratory	-
300	Office/Conference	11,318	300	Office/Conference	17,821
400	Library	17,690	400	Library	21,537
510-515	Armory/Armory Service	-	510-515	Armory/Armory Service	-
520-525	Phys Ed. (Indoor)	24,552	520-525	Phys Ed. (Indoor)	26,367
530-535	(AV/TV)	4,057	530-535	(AV/TV)	2,123
540-555	Clinic/Demonstration	6,643	540-555	Clinic/Demonstration	5,238
580	Greenhouse	-	580	Greenhouse	-
590	Other	-	590	Other	-
610-625	Assembly/Exhibition	3,880	610-625	Assembly/Exhibition	1,401
630-635	Food Service	3,640	630-635	Food Service	117
650-655	Lounge/Lounge Service	2,730	650-655	Lounge/Lounge Service	180
660-665	Merchandizing	144	660-665	Merchandizing	972
670-690	Meeting /Recreation	588	670-690	Meeting /Recreation	1,458
710-715	Data Processing/Comp.	-	710-715	Data Processing/Comp.	-
720-770	Physical Plant	18,849	720-770	Physical Plant	13,595
800	Health Services	-	800	Health Services	-
<b>Totals</b>		<b>139,117</b>	<b>Totals</b>		<b>162,469</b>

Source: Cerro Coso Community College 2012 Educational Master Plan; Kern Community College District Report 17, analysis MAAS Companies

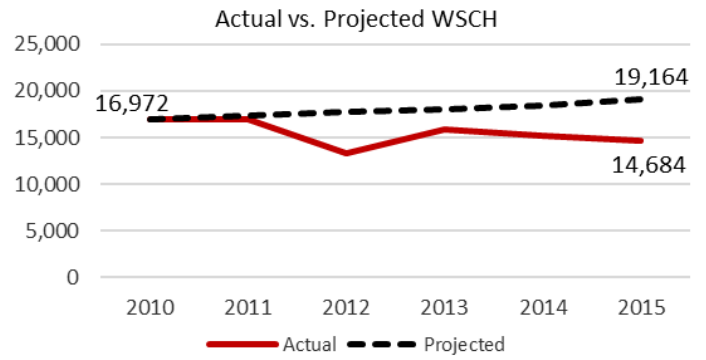
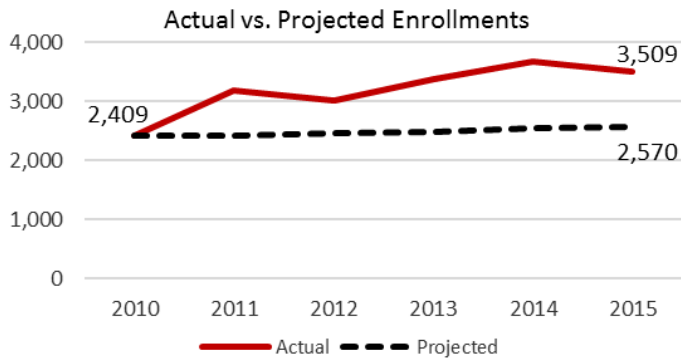
### Future Projections

#### The Campus Capacity for Growth

What is the Campus' future capacity for growth? When the 2012 Educational Master Plan was completed, the annual student enrollment growth rate from 2010 to 2015 was projected to be 1.34%; WSCH was projected to grow at 2.58% annually. For the 2015 Fall Semester, the actual annual rate of student enrollment growth averaged an impressive 9.13%. WSCH growth, however, declined at an average annual rate of -2.70%. The ability to retain and expand the course loads of the students who are coming to the Indian Wells Valley Campus will be imperative for future growth.

The graphic that follows shows the projected versus the actual values for both enrollment and WSCH based on the projections from the 2012 Educational Master Plan. The capacity of the Campus' future growth will be significantly influenced by the growth capacity it has been able to achieve in the past.

## Indian Wells Valley: Forecasted Projections Versus Actual 2010 – 2015



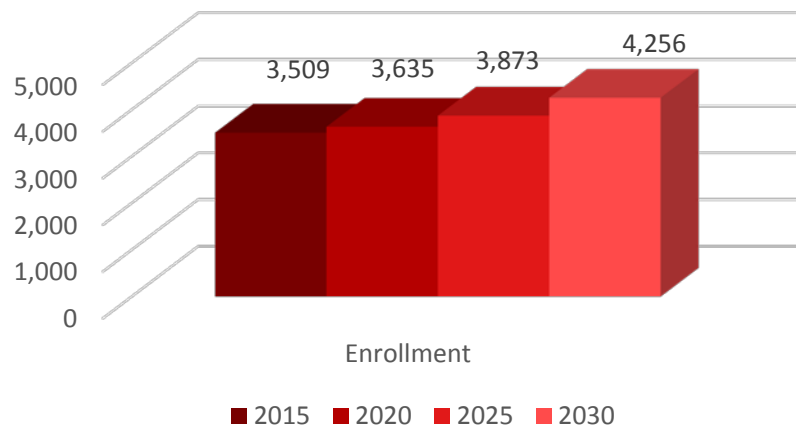
Source: Cerro Coso Community College 2012 Educational Master Plan and data from the Office of Institutional Research; analysis MAAS Companies

### Projected Forecast for Growth

WSCH generation for the future should be in excess of the historic trends that have been recorded over the past several years, while student enrollment should continue to grow but at a slower pace. Factoring in all the elements that could affect future growth (i.e. the data driven tangibles derived from research, the External Environmental Scan and the intangibles that are indigenous to the IWV Campus, annual growth rate capacity over the next 15-years is projected at 1.42% for student enrollment and 3.94% for WSCH. For student enrollment, this translates to an 21.3% increase in enrollment from a starting point that begins with the 2015 Fall Semester. For WSCH, the long-term growth rate projects at an overall increase of 59.1%. It should be noted that the forecast for growth addresses the potential for the IWV Campus. It is primarily based on quantifiable data obtained through research.

Projected enrollment growth in absolute values is captured for the 5-year benchmark years from 2015 to 2030 in the graphic that follows. Overall, enrollment growth is projected to reach 4,256 by the year 2030.

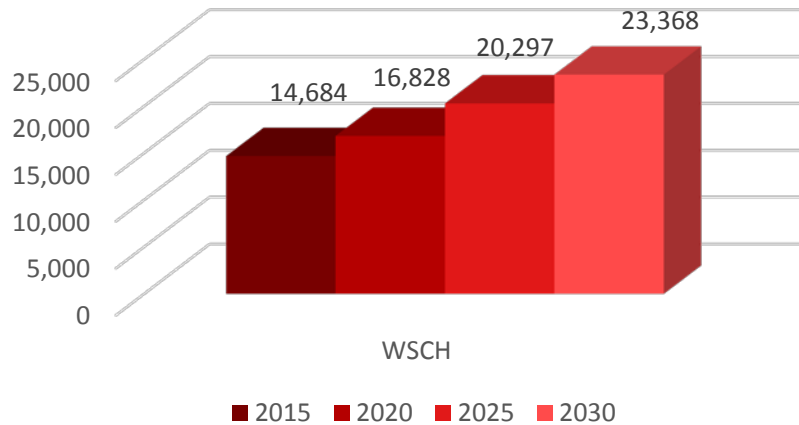
### Indian Wells Valley Campus: Projected Growth for Enrollments



Source: MAAS Companies Projections

The revised projections for WSCH show an ambitious rate of growth from a relative perspective. Historically, the absolute values for WSCH have been (and should again be) in excess of 20,000. Using the 2015 Fall Semester as a baseline, WSCH is projected to grow from 14,684 in 2015 to 23,368 by the year 2030. The impact of WSCH projections are captured in the graphic that follows.

## Indian Wells Valley Campus: Projected Growth for WSCH



Source: MAAS Companies Projections

### The Application of Growth to the Future Program of Instruction

Growth as applied to the future program was done on program/discipline basis and then assembled back into the department level. It was not applied equally across the board. Stronger performing programs/disciplines were given a greater range for growth than programs/disciplines performing at a sub-par level. Based on the forecasts for enrollments and WSCH, the program of instruction is projected for incremental expansion. Applying the growth forecasts previously noted, the characteristics of the 2030 program of instruction are captured as follows.

### Indian Wells Valley Campus: Characteristics of Projected Program of Instruction for the Year 2030

Department	Sections	Enroll. Seats	Seats/Sec.	WSCH	WSCH/Sec.	Lec. WSCH	Lab WSCH	FTES	% of Curr.	% of WSCH
Allied Health	21	324	15.45	1,736.70	82.70	1,026.47	710.33	53.92	8.68%	7.43%
CIS / Business	10	234	23.39	913.80	91.38	692.75	221.00	28.37	4.13%	3.91%
Child Dev./Education	2	225	112.39	137.12	68.56	0.00	0.00	4.26	0.83%	0.59%
Counseling	4	127	31.75	289.20	72.30	289.20	0.00	8.98	1.65%	1.24%
English	27	707	26.18	3,174.12	117.56	3,174.20	0.00	98.55	11.16%	13.58%
Industrial Arts	15	328	21.87	1,517.25	101.15	897.58	619.74	47.11	6.20%	6.49%
Library	1	27	26.56	58.66	58.66	29.33	29.33	1.82	0.41%	0.25%
Mathematics	20	584	29.20	2,737.00	136.85	2,737.00	0.00	84.98	8.26%	11.71%
Physical Education	23	379	16.49	1,832.87	79.69	1,832.77	0.00	56.91	9.50%	7.84%
Public Service	74	1,681	22.71	5,561.10	75.15	3,503.49	2,058.00	172.66	30.58%	23.80%
Science	16	338	21.13	2,502.40	156.40	1,181.01	1,321.41	77.69	6.61%	10.71%
Social Science	17	472	27.74	1,635.74	96.22	1,635.71	0.00	50.79	7.02%	7.00%
Visual & Perf. Arts	12	245	20.38	1,272.00	106.00	810.53	461.42	39.49	4.96%	5.44%
<b>TOTAL</b>	<b>242</b>	<b>5,669</b>	<b>23.43</b>	<b>23,367.96</b>	<b>96.56</b>	<b>17,810.04</b>	<b>5,421.23</b>	<b>725.52</b>		

Source: MAAS Companies Projections

The future program of instruction is projected to be driven by the departments of Public Service, English, Mathematics and Science. Combined, these four departments are expected to account for more than 60% of the WSCH generated at the IWV Campus. Overall, the Indian Wells Valley Campus is projected to generate 23,368 total WSCH on a semester basis and have 242 class sections by the year 2030.

For a final look at the future program of instruction a composite breakdown is provided from the baseline year of 2015 to the year 2030. The breakdown includes projected growth at benchmark, five-year intervals. For this

analysis, the key elements of net sections, WSCH, FTES, lecture WSCH and laboratory WSCH were used to characterize the projected program of instruction.

### Indian Wells Valley Campus: Composite Profile of the Program of Instruction Projections 2015 – 2030

Department	Actual					Projected														
	YR 2015					YR 2020					YR 2025					YR 2030				
	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES
Allied Health	16	666	523	1,189	36.9	17	793	564	1,358	42.1	18	890	648	1,538	47.7	21	1,026	710	1,737	53.9
CIS / Business	8	335	173	508	15.8	8	436	148	585	18.2	9	598	176	774	24.0	10	693	221	914	28.4
Child Dev./Education	2	0	0	102	3.2	2	0	0	120	3.7	2	0	0	131	4.1	2	0	0	137	4.3
Counseling	3	225	0	225	7.0	3	241	0	241	7.5	3	254	0	254	7.9	4	289	0	289	9.0
English	21	2,079	0	2,079	64.5	22	2,267	0	2,267	70.4	24	2,675	0	2,675	83.0	27	3,174	0	3,174	98.6
Industrial Arts	10	353	600	953	29.6	12	653	440	1,093	33.9	13	762	517	1,279	39.7	15	898	620	1,517	47.1
Library	1	23	23	46	1.4	1	24	24	48	1.5	1	27	27	54	1.7	1	29	29	58	1.8
Mathematics	15	1,898	0	1,898	58.9	16	2,016	0	2,016	62.6	18	2,490	0	2,490	77.3	20	2,737	0	2,737	85.0
Physical Education	19	1,029	0	1,029	31.9	19	1,243	0	1,243	38.6	21	1,471	0	1,471	45.7	23	1,833	0	1,833	56.9
Public Service	70	1,916	1,125	3,041	94.4	70	2,392	1,405	3,798	117.9	72	3,105	1,824	4,928	153.0	74	3,503	2,059	5,562	172.7
Science	12	868	1,019	1,888	58.6	13	940	1,072	2,012	62.5	15	1,123	1,259	2,382	74.0	16	1,181	1,321	2,502	77.7
Social Science	13	798	0	798	24.8	13	962	0	962	29.9	14	1,147	0	1,147	35.6	17	1,636	0	1,636	50.8
Visual & Perf. Arts	9	602	324	926	28.8	10	666	420	1,086	33.7	10	732	442	1,175	36.5	12	811	461	1,272	39.5
<b>TOTAL</b>	<b>199</b>	<b>10,792</b>	<b>3,788</b>	<b>14,683</b>	<b>455.9</b>	<b>206</b>	<b>12,634</b>	<b>4,074</b>	<b>16,828</b>	<b>522.5</b>	<b>220</b>	<b>15,273</b>	<b>4,893</b>	<b>20,297</b>	<b>630.2</b>	<b>242</b>	<b>17,810</b>	<b>5,422</b>	<b>23,368</b>	<b>725.5</b>

Source: MAAS Companies Projections

### Qualification for Space

Space needs as defined by the State’s Title V guidelines are largely predicated on the program of instruction’s ability to generate WSCH – i.e. the need for space is directly tied to the growth or decline of the program of instruction. The application of growth is not limited to just classroom (lecture) and laboratory spaces but to all space on the campus. While there are other criteria and measures for space, generally, the more WSCH generated, the greater the need for space; lesser values for WSCH decrease the need for space.

While important benchmarks for calculating growth (or decline) over time, the Indian Wells Valley Campus should not direct its entire focus on achieving the levels established for WSCH at each five-year interval between 2015 and 2030. Rather, the emphasis should be placed on ensuring that the appropriate types of space are in place whenever the WSCH milestones are met – that may be sooner or later than the established benchmarks.

### Campus Space Needs to Support the Program of Instruction

The following table depicts total space needs / qualifications for the Indian Wells Valley Campus through the year 2030. The space needs / qualifications are based on the State’s Title V guidelines. The formulas derived for space are tied directly to WSCH generation, FTES, student enrollment, full-time equivalent faculty (FTEF) and day-graded enrollment. There are five space categories that are closely monitored by the State. These are used to determine funding worthiness when monies from the State are available. Space needs, however, include not only those directly related to the program of instruction (lecture and laboratory), office, library and instructional media but also fourteen non-state monitored spaces that are integral to providing students with a complete campus. The need /qualification for space from the State’s perspective is predicated on a program of instruction that maintains a healthy level of efficiency.

The table that follows depicts the qualification for space via the State Title V standards for IWV Campus.

**Indian Wells Valley Campus: Total Space Needs Via State Title 5 Standards**

<b>Key Space Categories Monitored by the State</b>					
<b>Category</b>	<b>Description</b>	<b>Current Space</b>	<b>2030 Space Title V Allow</b>	<b>Delta</b>	<b>Qualification for Space 2030</b>
100	Classroom	6,345	8,406	2,061	2,061
210-230	Laboratory	27,846	10,994	(16,852)	0
235-255	Non-Class Laboratory	-	404	404	404
300	Office/Conference	17,821	6,609	(11,212)	0
400	Library	21,537	16,658	(4,879)	0
530-535	(AV/TV)	2,123	8,304	6,181	6,181
	<b>sub total</b>	<b>75,672</b>	<b>51,375</b>	<b>(24,297)</b>	<b>8,646</b>
<b>Non-State Monitored Space Categories</b>					
<b>Category</b>	<b>Description</b>	<b>Current Space</b>	<b>2030 Space Title V Allow</b>	<b>Delta</b>	<b>Qualification for Space 2030</b>
0	Inactive	37,469	0	(37,469)	0
510-515	Armory/Armory Service	-	0	0	0
520-525	Phys. Ed. (Indoor)	26,367	27,500	1,133	1,133
540-555	Clinic/Demonstration	5,238	1,702	(3,536)	0
580	Greenhouse	-	0	0	0
590	Other	-	0	0	0
610-625	Assembly/Exhibition	1,401	4,256	2,855	2,855
630-635	Food Service	117	2,554	2,437	2,437
650-655	Lounge/Lounge Service	180	486	306	306
660-665	Merchandizing	972	2,926	1,954	1,954
670-690	Meeting /Recreation	1,458	1,417	(41)	0
710-715	Data Processing/Comp.	-	650	650	650
720-770	Physical Plant	13,595	4,908	(8,687)	0
800	Health Services	-	680	680	680
	<b>sub total</b>	<b>86,797</b>	<b>47,079</b>	<b>(39,718)</b>	<b>10,015</b>
<b>TOTAL</b>		<b>162,469</b>	<b>98,454</b>	<b>(64,015)</b>	<b>18,661</b>

Source: Kern Community College District Report 17 2017/2018; State Title V Standards; analysis MAAS Companies

Note: All space needs have been calculated via the Title V standards, using WSCH, headcount, FTES, Day graded Enrollments and FTEF as the common measures

Via Title V standards and growth allocated to the projected program of instruction, the IWV Campus will show a need for 2,061 ASF of additional Lecture space by the year 2030. Laboratory space for 2030 will be more than be accommodated by the Campus’ existing inventory of 27,846 ASF. The 2030 program of instruction is projected to need only 10,994 ASF of laboratory space plus another 404 ASF of non-class laboratory space for this category.

In other key space categories monitored by State, Office/Conference space, with current space holdings of 17,821 ASF will not need additional space by 2030. In fact, it is projected to have 11,212 ASF in excess of the Title V qualification for space. Library space, with a current inventory of 21,537 ASF and qualification for 16,658 ASF in 2030 will also not have a need for space. Of the key space categories monitored by the State, only Instructional Media (AV/TV) will qualify for additional space. By 2030, that will amount to 6,181 ASF. Overall, the key space categories monitored by the State are projected to show an additional need of 8,646 ASF as projected in the year 2030.



The State guidelines for the non-state monitored space categories show space deficits in 2030 for Physical Education (+1,133 ASF), Assembly/Exhibition (+2,855 ASF), Food Service (+2,437 ASF), Lounge / Lounge Service (+306 ASF), Merchandizing (+1,954 ASF), Data Processing (+650) and Health Services (+680 ASF). Overall, needs/qualification for non-state monitored space translates to +10,015 ASF.

## On-Line Education

### Overview

The virtual campus at Cerro Coso Community College is referred to as CC On-Line. It provides students with an opportunity to take courses from a distance. The delivery of the on-line format is one that allows students to interact with faculty in a virtual classroom setting. Its goal is to provide a quality educational experience while at the same time allowing students maximum flexibility and convenience in the pursuit of their educational endeavors.

Overall, the On-Line Program of Instruction offers 18 accredited (on-line) associate degrees, 17 on-line certificates, and more than 160 courses per year. It has a strong history of success and has served as a model for other postsecondary institutions who have pursued distance education as a method for delivering a program of instruction.

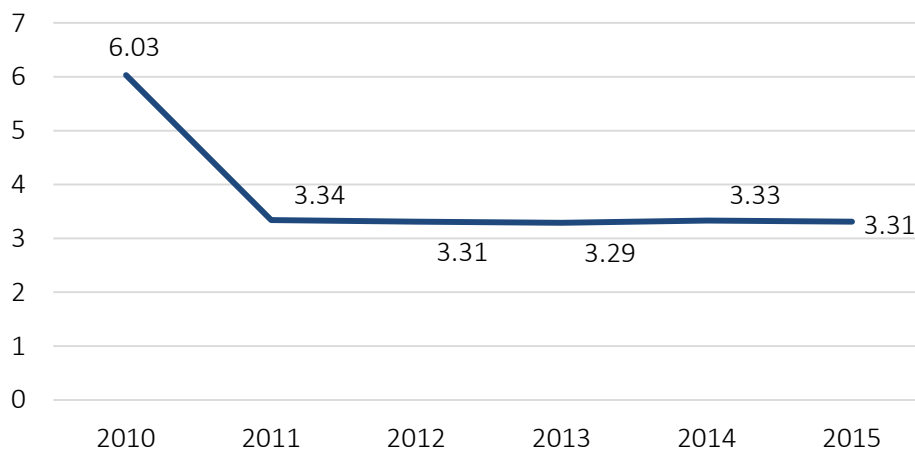
### Historical Trends that Will Influence Future Growth

The On-Line Program of Education has shown steady and consistent growth in student enrollment over the past 15-years. Using 2001 as starting point, enrollment has increased from 1,596 to 5,255 in 2015. The On-Line Program reached its highest point in 2011 when it registered 6,410 for the Fall Semester. From 2010 to 2015, student enrollment increased by 35.16% overall and produced an annual average gain of 7.03%.

The production of WSCH has also shown significant gains over the past 15-years. It more than doubled from its starting point of 9,466 WSCH in 2001 to reach its high-water mark of 23,425 WSCH in 2010. WSCH, over past 5-years, however, has trended downward. It dropped to a low of 16,761 in 2014 and rebounded only slightly in 2015. The downward trend has resulted in an overall loss of -18.65% and an annual average decline of -3.73% from 2011 to 2015.

Data compiled for WSCH generated per student enrollment over the past 5-years more accurately captures the connection between and the impact of these two key measures.

### On-Line Education: Past 5-Year Trend WSCH / Enrollment

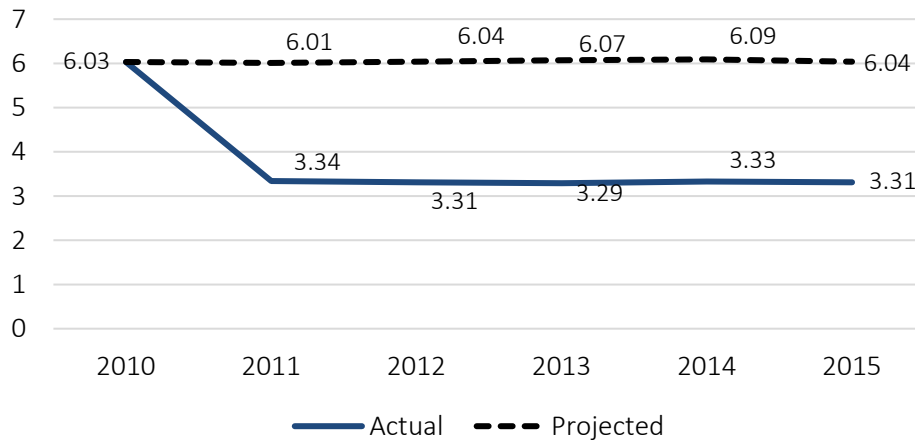


Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

While enrollment has increased, WSCH generation has decreased. This has had the impact of more students availing themselves of the On-Line Program but carrying smaller course loads. Using a three-credit course as a basis for comparison, students from 2011 to 2015 took on average, 1.11 classes through the On-line Program per (Fall) semester. For the 2010 Fall Semester, students took the equivalent of 2.01 classes through the On-Line Program, almost twice the current average. For further perspective, WSCH per enrollment has average 5.21 over the past 15-years. This underscores a significant concern for the On-line Program going forward.

The graphic that follows depicts the actual WSCH per enrollment generated over the past five years with what was projected in the 2012 Educational Master Plan.

**On-Line Education: Actual vs. Projected WSCH / Enrollment**



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

WSCH per enrollment averaged 6.16 from 2001 to 2010. In the 2012 Educational Master Plan, it was projected to maintain a pace that was slightly over 6.0 for the period 2010 to 2015. Beginning in 2011 and continuing through 2015, WSCH per enrollment has averaged only 3.32.

**Current Status**

**Existing Program of Instruction**

The current On-line Program of Instruction is summarized in the table that follows. For this review, analysis was conducted at the section level for each program/discipline. The information obtained was then aggregated at the department level. The current program of instruction provides an excellent starting point from which to view the health and status of the On-Line Program. It also provides an excellent foundation for forecasting a future program of instruction.

## On-line Education: Characteristics of Fall 2015 Program of Instruction

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	FTES	FTEF	Lec. Hrs	Lab Hrs.	On-Line Hrs.	Indep. Study
Allied Health	19	471	24.79	1,166.27	61.38	36.21	2.60	810	0	126	180
CIS / Business	41	1032	25.17	3518.47	85.82	109.24	9.19	1746	1476	810	0
Child Dev./Education	30	1044	34.80	3160.31	105.34	98.12	6.13	1494	90	162	0
Counseling	6	200	33.33	383.93	63.99	11.92	0.47	180	108	18	0
English	16	469	29.31	1937.99	121.12	60.17	4.80	810	0	666	0
Library	2	66	33.00	143.01	71.51	4.44	0.13	72	72	0	0
Mathematics	15	468	31.20	1898.05	126.54	58.93	4.07	666	0	936	0
Physical Education	3	98	32.67	294.06	98.02	9.13	0.60	108	0	108	0
Public Service	4	132	33.00	395.85	98.96	12.29	0.80	270	0	0	0
Science	4	115	28.75	532.09	133.02	16.52	1.20	270	216	54	0
Social Science	28	840	30.00	2,520.00	90.00	78.24	5.60	1,512	0	54	0
Visual & Perf. Arts	9	321	35.67	1,445.84	160.65	44.89	2.60	702	432	0	0
<b>TOTAL</b>	<b>177</b>	<b>5,256</b>	<b>29.69</b>	<b>17,395.87</b>	<b>98.28</b>	<b>540.10</b>	<b>38.19</b>	<b>8,640</b>	<b>2,394</b>	<b>2,934</b>	<b>180</b>

Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

The current program of instruction for on-line is characterized as having twelve departments. For the baseline semester used (Fall 2015), the On-line Program of Instruction featured a total of 177 class sections. These class sections generated 17,396 WSCH and accounted for 540.10 full-time equivalent students (FTES). Overall, class sizes averaged 29.69 enrolled seats per section. The 177 classes sections generated, on average, 98.28 WSCH per section. The average WSCH per load (FTEF) for the 2015 Fall Semester was 476.33.

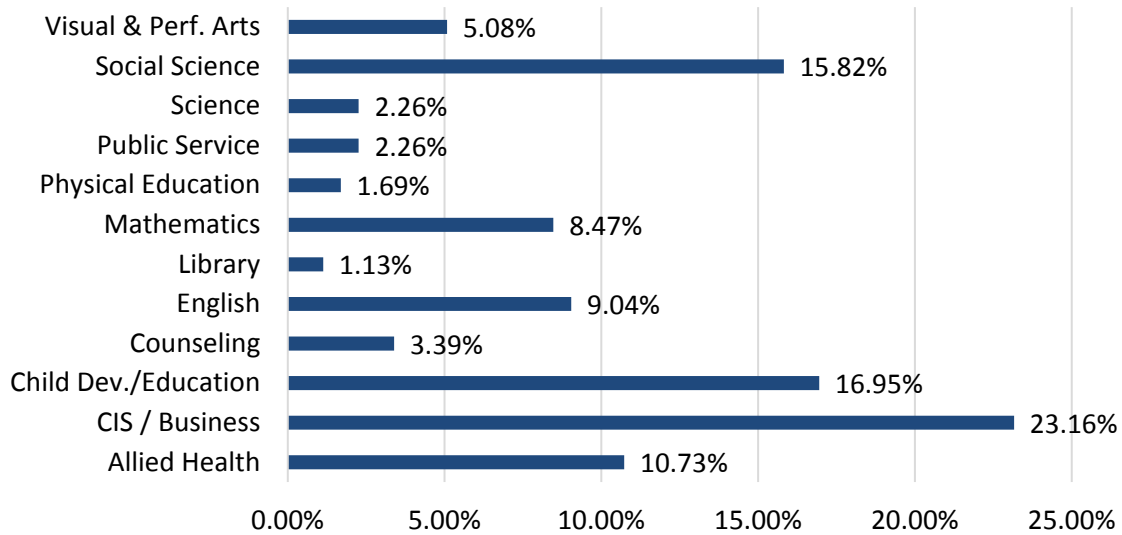
As previously noted, there has been a decline in the WSCH generated since the last Educational Master Plan was completed (2012). In 2010 (the baseline year for last Educational Master Plan) WSCH generation was 21,383. For the 2015 Fall Semester, it was 17,396. The number of class sections also declined from 212 in 2010 to 177 in 2015. When the last Educational Master Plan was completed, enrolled seats per section averaged 33.55 as compared to the 29.69 for the 2015 Fall Semester.

### Distribution of the Curriculum

The current On-line Program of Instruction program is led by CIS/Business. This department accounts for 23.16% of the on-line curriculum. It is followed by Child Development/Education with 16.95% of the curriculum share and Social Science with 15.82%. The fourth greatest percentage share of the curriculum is Allied Health with 10.73%. Combined, these four departments account for two-thirds of all curricular offerings of the on-line program of instruction.

The graphic that follows captures the current curriculum distribution for the twelve departments that comprise the On-Line Program of Instruction.

**On-Line Education: Current (2015) Distribution of the Curriculum**

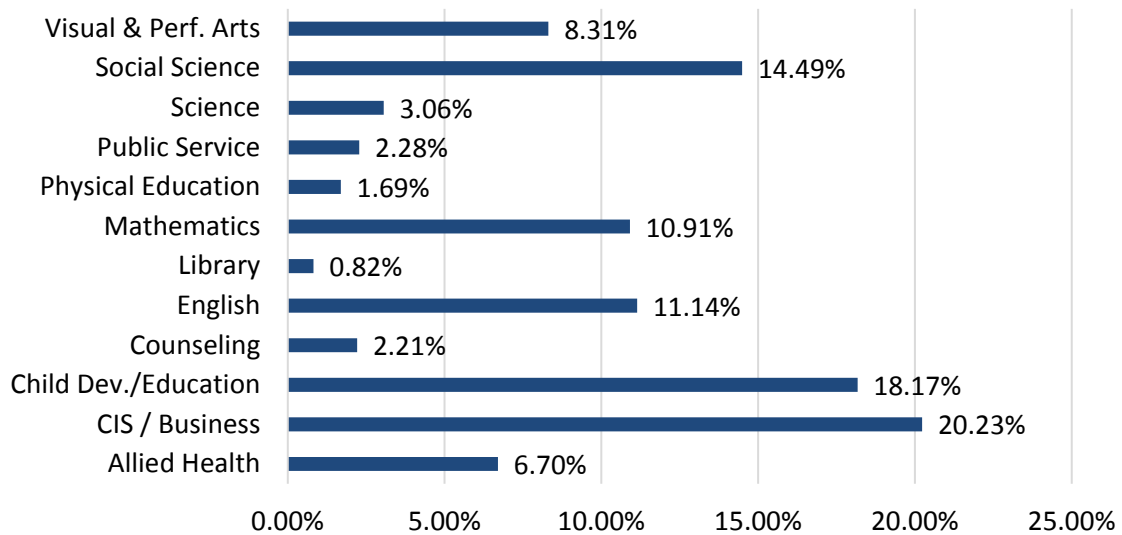


Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

**Distribution of the WSCH**

This curricular measure for WSCH generation was led by three of the four Departments that held the greatest percentage shares of the curriculum. CIS/Business accounted for 20.23% of all WSCH generated for the on-line program of instruction. It was followed by Child Development/Education at 18.17% and Social Science at 14.49%. English and Mathematics were the two newcomers. They posted double digit shares of 11.14% and 10.91% respectively. Combined, these five departments accounted for 75% of all WSCH generated via the on-line program of instruction for the 2015 Fall Semester. The measure of WSCH generation for all twelve departments is captured in the graphic that follows.

**On-Line Education: Current (2015) Distribution of WSCH**



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

## Current Space Holdings for the On-line Program of Instruction

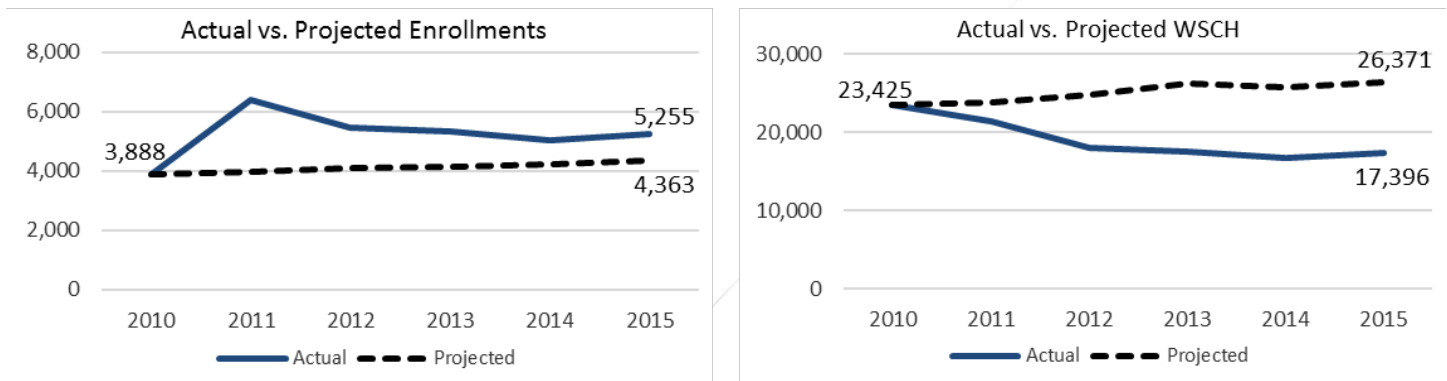
Because the on-line program of instruction is offered as “distance education” it is not supported by lecture and laboratory space and/or other similar space that would normally sustain students that were “on-campus”. Space to support the on-line program of instruction would be found in designated office space on the campuses as well as in Instructional Media.

## *Future Projections*

### The Campus’ Capacity for Growth

When the last Educational Master Plan 2012 was completed, the annual student enrollment growth rate for the initial 5-years (from 2010 to 2015) was projected to be 2.04%; WSCH was projected to grow at 2.10% annually. At the end of the 2015 Fall Semester, the actual annual rate of student enrollment growth averaged 5.86% while WSCH growth declined at an average annual rate of -4.29%. The following graphic shows how the On-line Program of Instruction actually fared against the projections from the 2012 Educational Master Plan relative to student enrollment and WSCH generation. The capacity of the On-line Program’s future growth will be significantly influenced by the level of growth it has been able to achieve in the past.

### **On-line Education: Forecasted Projections Versus Actual 2010 – 2015**

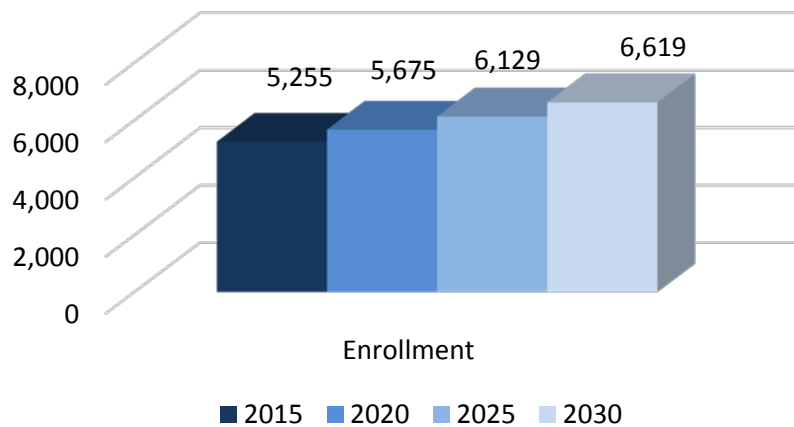


Source: Cerro Coso Community College 2012 Educational Master Plan and data from the Office of Institutional Research; analysis MAAS Companies

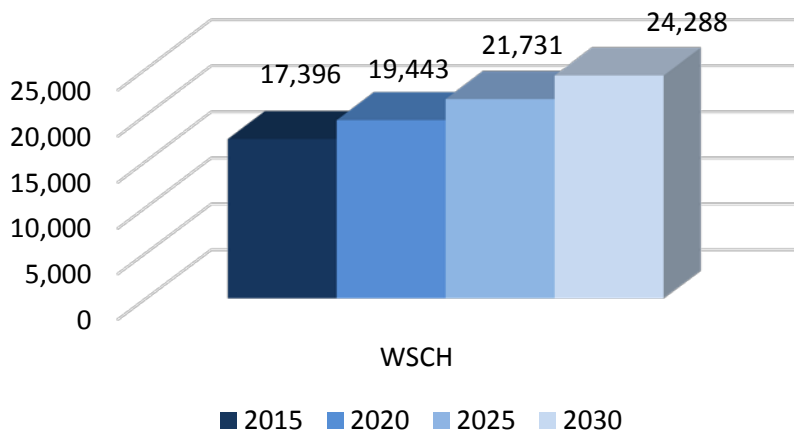
### Projected Forecast for Growth

Considering all of the factors (i.e. past historical performance, capacity to serve students who may be less prepared, the emphasis placed on student retention and academic success and a strong track record in distance education), the forecast for the On-Line Program of Instruction is for moderate but continuing growth for student enrollment and for more aggressive growth (in excess of the recent historic trends) for WSCH generation. The annual growth rate for student enrollment is projected at 1.73%; for WSCH it is 2.64%. For student enrollment, this translates to a 26.0% overall increase from 2015 to 2030. The long-term growth rate for WSCH projects to an overall increase of 39.6%. The projected growth for enrollment and WSCH in terms of absolute values is captured in the graphics that follow.

### On-Line Education: Projected Growth for Enrollments



### On-Line Education: Projected Growth for WSCH



Source: MAAS Companies Projections

### The Application of Growth to the Future Program of Instruction

Similar to the analysis conducted for review of the current program of instruction, growth for the future program was done on a program/discipline basis and assembled back into the department level. Growth allocation, as applied to the future program of instruction, was not done equally across the board. Stronger performing programs/disciplines were given a greater range for growth than programs/disciplines performing at a subpar level. Based on the forecasts for student enrollments and WSCH, the program of instruction is projected for incremental expansion. The priority for the On-line Program of Instruction will be on curricular efficiency, recapturing some of the ground lost, particularly for WSCH, and for improving the course loads of students who are enrolled. Applying the growth forecasts previously noted for enrollment and WSCH, the characteristics of the 2030 program of instruction are captured in the table that follows.

### On-Line Education: Characteristics of Projected Program of Instruction for the Year 2030

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	Lec. WSCH	Lab WSCH	FTES	% of Curr.	% of WSCH
Allied Health	23	652	28.34	1,614.14	70.18	1,614.14	0.00	50.12	9.87%	6.65%
CIS / Business	49	1403	28.63	4,782.56	97.60	3,154.59	1627.97	148.49	21.03%	19.69%
Child Dev./Education	33	1163	35.23	3,519.45	106.65	3,308.28	211.17	109.27	14.16%	14.49%
Counseling	8	304	38.00	583.71	72.96	400.08	183.63	18.12	3.43%	2.40%
English	24	669	27.89	2,765.56	117.56	2,765.56	0.00	85.86	10.30%	11.39%
Library	3	109	36.40	236.64	58.66	118.32	118.32	7.35	1.29%	0.97%
Mathematics	21	620	29.51	2,513.70	136.85	2,513.70	0.00	78.04	9.01%	10.35%
Physical Education	5	181	36.23	543.70	79.69	543.70	0.00	16.88	2.15%	2.24%
Public Service	7	246	35.19	738.78	75.15	738.78	0.00	22.94	3.00%	3.04%
Science	8	238	29.78	1,102.42	156.40	613.41	489.01	34.23	3.43%	4.54%
Social Science	38	1325	34.86	3,974.45	96.22	3,974.45	0.00	123.40	16.31%	16.36%
Visual & Perf. Arts	14	425	30.34	1,913.00	106.00	1,311.49	601.51	59.39	6.01%	7.78%
<b>TOTAL</b>	<b>233</b>	<b>7,335</b>	<b>31.48</b>	<b>24,288.11</b>	<b>104.24</b>	<b>21,056.50</b>	<b>3,231.61</b>	<b>754.09</b>		

Source: MAAS Companies Projections

Based on the application of the growth rate capacities, the 2030 On-line Program of Instruction is projected have 233 course offerings that generate a total of 24,288.11 WSCH and 754.09 FTES. WSCH produced per class section is projected to reach 104.24 and enrolled seats per section average 31.48. The future on-line program of instruction is projected to be primarily driven by the departments of CIS/Business, Social Science, Child Development/Education, English and Mathematics. Combined, these departments project to account for more than 70% of the curricular offerings and generate more than 70% of the WSCH and FTES produced.

A look at the On-line Program of Instruction is provided via a composite breakdown from the baseline year of 2015 to the year 2030. For this analysis, the key elements of net sections, WSCH, FTES, lecture WSCH and laboratory WSCH were used to provide a frame of reference and a basis for comparison.

### On-line Education: Composite Profile of the Program of Instruction Projections 2015 – 2030

Department	Actual					Projected														
	YR 2015					YR 2020					YR 2025					YR 2030				
	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES
Allied Health	19	1,166	-	1,166	36.2	20	1,323	0	1,323	41.1	21	1,513	0	1,513	47.0	23	1,614	0	1,614	50.1
CIS / Business	41	1,900	1,618	3,518	109.2	43	2,575	1,303	3,878	120.4	46	2,874	1,463	4,336	134.6	49	3,155	1,628	4,783	148.5
Child Dev./Education	30	2,971	190	3,160	98.1	31	3,106	198	3,304	102.6	32	3,252	208	3,460	107.4	33	3,308	211	3,519	109.3
Counseling	6	384	0	384	11.9	6	277	133	410	12.7	6	305	148	453	14.1	8	400	184	584	18.1
English	16	1,938	0	1,938	60.2	19	2,261	0	2,261	70.2	21	2,507	0	2,507	77.8	24	2,766	0	2,766	85.9
Library	2	72	72	143	4.4	2	76	76	153	4.7	3	111	111	223	6.9	3	118	118	237	7.3
Mathematics	15	1,898	0	1,898	58.9	17	2,081	0	2,081	64.6	19	2,245	0	2,245	69.7	21	2,514	0	2,514	78.0
Physical Education	3	294	0	294	9.1	3	307	0	307	9.5	4	401	0	401	12.4	5	544	0	544	16.9
Public Service	4	396	0	396	12.3	5	531	0	531	16.5	6	633	0	633	19.7	7	739	0	739	22.9
Science	4	298	234	532	16.5	5	382	310	692	21.5	6	478	374	852	26.5	8	613	489	1,102	34.2
Social Science	28	2,520	0	2,520	78.2	31	2,978	0	2,978	92.5	35	3,454	0	3,454	107.2	38	3,974	0	3,974	123.4
Visual & Perf. Arts	9	896	549	1,446	44.9	11	1,026	488	1,514	47.0	12	1,161	494	1,655	51.4	14	1,311	602	1,913	59.4
<b>TOTAL</b>	<b>177</b>	<b>14,733</b>	<b>2,663</b>	<b>17,396</b>	<b>540.1</b>	<b>193</b>	<b>16,925</b>	<b>2,508</b>	<b>19,433</b>	<b>603.3</b>	<b>211</b>	<b>18,933</b>	<b>2,798</b>	<b>21,731</b>	<b>674.7</b>	<b>233</b>	<b>21,057</b>	<b>3,232</b>	<b>24,288</b>	<b>754.1</b>

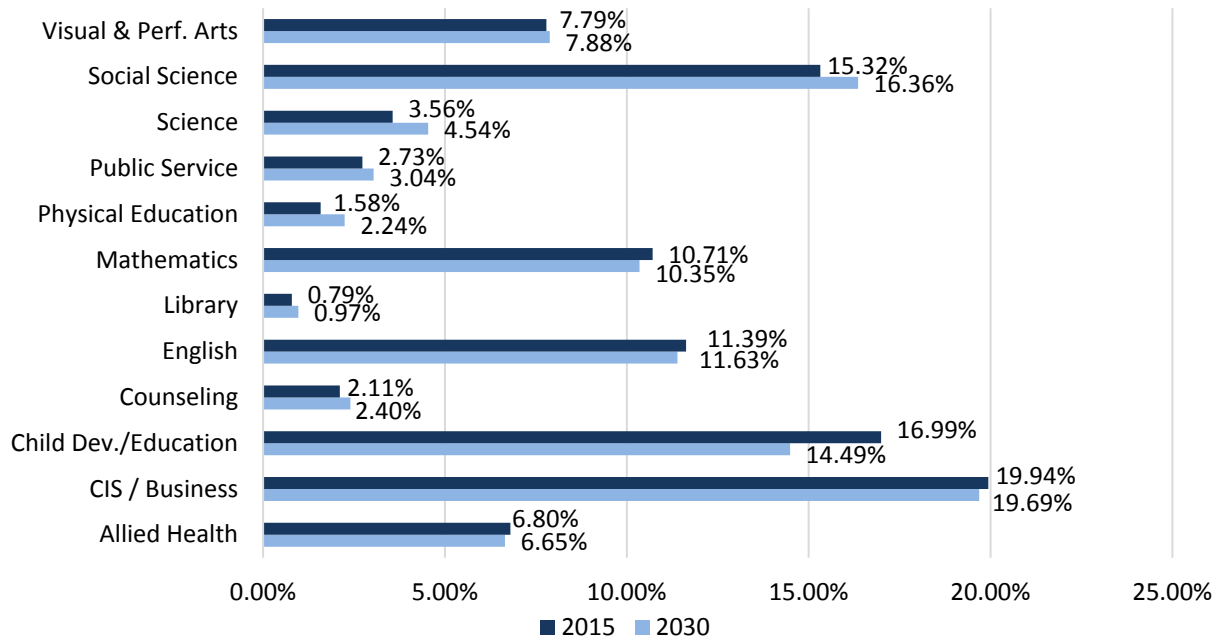
Source: MAAS Companies Projections



## WSCH Generation: Current and Projected Programs of Instruction

The following graphic provides a visual comparison of the On-line Program of Instruction (in terms of department percentage shares) for WSCH generation as it currently is (year 2015) and as it is projected (year 2030).

### On-line Education: Relative Values for WSCH Generation 2015 – 2030



Source: Cerro Coso Community College 2012 Educational Master Plan and data from the Office of Institutional Research; MAAS Companies projections

## *Qualification for Space*

The State does not recognize the need for space for virtual campuses, as the nature of the On-line Program of Instruction is based on providing education outside of the bricks and mortar of the institution. Space designated for Instructional Media and Office (to accommodate faculty providing the distance learning courses) is expected to be allocated at each campus site that is engaged in the provision of on-line education. While WSCH and FTES are accounted for in the funding formulas of the College, designated space for the provision of on-line instruction is not.

## Eastern Sierra College Center

### *Overview*

The Eastern Sierra College Center is comprised of two sites. One is situated in Bishop, California, the other in Mammoth, California. Both are located on the eastern side of the Sierra Nevada Mountain Range. The Bishop Center is physically located in Inyo County. Its population base is scattered along Highway 395 in small communities that are roughly within a 20-mile range. The Mammoth Center is located to the north in Mono County. It has population-base that is primarily clustered around the Mono Lakes area. The two campuses are approximately an hour's drive from each other. Because the centers are so different, they will be viewed both separately and collectively in this section of the Educational Master Plan.

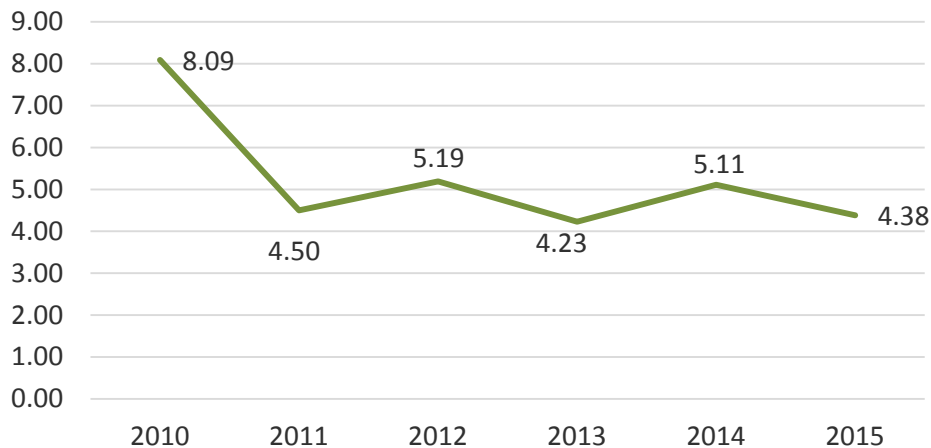
### Historical Trends that Will Influence Growth Capacity

The trends for the two key measures of growth or decline at the Eastern Sierra College Center, i.e. student enrollment and WSCH generation, share commonalities with other campuses that comprise the College. At the Bishop Center, student enrollment has fluctuated significantly over the past 15-years. Starting in the Fall Semester of 2001, when student enrollment was 529, it dipped to a low of 273 in 2005, rebounded to a 15-year high of 830 in 2006, declined to 312 in 2010 and rose to a second all-time high of 577 in 2011. Since that time, student enrollment has averaged 457. Over the past 5-years, it has been declining. WSCH, over the same 15-year view period, started at 2,303 in 2001, and, after declining from 2002 to 2005, rebounded with a highwater mark of 3,160 in 2008. Over the past 5-years, WSCH has been in a state of decline. For 2015 Fall Semester, it was down to 1,907.

At the Mammoth Center, student enrollment, after hitting a low of 161 in 2006, has been on the upswing, particularly over the past 5-years. In 2010, it was 228. From 2011 to 2015, however, it averaged 441. For the 2015 Fall Semester, it was 458. The pattern for WSCH production at the Mammoth Center, however, shows a loss of approximately 300 WSCH from 2010 to 2015. This represents -14.03% overall or an annual average decline of -2.81%.

Data compiled in the graphic that follows melds the measures of student enrollment and WSCH into a hybrid relationship – the amount of WSCH generated per student enrollment.

#### Bishop Center: Past 5-Year Trend WSCH / Enrollment

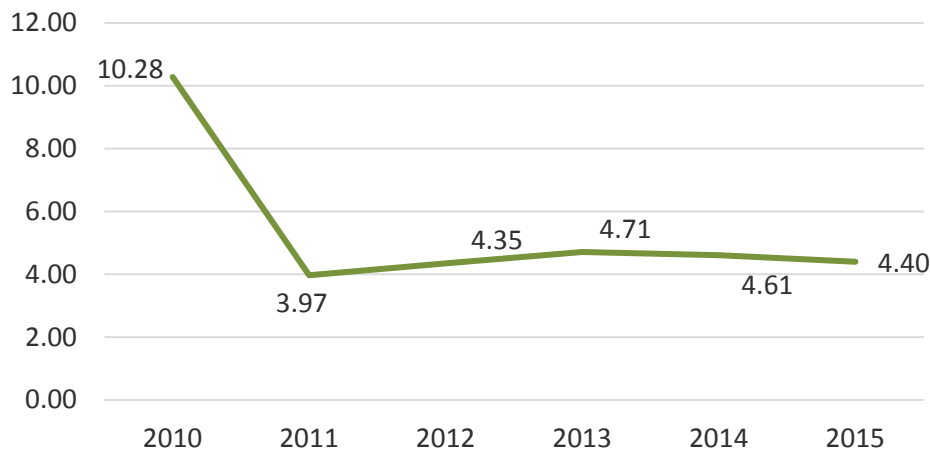


Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

The measure for WSCH per enrollment at the Bishop Center shows a consistent pattern of decline in the course loads taken by students over the past 5-years. For the 2015 Fall Semester, students took, on average (using a three-credit course as the basis for comparison), course loads of only 1.46. For 2015, the WSCH per enrollment at the Bishop Center was 4.38. As a basis for comparison, the WSCH per enrollment average over the past 15-years has been 5.32.

The trend at the Mammoth Center was similar. Over the past 5-years, there has been a decline in WSCH production and a new plateau established at a much lower level. Reference to the current condition for WSCH generated per enrollment is captured in the graphic that follows.

### Mammoth Center: Past 5-Year Trend WSCH / Enrollment



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

For the 2015 Fall Semester, the Mammoth Center registered 4.40 WSCH per enrollment. It has averaged 5.26 WSCH per enrollment over the past 15-years. The measures for the past 5-years have all fallen under that average. The for 2015 data suggest that students took, on average (using a three-credit course as the basis for comparison), a course load of only 1.47. This is down considerably from the highwater mark of 2010, when WSCH per enrollment rendered equivalent student course loads of 3.43. For comparative purposes, when the 2012 Educational Master Plan was completed, WSCH per enrollment at the Bishop Center was projected to maintain a pace that ranged between a high of 8.09 to a low of 6.42. At the Mammoth Center, the 2012 Educational Master Plan forecast was for a range of 10.28 to 10.10.

### ***Current Status***

#### **The Existing Program of Instruction**

The existing program of instruction (2015 Fall Semester) for the at the Bishop Center is summarized, at the department level, in the table that follows. The program of instruction serves to not only provide a snapshot of the current curricular status at the Bishop Center but it also facilitates the planning process by providing an excellent foundation from which to build the program of instruction for the future. Whether it is to meet future space needs for academic purposes, to address the requirements of support and administrative services, to define the physical structures on the campus or to support campus logistics, all needs on campus relate to and emanate from the program of instruction.

### Bishop Center: Characteristics of Fall 2015 Program of Instruction

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	FTEs	FTEF	Lec. Hrs	Lab Hrs.	On-Line Hrs.	Indep. Study
Allied Health	4	30	7.50	199.69	49.92	6.20	0.70	306	162	108	144
CIS / Business	1	11	11.00	37.36	37.36	1.16	0.10	0	0	54	0
Child Dev./Education	2	16	8.00	5.15	2.58	0.16	0.25	0	0	0	108
Counseling	1	45	45.00	103.39	103.39	3.21	0.00	36	0	0	0
English	2	59	29.50	271.52	135.76	8.43	0.60	144	0	0	0
Mathematics	2	53	26.50	243.82	121.91	7.57	0.53	144	0	0	0
Physical Education	2	24	12.00	83.42	41.71	2.59	0.15	108	0	0	0
Science	2	44	22.00	299.22	149.61	9.29	0.80	324	324	0	0
Social Science	4	82	20.50	278.93	69.73	8.66	0.40	216	0	0	0
Visual & Perf. Arts	5	71	14.20	383.28	76.66	11.90	0.98	432	324	0	0
<b>TOTAL</b>	<b>25</b>	<b>435</b>	<b>17.40</b>	<b>1,905.78</b>	<b>76.23</b>	<b>59.17</b>	<b>4.51</b>	<b>1,710</b>	<b>810</b>	<b>162</b>	<b>252</b>

Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

The current program of instruction at the Bishop Center is characterized as having ten departments. For the 2015 Fall Semester, the program of instruction featured 25 class sections. These class sections generated 1,905.78 WSCH and accounted for 59.17 FTEs. The average enrolled seats per section was 17.40. Class sections generated, on average, 76.23 WSCH per section. Lecture hours accounted for 1,710 of the total instructional hours taught while laboratory hours tallied 810. Additionally, the Bishop Center logged a total of 162 hours of on-line education and 252 hours of independent study. The average WSCH per load (FTEF) for the 2015 Fall Semester was 422.57. In contrast, the Bishop Center had 35 class sections that generated 2,524 WSCH and produced 78.38 FTEs in the 2012 Educational Master Plan. The measures for enrolled seats per section was lower in 2012 (15.83) as was the WSCH generated per section (72.13).

The table that follows depicts the current program of instruction at the Mammoth Center.

### Mammoth Center: Characteristics of Fall 2015 Program of Instruction

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	FTEs	FTEF	Lec. Hrs	Lab Hrs.	On-Line Hrs.	Indep. Study
Allied Health	4	46	11.50	258.96	64.74	8.04	0.77	362	342	108	0
CIS / Business	1	20	20.00	67.96	67.96	2.11	0.10	0	0	54	0
Child Dev./Education	2	6	3.00	2.58	1.29	0.08	0.25	0	0	0	108
Counseling	1	45	45.00	103.39	103.39	3.21	0.00	36	0	0	0
English	4	104	26.00	455.43	113.86	14.14	1.13	288	0	0	0
Mathematics	2	46	23.00	211.61	105.81	6.57	0.53	144	0	0	0
Science	2	49	24.50	333.04	166.52	10.34	0.80	216	216	0	0
Social Science	4	82	20.50	278.93	69.73	8.66	0.40	216	0	0	0
Visual & Perf. Arts	3	60	20.00	303.08	101.03	9.41	0.58	216	108	0	0
<b>TOTAL</b>	<b>23</b>	<b>458</b>	<b>19.91</b>	<b>2,014.98</b>	<b>87.61</b>	<b>62.56</b>	<b>4.56</b>	<b>1,478</b>	<b>666</b>	<b>162</b>	<b>108</b>

Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

For the 2015 Fall Semester, the Mammoth Center program of instruction was characterized as having 23 class sections that generated 2,015 WSCH and 62.56 FTEs. Lecture hours dominated laboratory hours by more than a 2 to 1 margin, 1,478 hours of lecture to 666 hours of laboratory. On-line instruction at the Campus accounted for 162 hours while independent study was responsible for 108 hours of instructional time. The WSCH generated per section was 87.61 and enrolled seats per section averaged 19.91. Compared to the data presented in the 2012 Educational Master Plan (2010 Fall Semester used as a baseline), class sections offered equaled 24, while WSCH and FTEs were significantly higher at 2,346 and 72.85 respectively. The measures for WSCH per section and enrolled seats per section was also higher at 97.77 and 22.75 respectively.

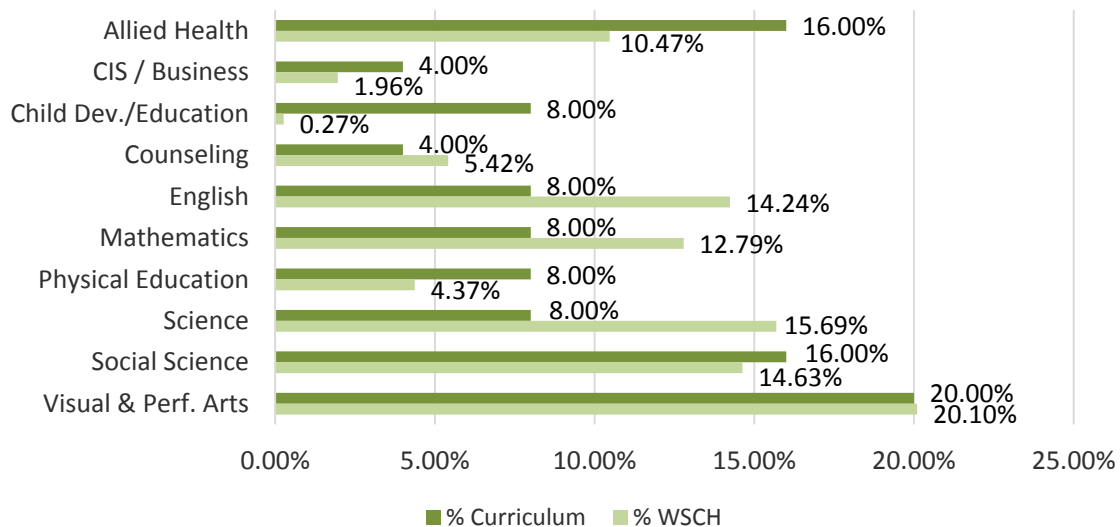
## Distribution of the Curriculum / Distribution of WSCH Generation

The current program of instruction at the Bishop Center is dominated by the departments of Visual and Performing Art, Social Science, Allied Health and Science. Combined, these departments account for 60% of the curriculum and generate 61% of the WSCH produced. Individually, Visual and Performing Arts represents 20.0% of all curricular offerings and 20.10 % of all WSCH generated. Social Science maintains a 16.0% share of the curriculum and produces 14.63% of all WSCH. Allied Health represents 16.00% of the overall curriculum and is responsible for 10.47% of the WSCH at the Bishop Center. Science, English and Mathematics have the distinction of accounting for smaller shares of the curriculum but generating substantial comparative WSCH. Each accounts for 8.00% of the curricular offerings; each, however, generates double digit percentage shares relative to WSCH production (15.69%, 14.25% and 12.79% respectively).

The Mammoth Center has English as its dominate department. It represents 17.39% of the curriculum and produces almost one-fourth (22.59%) of all WSCH. It is followed by Social Science, which accounts for 17.39% of the curriculum and generates 13.84% of all WSCH, and Visual and Performing Arts, which represents 13.04% of the curriculum and is responsible for 15.03% of the WSCH produced. Allied Health commands a healthy portion of the curriculum at 17.39% with total WSCH production of 12.85%. Science, with 8.70% of the curriculum, almost doubles the commensurate output for the percentage share of WSCH produced with 16.53%. It is the most efficient department of nine departments at the Mammoth Center.

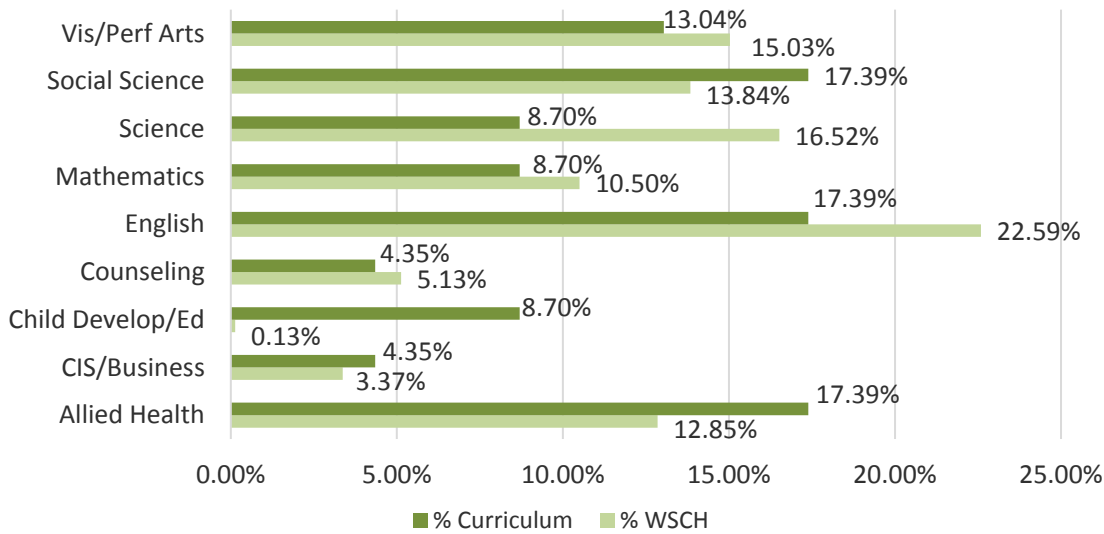
The graphics that follow capture both the current curriculum distribution and the distribution for WSCH for all departments at both the Bishop and Mammoth Centers.

### **Bishop Center: Percent of Curriculum vs. Percent of WSCH**



### Mammoth Center: Percent of Curriculum vs. Percent of WSCH

Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies



### Current Space Holdings to Support the Program of Instruction

Space holdings are defined as the physical facilities owned and used to support the program of instruction and support services on a campus. For the purposes of this perspective, space holdings will be viewed via the official Report 17 of the Kern Community College District, a state mandated document submitted to the State Chancellor’s Office annually. The perspective presented views the space holdings of the Bishop and Mammoth Centers as one – Eastern Sierra Community College (ESCC). A comparison of the space holdings from the 2012 Educational Master Plan (2010 Fall Semester used as the baseline) and the current Educational Master Plan (2015 Fall Semester used as the baseline) is provided in the table that follows.

## Eastern Sierra College Center: Space Holdings

State Rm. Code	Description	2010 Space Inventory	State Rm. Code	Description	2015 Space Allocation
0	Inactive	-	0	Inactive	367
100	Classroom	2,397	100	Classroom	8,506
210-230	Laboratory	7,785	210-230	Laboratory	8,079
235-255	Non-Class Laboratory	-	235-255	Non-Class Laboratory	-
300	Office/Conference	3,422	300	Office/Conference	3,860
400	Library	3,145	400	Library	3,451
510-515	Armory/Armory Service	-	510-515	Armory/Armory Service	-
520-525	Phys Ed. (Indoor)	612	520-525	Phys Ed. (Indoor)	206
530-535	(AV/TV)	2,151	530-535	(AV/TV)	-
540-555	Clinic/Demonstration	-	540-555	Clinic/Demonstration	115
580	Greenhouse	-	580	Greenhouse	-
590	Other	-	590	Other	-
610-625	Assembly/Exhibition	2,970	610-625	Assembly/Exhibition	2,650
630-635	Food Service	-	630-635	Food Service	-
650-655	Lounge/Lounge Service	1,447	650-655	Lounge/Lounge Service	1,191
660-665	Merchandizing	832	660-665	Merchandizing	1,341
670-690	Meeting /Recreation	2,042	670-690	Meeting /Recreation	618
710-715	Data Processing/Comp.	-	710-715	Data Processing/Comp.	942
720-770	Physical Plant	3,135	720-770	Physical Plant	-
800	Health Services	-	800	Health Services	-
<b>Totals</b>		<b>29,938</b>	<b>Totals</b>		<b>31,326</b>

Source: Cerro Coso Community College 2012 Educational Master Plan; Kern Community College District Report 17; analysis MAAS Companies

## Future Projections

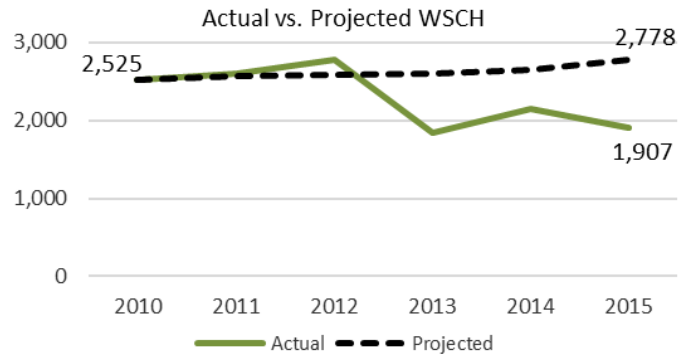
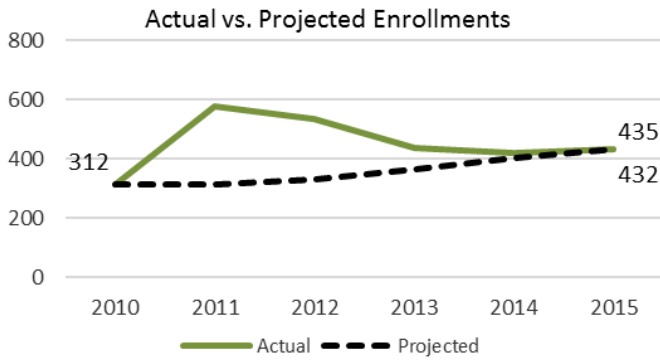
### The Campus' Capacity for Growth

The Eastern Sierra College Center will not be bound by what has occurred in the past but growth for the future will be significantly influenced by the growth capacities that have been achieved in the past. When the last Educational Master Plan 2012 was completed, the annual student enrollment growth rate from 2010 to 2015 for the Bishop Center was projected to be 6.41% on annual basis (i.e. through the first 5-years); WSCH was projected to grow at 1.70% annually. For the 2015 Fall Semester, the actual annual rate of growth for student enrollment averaged 6.57% while WSCH growth declined at an average annual rate of -4.08%.

The graphic that follows shows the projected values forecasted in the 2012 Educational Master Plan versus the actual values attained for measures of student enrollment and WSCH.



**Bishop Center: Forecasted Projections Versus Actual 2010 – 2015**

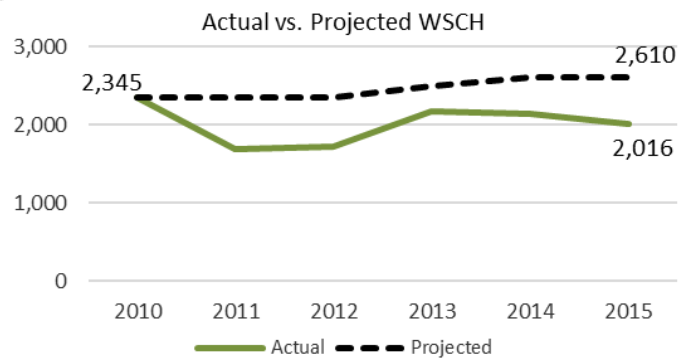
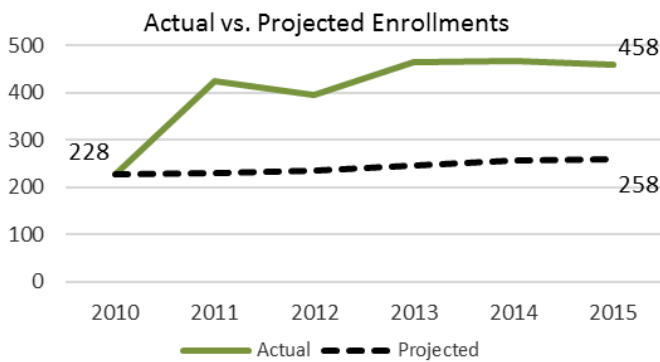


Source: Cerro Coso Community College 2012 Educational Master Plan and data from the Office of Institutional Research; analysis MAAS Companies

The dynamics for projected versus actual student enrollment and WSCH growth from 2010 to 2015 for the Mammoth Center showed an actual annual growth rate of 16.81% for enrollment against a projected annual growth rate of 2.19%. In absolute values, student enrollment at the Mammoth Center went from 228 students to 458 students over the 5-year period. Alternately, WSCH was projected to grow at an annual average rate of 1.88% over the past five years. The actual annual average growth rate, however, was -2.34%. In 2010, WSCH recorded for the Mammoth Center was 2,345. It was down to 2,016 in for the 2015 Fall Semester.

The graphic that follows portrays the actual versus projected rates of growth for both student enrollment and WSCH at the Mammoth Center.

**Mammoth Center: Forecasted Projections Versus Actual 2010 – 2015**



Source: Cerro Coso Community College 2012 Educational Master Plan and data from the Office of Institutional Research; analysis MAAS Companies

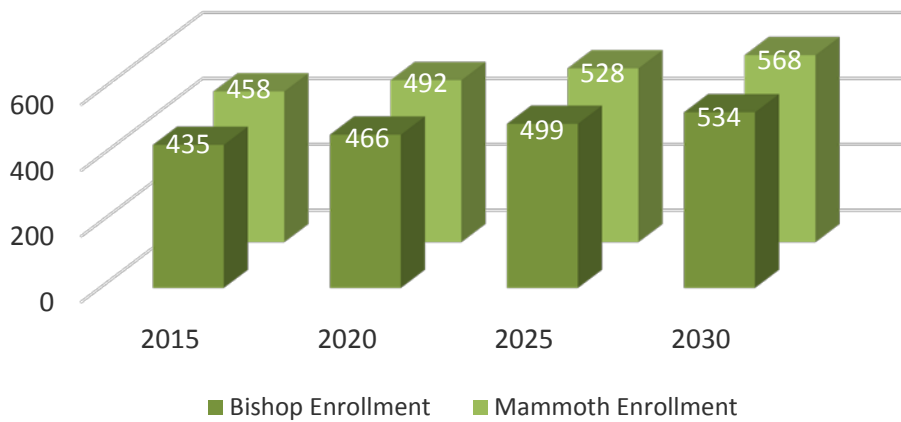
### Projected Forecast for Growth

Considering the key factors, including the past track record of ESCC, the population dynamics and capacities of the service areas, the projected rates of high school graduation, the ability to retain students, the ability to attract new students and an appreciation for the need to improve the level of curricular productivity/efficiency, the forecast for the Eastern Sierra College Center is for continued but slower gains for student enrollment and for significant gains in WSCH generation. The Bishop Center annual growth rate capacity over the next 15-years is projected at 1.52% for student enrollment and 2.64% for WSCH. This translates to a cumulative 22.8% increase in student enrollment over the next 15-years. For WSCH, the long-term growth rate projects at an overall increase of 39.6%.

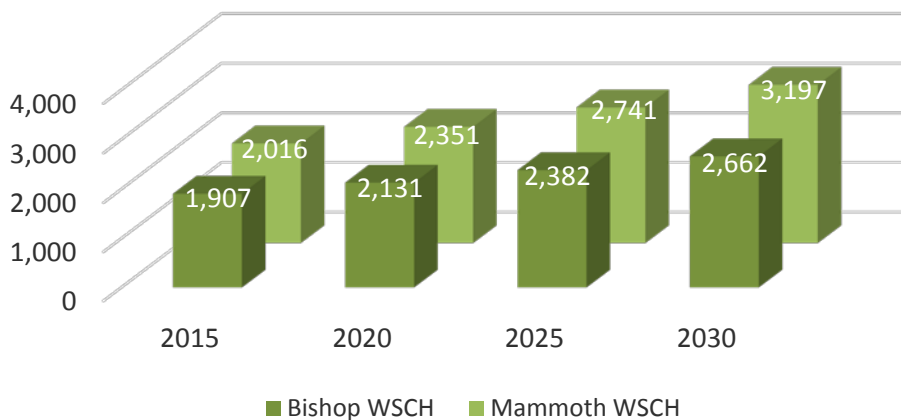
The annual growth rate capacity at the Mammoth Center is projected to be 1.59% for student enrollment and 3.90% for WSCH. This represents a 23.9% gain in student enrollment over the next 15-years. The long-term forecast for WSCH equates to a gain of 58.5%.

It should be noted that the forecast for growth addresses the potential for both the Bishop and Mammoth Centers as viewed from the current demographic markers and area trends. The projected growth for both is captured in absolute values for the 5-year benchmark years from 2015 to 2030 in the graphics that follows.

#### Eastern Sierra College Center: Projected Enrollment Growth



#### Eastern Sierra College Center: Projected WSCH Growth



Source: Maas Companies Projections

## The Application of Growth to the Future Program of Instruction

Based on the forecasts for student enrollment and WSCH, the program of instruction is projected for incremental expansion only. The relative growth of student enrollment and WSCH at the Mammoth Center will be a little higher than that of the Bishop Center. The priority for both campuses will be on curricular efficiency, recapturing some of the ground lost in WSCH generation, particularly over the past five-years, and for expanding the course load dynamics of enrolled students. Applying the growth forecasts previously noted for student enrollment and WSCH, the characteristics of the 2030 program of instruction at both campuses are captured in the tables that follow.

### **Bishop Center: Characteristics of Projected Program of Instruction for the Year 2030**

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	Lec. WSCH	Lab WSCH	FTES	% of Curr.	% of WSCH
Allied Health	5	47	9.35	311.20	62.24	196.04	110.12	9.66	16.13%	11.69%
CIS / Business	1	14	14.19	48.18	48.18	0.00	0.00	1.50	3.23%	1.81%
Child Dev./Education	2	21	10.41	24.00	12.00	0.00	0.00	0.75	6.45%	0.90%
Counseling	1	50	49.67	114.12	114.12	114.12	0.00	3.54	3.23%	4.29%
English	4	92	22.93	422.16	105.54	422.16	0.00	13.11	12.90%	15.86%
Mathematics	4	100	25.05	461.04	115.26	461.04	0.00	14.31	12.90%	17.32%
Physical Education	2	29	14.46	100.50	50.25	100.50	0.00	3.12	6.45%	3.78%
Science	3	60	20.13	410.64	136.88	205.32	205.32	12.75	9.68%	15.43%
Social Science	4	94	23.59	320.96	80.24	320.97	0.00	9.97	12.90%	12.06%
Visual & Perf. Arts	5	83	16.65	449.30	89.86	283.92	165.36	13.95	16.13%	16.88%
<b>TOTAL</b>	<b>31</b>	<b>590</b>	<b>19.04</b>	<b>2,662.10</b>	<b>85.87</b>	<b>2,104.07</b>	<b>480.80</b>	<b>82.65</b>		

Source: Maas Companies Projections

The future program of instruction at the Bishop Center is projected to be driven by the departments of Allied Health, Visual and Performing Arts, English, Mathematics and Social Science. Combined, these departments are expected to account for 77% of the WSCH generated at the Bishop Center. In total, the Bishop Center is projected to have 31 class sections that generate 2,662 total WSCH and 82.65 FTES on a semester basis by the year 2030.

### **Mammoth Center: Characteristics of Projected Program of Instruction for the Year 2030**

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	Lec. WSCH	Lab WSCH	FTES	% of Curr.	% of WSCH
Allied Health	4	55	13.70	308.60	77.15	145.15	139.45	9.58	12.90%	9.65%
CIS / Business	1	25	24.79	84.24	84.24	0.00	0.00	2.62	3.23%	2.63%
Child Dev./Education	2	12	5.81	5.00	2.50	0.00	0.00	0.16	6.45%	0.16%
Counseling	1	56	55.99	128.64	128.64	128.64	0.00	3.99	3.23%	4.02%
English	7	182	26.03	798.00	114.00	798.00	0.00	24.78	22.58%	24.96%
Mathematics	3	84	28.02	386.64	128.88	386.64	0.00	12.00	9.68%	12.09%
Science	4	91	22.84	620.96	155.24	310.48	310.48	19.28	12.90%	19.42%
Social Science	5	115	23.00	391.16	78.23	391.16	0.00	12.14	16.13%	12.24%
Visual & Perf. Arts	4	94	23.46	473.96	118.49	305.52	168.44	14.72	12.90%	14.83%
<b>TOTAL</b>	<b>31</b>	<b>714</b>	<b>23.02</b>	<b>3,197.20</b>	<b>103.14</b>	<b>2,465.59</b>	<b>618.37</b>	<b>99.27</b>		

Source: Maas Companies Projections

The future program of instruction at the Mammoth Center is projected to have 31 class sections that generate 3,197 WSCH and 99.27 FTES by the year 2030. It is projected to be driven by the departments of English, Science, Visual and Performing Arts, Social Science and Mathematics. Together, these departments are forecasted to produce 84% of the WSCH at the Mammoth Center.

A progressive perspective is provided for the forecasted program of instruction in a by-department-breakdown from the baseline year of 2015 to the year 2030. For this analysis, the key elements of net sections, WSCH, FTES, lecture WSCH and laboratory WSCH were used to provide a basis for comparison. These perspectives are provided individually for both the Bishop and Mammoth Centers.

**Bishop Center: Composite Profile of the Program of Instruction Projections 2015 – 2030**

Department	Actual					Projected														
	YR 2015					YR 2020					YR 2025					YR 2030				
	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES
Allied Health	4	100	100	200	6.2	4	132	71	203	6.3	5	138	65	203	6.3	5	196	110	306	9.5
CIS / Business	1	-	-	37	1.2	1	0	0	40	1.2	1	0	0	44	1.4	1	0	0	48	1.5
Child Dev./Education	2	0	0	5	0.2	2	0	0	9	0.3	2	0	0	16	0.5	2	0	0	24	0.7
Counseling	1	103	0	103	3.2	1	104	0	104	3.2	1	108	0	108	3.4	1	114	0	114	3.5
English	2	272	0	272	8.4	3	364	0	364	11.3	4	435	0	435	13.5	4	422	0	422	13.1
Mathematics	2	244	0	244	7.6	3	337	0	337	10.5	3	357	0	357	11.1	4	461	0	461	14.3
Physical Education	2	83	0	83	2.6	2	89	0	89	2.8	2	97	0	97	3.0	2	101	0	101	3.1
Science	2	150	150	299	9.3	2	149	149	298	9.2	2	152	152	304	9.5	3	205	205	411	12.7
Social Science	4	279	0	279	8.7	4	293	0	293	9.1	4	310	0	310	9.6	4	321	0	321	10.0
Visual & Perf. Arts	5	218	165	383	11.9	5	249	145	394	12.2	5	263	151	414	12.9	5	284	165	449	13.9
<b>TOTAL</b>	<b>25</b>	<b>1,449</b>	<b>414</b>	<b>1,906</b>	<b>59.2</b>	<b>27</b>	<b>1,717</b>	<b>364</b>	<b>2,131</b>	<b>66.2</b>	<b>29</b>	<b>1,861</b>	<b>368</b>	<b>2,290</b>	<b>71.1</b>	<b>31</b>	<b>2,104</b>	<b>481</b>	<b>2,657</b>	<b>82.5</b>

**Mammoth Center: Composite Profile of the Program of Instruction Projections 2015 – 2030**

Department	Actual					Projected														
	YR 2015					YR 2020					YR 2025					YR 2030				
	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES
Allied Health	4	132	127	259	8.0	4	135	130	265	8.2	4	135	129	284	8.8	4	145	139	309	9.6
CIS / Business	1	-	-	68	2.1	1	0	0	70	2.2	1	0	0	44	1.4	1	0	0	84	2.6
Child Dev./Education	2	0	0	3	0.1	2	0	0	3	0.1	2	0	0	16	0.5	2	0	0	5	0.2
Counseling	1	103	0	103	3.2	1	105	0	105	3.3	1	119	0	119	3.7	1	129	0	129	4.0
English	4	455	0	455	14.1	5	520	0	520	16.2	6	667	0	667	20.7	7	798	0	798	24.8
Mathematics	2	212	0	212	6.6	2	225	0	225	7.0	3	359	0	359	11.1	3	387	0	387	12.0
Science	2	167	167	333	10.3	3	221	221	441	13.7	3	237	237	473	14.7	4	310	310	621	19.3
Social Science	4	279	0	279	8.7	4	302	0	302	9.4	4	322	0	322	10.0	5	391	0	391	12.1
Visual & Perf. Arts	3	203	100	303	9.4	4	262	158	421	13.1	4	275	162	437	13.6	4	306	168	474	14.7
<b>TOTAL</b>	<b>23</b>	<b>1,551</b>	<b>393</b>	<b>2,015</b>	<b>62.6</b>	<b>26</b>	<b>1,770</b>	<b>509</b>	<b>2,351</b>	<b>73.0</b>	<b>28</b>	<b>2,113</b>	<b>528</b>	<b>2,721</b>	<b>84.5</b>	<b>31</b>	<b>2,466</b>	<b>618</b>	<b>3,197</b>	<b>99.3</b>

Source: Maas Companies Projections

**Qualification for Space**

The qualification for space, as defined by the State’s Title V guidelines, is largely predicated on the program of instruction’s ability to generate WSCH. In this regard, it is directly tied to the growth or decline of the program of instruction. While there are other criteria and measures for space qualification, generally, the more WSCH generated, the greater the need for space; lesser values for WSCH decrease the need for space.

In pursuit of the qualification for space, attention should not be directed exclusively to achieving the specific WSCH values for the five-year intervals from 2015 to 2030. Rather, the emphasis should be placed on ensuring that the appropriate types of spaces are in place whenever the WSCH milestones are met – that may be sooner or later than the established benchmarks.

**Campus Space Needs to Support the Program of Instruction**

The space inventory submitted to the State Chancellor’s Office by the Kern Community College District represents the Bishop and Mammoth Centers as a single entity – the Eastern Sierra College Center. To provide each campus with more usable data, a room-by-room analysis was conducted using the Eastern Sierra College Center Report 17 information and assembling the findings into separate space inventories – one for the Bishop Center and one for the Mammoth Center. Space needs were based on the State’s Title V guidelines for each category of space. Where necessary and / or appropriate, the guidelines were adapted to reflect the smaller size of the two campuses.

Generally, there are five space categories that are closely monitored by the State: Classroom (lecture) space, Laboratory space, Office space, Library space and Instructional Media space. These are used to determine funding worthiness when monies are available from state sources. Space needs, however, include not only those that directly support and / or are related to the program of instruction but also fourteen other space categories that are integral to providing students with a complete campus. Per the formulas derived for space qualification, the measures of WSCH generation, FTES, student enrollment, full-time equivalent faculty (FTEF) and day-graded enrollment were used to make the space determinations for all spaces on the two campus.

The table that follows depicts the qualification for space via the State Title V standards for the Bishop Center.

**Bishop Center: Total Space Needs Via State Title 5 Standards**

Key Space Categories Monitored by the State					
Category	Description	Current Space	2030 Space Title V Allow	Delta	Qualification for Space 2030
100	Classroom	3,796	995	(2,801)	0
210-230	Laboratory	5,580	1,139	(4,441)	0
235-255	Non-Class Laboratory	-	51	51	51
300	Office/Conference	2,176	785	(1,391)	0
400	Library	1,909	2,343	434	434
530-535	(AV/TV)	-	2,153	2,153	2,153
	<b>sub total</b>	<b>13,461</b>	<b>7,466</b>	<b>(5,995)</b>	<b>2,638</b>
Non-State Monitored Space Categories					
Category	Description	Current Space	2030 Space Title V Allow	Delta	Qualification for Space 2030
0	Inactive	367	0	(367)	0
510-515	Armory/Armory Service	-	0	0	0
520-525	Phys. Ed. (Indoor)	206	1,200	994	994
540-555	Clinic/Demonstration	115	220	105	105
580	Greenhouse	-	0	0	0
590	Other	-	0	0	0
610-625	Assembly/Exhibition	2,650	534	(2,116)	0
630-635	Food Service	-	320	320	320
650-655	Lounge/Lounge Service	324	55	(269)	0
660-665	Merchandizing	1,048	1,154	106	106
670-690	Meeting /Recreation	336	178	(158)	0
710-715	Data Processing/Comp.	836	325	(511)	0
720-770	Physical Plant	-	593	593	593
800	Health Services	-	410	410	410
	<b>sub total</b>	<b>5,882</b>	<b>4,989</b>	<b>(893)</b>	<b>2,528</b>
<b>TOTAL</b>		<b>19,343</b>	<b>12,455</b>	<b>(6,888)</b>	<b>5,166</b>

Source: Kern Community College District Report 17 2017/2018; State Title V Standards; analysis MAAS Companies

As interpreted through the State’s Title V standards, the Bishop Center does not show a long-term need for academic space. Based on the projections, it will qualify for only 995 ASF of classroom space by 2030 but have 3,796 ASF (already) available. Laboratory space will qualify for 1,139 ASF of space in 2030 but it presently has 5,580 ASF available. Overall, the need / qualification for space in the key areas monitored by the state will be 2,638 ASF. Non-classroom laboratory space will account for +51 ASF, Library +434 ASF and Instructional Media +2,153 ASF.

Non-State monitored categories will show and overall need for 5,166 ASF, with space needs / qualification in the specific categories of Physical Education (+994), Clinic/Demonstration (+105), Food Service (+320), Merchandizing (+106), Physical Plant (+593) and Health Services (+410).

The need / qualification for space at the Mammoth Center shows that the current inventory of Classroom (lecture) and Laboratory will be sufficient to accommodate the needs of the future program of instruction through the year 2030. In the other three space categories monitored by the state, the Mammoth Center is projected to qualify for 1,402 ASF overall, 54 ASF in Non-Class Laboratory and 1,348 ASF in Instructional Media.

For the non-state monitored space categories, the Mammoth Center is projected to qualify for an additional 3,013 ASF by the year 2030. This will include Physical Education +1,200 ASF, Clinic Demonstration +221 ASF, Assembly Exhibition +568 ASF, Food Service +341 ASF, Merchandizing +422 ASF, Data Processing +219 ASF, Physical Plant +525 ASF, and Health Services +410 ASF.

Because of their smaller size, the Campuses of Bishop and Mammoth will need to distinguish between the qualification for space and adequacy of space that it has to support its educational mission. The guidelines for state-monitored space categories are tied to WSCH generation and compliance is closely monitored by the State Chancellor’s Office within the Districts 5-Year (Capital) Construction Plan. The guidelines for the non-state monitored space categories, however, offer some room for flexibility.

The long-term needs / qualification for space at the Mammoth Center is depicted in the graphic that follows.

**Mammoth Center: Total Space Needs Via State Title 5 Standards**

Source: Kern Community College District Report 17 2017/2018; State Title V Standards; analysis MAAS Companies

Key Space Categories Monitored by the State					
Category	Description	Current Space	2030 Space Title V Allow	Delta	Qualification for Space 2030
100	Classroom	4,710	1,166	(3,544)	0
210-230	Laboratory	2,499	1,495	(1,004)	0
235-255	Non-Class Laboratory	-	54	54	54
300	Office/Conference	1,684	942	(742)	0
400	Library	1,542	1,452	(90)	0
530-535	(AV/TV)	-	1,348	1,348	1,348
	<b>sub total</b>	<b>10,435</b>	<b>6,457</b>	<b>(3,978)</b>	<b>1,402</b>
Non-State Monitored Space Categories					
Category	Description	Current Space	2030 Space Title V Allow	Delta	Qualification for Space 2030
0	Inactive	-	0	0	0
510-515	Armory/Armory Service	-	0	0	0
520-525	Phys. Ed. (Indoor)	-	1,200	1,200	1,200
540-555	Clinic/Demonstration	-	221	221	221
580	Greenhouse	-	0	0	0
590	Other	-	0	0	0
610-625	Assembly/Exhibition	-	568	568	568
630-635	Food Service	-	341	341	341
650-655	Lounge/Lounge Service	867	67	(800)	0
660-665	Merchandizing	293	715	422	422
670-690	Meeting /Recreation	282	189	(93)	0
710-715	Data Processing/Comp.	106	325	219	219
720-770	Physical Plant	-	525	525	525
800	Health Services	-	410	410	410
	<b>sub total</b>	<b>1,548</b>	<b>4,561</b>	<b>3,013</b>	<b>3,013</b>
<b>TOTAL</b>		<b>11,983</b>	<b>11,018</b>	<b>(965)</b>	<b>4,415</b>

## East Kern Center (Including Tehachapi)

### Overview

The East Kern Center is comprised of two locations – Edwards AFB and the community of Tehachapi. The education center at Edwards AFB serves primarily serves a military-based population, although civilians from the surrounding area are allowed to avail themselves of the courses offered. The presence of Cerro Coso Community College at Edwards AFB is a unique dynamic. It is the only community college in the state to have a physical presence on a military base. Student enrollment at Edwards AFB has fluctuated over the past years. Deployments, matching full-semester commitments with the transient nature of the military and the ability of military personnel to take courses on-line has caused student enrollments to change rather quickly. The East Kern Center presence in Tehachapi represents a change at the District level. Prior to 2015, the Tehachapi location was included as part of the Bakersfield College. For the purposes of this forecast, the two areas will be referenced as one – the East Kern Center.

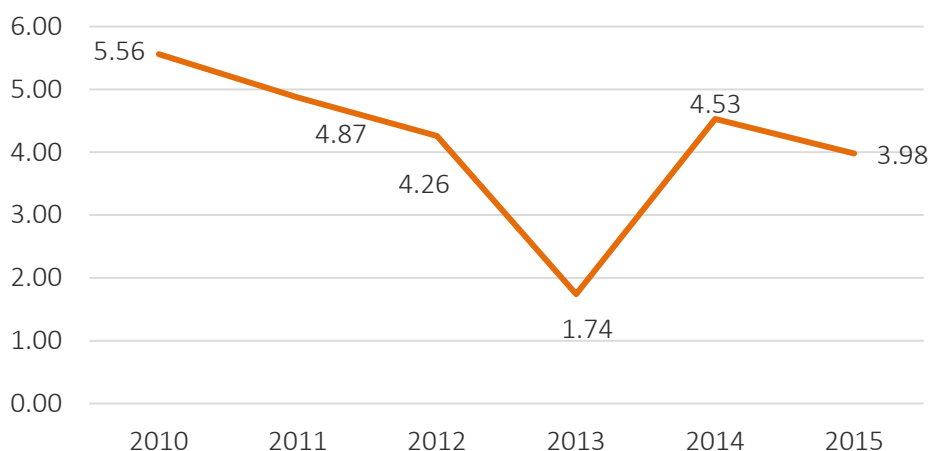
### Historical Trends that Will Influence Growth Capacity

Student enrollment at the East Kern Center has decreased significantly over the past 15-years. From a high point of 838 enrolled students in 2001, it tumbled to an all-time low of 80 for the Fall Semester of 2010. It plateaued near this level through 2013 but had an uptick in 2014 when it enrolled 165 students for the Fall Semester. In a year-over comparison, 2015 saw an almost doubling of student enrollment, when 365 students registered for courses. The significant change in student enrollment was primarily the result of the assimilation of the Tehachapi Campus as part of the East Kern Center.

WSCH, over the same 15-year view period has had a similar trend line. Beginning in 2001, 4,055 WSCH were generated at the East Kern Center. It declined to a low of 193 WSCH in 2013. Over this 13-year period, WSCH had an annual average rate of decline of -7.33%. It rebounded substantially in 2014, rising to 747 WSCH. In 2015, it managed to reach four-digit numbers for the first time since 2006, when it generated 1,292 WSCH for the 2015 Fall Semester. Again, the uptick in WSCH can be credited to the addition of the Tehachapi Campus in 2015.

Data compiled in the graphic that follows melds the measures of student enrollment and WSCH into the relationship of WSCH generated per each enrollment. Like the other campuses that comprise Cerro Coso Community College, the trend line shows that student loads on the campus declined over the past five years. Using a three-credit class as the basis for comparison, the current student, on average, is taking 1.33 courses per semester as compared to 1.85 courses in 2015.

### East Kern Center: Past 5-Year Trend WSCH / Enrollment



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies



## Current Status

### The Existing Program of Instruction

The existing program of instruction at the East Kern Center is summarized, at the department level, in the table that follows. It provides not only a snapshot of the current curricular status at the East Kern Center but it also provides an excellent starting point for building a future foundation determining growth capacity and the future need for space. All needs for space ultimately relate to and emanate from the program of instruction.

#### East Kern Center: Characteristics of Fall 2015 Program of Instruction

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	FTES	FTEF	Lec. Hrs	Lab Hrs.	On-Line Hrs.	Indep. Study
<b>East Kern</b>											
Allied Health	2	37	18.50	230.61	115.31	7.16	0.67	523	513	0	0
Counseling	1	19	19.00	41.87	41.87	1.30	0.13	36	0	0	0
English	2	35	17.50	133.34	66.67	4.14	0.20	126	0	0	0
Social Science	1	26	26.00	88.25	88.25	2.74	0.20	54	0	0	0
<b>sub total</b>	<b>6</b>	<b>117</b>	<b>19.50</b>	<b>494.07</b>	<b>82.35</b>	<b>15.34</b>	<b>1.20</b>	<b>739</b>	<b>513</b>	<b>0</b>	<b>0</b>
<b>Tehachapi</b>											
Allied Health	4	72	18.00	154.92	38.73	4.81	0.00	144	0	0	0
English	2	21	10.50	106.61	53.31	3.31	0.66	162	0	0	0
Mathematics	3	43	14.33	210.97	70.32	6.55	0.27	252	0	0	0
Science	2	24	12.00	163.30	81.65	5.07	0.43	162	108	0	0
Social Science	2	36	18.00	122.39	61.20	3.80	0.40	108	0	0	0
Visual & Perf. Arts	1	12	12.00	40.90	40.90	1.27	0.20	54	0	0	0
<b>sub total</b>	<b>14</b>	<b>208</b>	<b>14.86</b>	<b>799.09</b>	<b>57.08</b>	<b>24.81</b>	<b>1.96</b>	<b>882</b>	<b>108</b>	<b>0</b>	<b>0</b>
<b>TOTAL</b>	<b>20</b>	<b>325</b>	<b>16.25</b>	<b>1,293.16</b>	<b>64.66</b>	<b>40.15</b>	<b>3.16</b>	<b>1,621</b>	<b>621</b>	<b>0</b>	<b>0</b>

Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

The existing program of instruction (2015 Fall Semester) at the East Kern Center is characterized as having four departments at Edwards AFB Center and six departments at the Tehachapi Campus. It consists of a total of 20 class sections. For the 2015 Fall Semester, these class sections generated 1,293.16 WSCH and accounted for 40.15 FTES. The average enrolled seats per section was 16.25. Class sections generated, on average, 64.66 WSCH per section. Lecture hours accounted for 1,621 of the total instructional hours taught while laboratory hours totaled 621. There were no on-line or independent study hours associated with the current program of instruction of the East Kern Center. The average WSCH per load (FTEF) for the 2015 Fall Semester was 409.23.

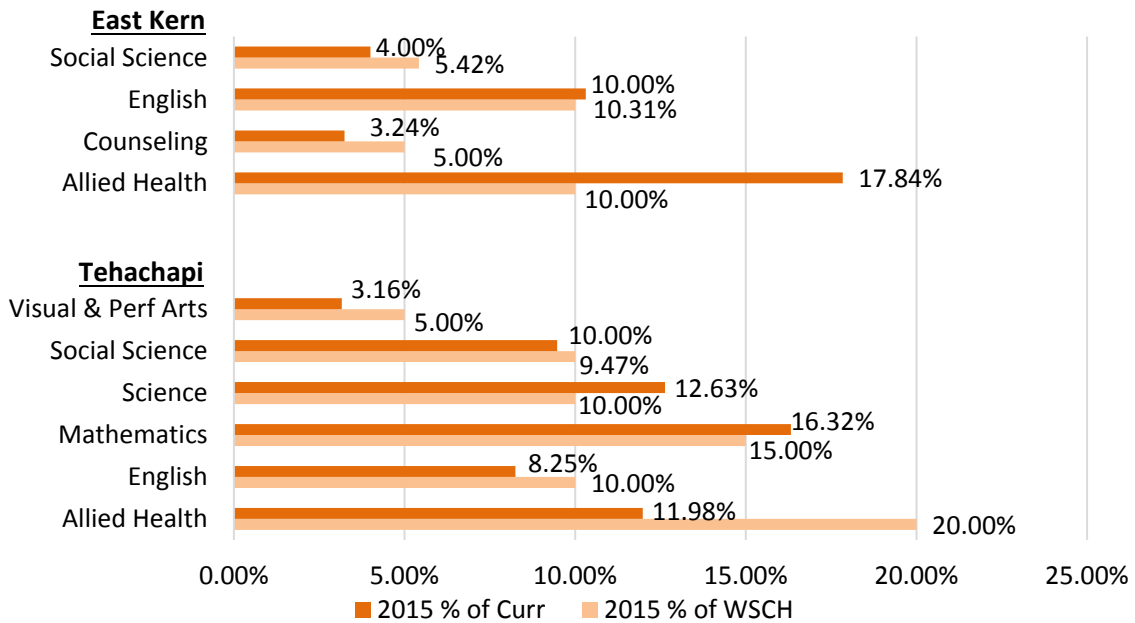
### Distribution of the Curriculum / Distribution of WSCH Generation

The existing program of instruction is dominated by the departments of Allied Health and English at the Edwards AFB Center. Combined, these departments account for 27.84% of the overall curriculum of the East Kern Center and they generate 20.00% of all WSCH produced. At the Tehachapi Campus, the departments of Mathematics, Allied Health and Science are responsible for 40.93% of the curriculum and produce 45.0% of all WSCH. Social Science, at the Tehachapi Campus, is also a significant department contributor, accounting for 10.0% of the curriculum and generating 9.47% of the WSCH.



The graphics that follow capture both the current curriculum distribution and the distribution for WSCH for all departments that comprise the East Kern Center.

**East Kern Center: Percent of Curriculum vs. Percent of WSCH**



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

**Current Space Holdings to Support the Program of Instruction**

Report 17 of the Kern Community College District was used as primary reference for identifying the space holdings for the East Kern Center. The most current Report 17, finds the Edwards AFB Center, the California City Child Development Center and Kern River Valley Campus in Lake Isabella under the combined under the single reference of the “Southern Outreach Center”, not as the East Kern Center. No data was found for the Tehachapi Campus. Facilities used in delivering the program of instruction at the Tehachapi Campus, therefore, were not included in the space inventory analysis.

Following is a comparison of the space holdings from the last Educational Master Plan and from current EMP (data from 2015). These include EDWARDS AFB and facilities in California City.

## East Kern Center (Not Including Tehachapi): Space Holdings

State Rm. Code	Description	2010 Space Inventory	State Rm. Code	Description	2015 Space Allocation
0	Inactive	-	0	Inactive	-
100	Classroom	770	100	Classroom	1,950
210-230	Laboratory	770	210-230	Laboratory	-
235-255	Non-Class Laboratory	-	235-255	Non-Class Laboratory	-
300	Office/Conference	450	300	Office/Conference	280
400	Library	-	400	Library	-
510-515	Armory/Armory Service	-	510-515	Armory/Armory Service	-
520-525	Phys Ed. (Indoor)	-	520-525	Phys Ed. (Indoor)	-
530-535	(AV/TV)	770	530-535	(AV/TV)	-
540-555	Clinic/Demonstration	1,135	540-555	Clinic/Demonstration	1,135
580	Greenhouse	-	580	Greenhouse	-
590	Other	-	590	Other	-
610-625	Assembly/Exhibition	-	610-625	Assembly/Exhibition	-
630-635	Food Service	-	630-635	Food Service	-
650-655	Lounge/Lounge Service	-	650-655	Lounge/Lounge Service	-
660-665	Merchandizing	-	660-665	Merchandizing	-
670-690	Meeting /Recreation	-	670-690	Meeting /Recreation	-
710-715	Data Processing/Comp.	90	710-715	Data Processing/Comp.	-
720-770	Physical Plant	100	720-770	Physical Plant	90
800	Health Services	-	800	Health Services	-
<b>Totals</b>		<b>4,085</b>	<b>Totals</b>		<b>3,455</b>

Source: Cerro Coso Community College 2012 EMP; Kern Community College District Report 17; analysis MAAS Companies

The total space availability for the sites at Edwards AFB and California City currently amounts to 3,455 assignable square feet (ASF). This space supports the combined 6 sections of classes, the 494.07 WSCH generated, and 15.34 FTES produced at the EDWARDS AFB site. When the last Educational Master Plan was completed, the program of instruction was supported by 4,085 ASF. This translates to a decrease of 630 ASF over the past five years.

In comparing data from 2010 data with that of 2015, there has been a significant change in the amount of Lecture space holdings of +1,180 ASF. Laboratory instructional space, alternately, lost 770 ASF of space. In other key space categories monitored by the state, Office space decreased by 170 ASF from 2010 to 2015. On the non-state monitored space side of the equation, space for Clinic/Demonstration (Child Care facility) and Data Processing remained the same at 1,135 ASF and 90 ASF, respectively, while Physical Plant space (storage) lost 100 ASF.

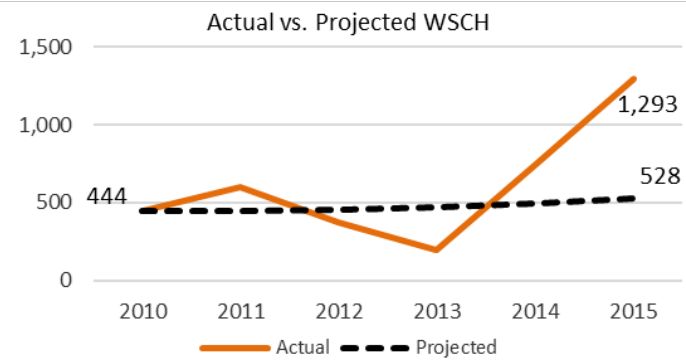
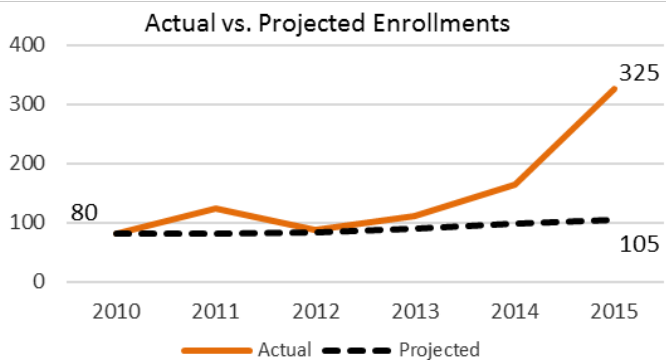
### Future Projections

#### The Campus' Capacity for Growth

When the last Educational Master Plan 2012 was completed, the annual East Kern Center student enrollment growth rate was projected to be 5.2% on annual basis over the period 2010 to 2015; WSCH was projected to grow at 3.2% annually over that same period. The actual annual rate of student enrollment growth outperformed this projection; it averaged 51.0% on an annual basis. The generation of WSCH at the East Kern Center also exceeded the projections from the last Educational Master Plan with an annual average growth rate of 31.9% from 2010 to 2015. The growth rates for both student enrollment and WSCH were skewed by the addition of the Tehachapi Campus in 2015. This impact needs to be considered in the future capacity for growth at the East Kern Center. The capacity of the Campus' future growth will be significantly influenced by the level of growth it has been able to achieve in the past.

The graphic that follows shows the projected versus the actual values for both enrollment and WSCH based on the projections from the last Educational Master Plan.

**East Kern Center: Forecasted Projections Versus Actual 2010 – 2015**



Source: Cerro Coso Community College 2012 Educational Master Plan and data from the Office of Institutional Research; analysis MAAS Companies

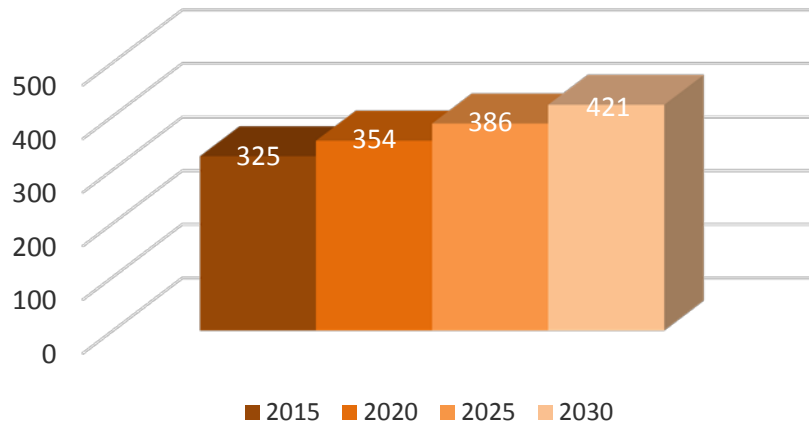
While the relative (percentage) actual growth rates appear to be substantial, when compared to projected growth rates, they need to be put in perspective. In absolute values, enrollment experienced its all-time, 15-year low of 80 students in 2010. It grew to 325 students, a gain of 245 students over 5-year window from 2010 to 2015. The consideration was similar for the generation of WSCH. It went from a low of 444 WSCH in 2010 to a high of 1,293 WSCH in 2015, i.e. 5-year gain of 849 WSCH overall. Both measures (student enrollment and WSCH) began at extremely low starting points in 2010; again, both benefited significantly from the inclusion of the Tehachapi Campus, as part of the East Kern Center mix, in the latter stages of the 5-year view window.

**Projected Forecast for Growth**

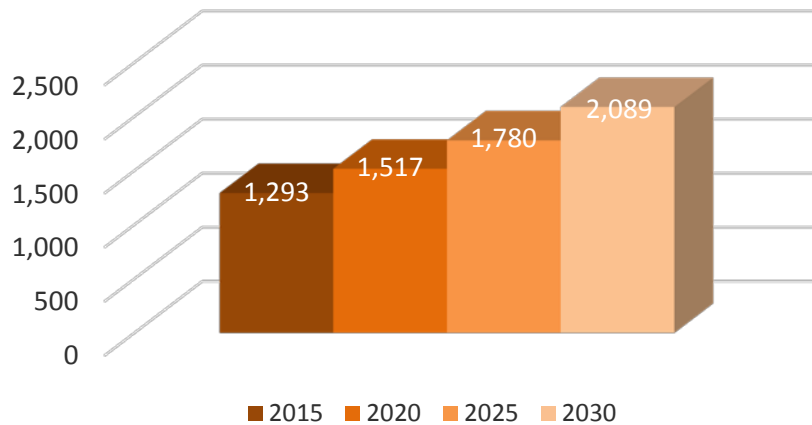
Considering the key factors for growth capacity, including the historical trends and tendencies, the population dynamics, the forecasted rates of high school graduation, the Campus’ capacity to serve students who may be less academically prepared, the emphasis placed on student retention and academic success and improving standards of curricular productivity/efficiency, the future forecast for the East Kern Center is for slower gains in both enrollment and WSCH generation. Overall, the annual growth rate capacity over the next 15-years is projected at 1.97% for student enrollment and 4.10% for WSCH. This translates to a 29.5% increase in student enrollment from the starting point of the 2015 Fall Semester to the 2030 Fall Semester. For WSCH, the long-term growth rate projects to an overall increase of 61.6%. It should be noted that this growth forecast addresses the potential and capacity for the East Kern Center based on the demographic markers, the area trends and the continued presence of the Tehachapi Campus.

The graphics that follow depicts projected growth for the East Kern Center in terms of absolute values.

### East Kern Center Projected Enrollment Growth



### East Kern Center: Projected WSCH Growth



Source: MAAS Companies Projections

### The Application of Growth to the Future Program of Instruction

The approach to applying growth capacity to the future program of instruction was based on a detailed analysis at the program / discipline level. It was then assembled in the various educational departments at the East Kern Center. Stronger performing programs/disciplines were given a greater range for growth than programs/disciplines performing on a sub-par level. Using this approach and based on the forecasts for student enrollments and WSCH, the East Kern Center program of instruction is projected for modest expansion. The priority going forward in the future will be on curricular efficiency and for improving upon the measure of student course loads. Applying the growth forecasts previously noted for student enrollment and WSCH, the characteristics of the 2030 program of instruction are captured in the table that follow.

### East Kern Center: Characteristics of Projected Program of Instruction for the Year 2030

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	Lec. WSCH	Lab WSCH	FTES	% of Curr.	% of WSCH
<b>East Kern</b>										
Allied Health	2	41	20.59	256.64	128.32	128.32	128.32	7.97	7.69%	12.29%
Counseling	1	22	22.16	48.84	48.84	0.00	0.00	1.52	3.85%	2.34%
English	3	63	20.92	239.13	79.71	239.12	0.00	7.42	11.54%	11.45%
Social Science	3	52	17.49	178.11	59.37	178.12	0.00	5.53	11.54%	8.53%
sub total	9	179	81.17	722.72	80.30	545.56	128.32	22.44	34.6%	34.6%
<b>Tehachapi</b>										
Allied Health	5	134	26.70	287.25	57.45	287.25	0.00	8.92	19.23%	13.75%
English	2	31	15.29	155.22	77.61	155.22	0.00	4.82	7.69%	7.43%
Mathematics	3	67	22.39	329.58	109.86	329.58	0.00	10.23	11.54%	15.78%
Science	2	34	16.82	228.84	114.42	137.30	91.54	7.10	7.69%	10.95%
Social Science	4	89	22.30	303.32	75.83	303.32	0.00	9.42	15.38%	14.52%
Visual/Perf. Arts	1	18	18.27	62.26	62.26	62.26	0.00	1.93	3.85%	2.98%
sub total	17	521	30.66	1,366.47	80.38	1,533.59	256.64	58.62	65.4%	65.4%
<b>TOTAL</b>	<b>26</b>	<b>700</b>	<b>26.92</b>	<b>2,089.19</b>	<b>80.35</b>	<b>2,079.15</b>	<b>384.96</b>	<b>81.05</b>		

Source: MAAS Companies Projections

The 2030 program of instruction at the East Kern Center is anticipated to have the following characteristics: A total of 26 class sections offered, WSCH generation of 2,089.19, 81.05 FTES, a 5.4 to 1 ratio of lecture versus laboratory generated WSCH, WSCH per class section of 80.35 and enrolled seats per class section offered of 26.92. At the Edwards AFB Center, the future program of instruction is projected to be driven by the departments of Allied Health, English and Social Science. Combined, these departments are expected to account for almost one-third of all WSCH generated at the East Kern Center. Departments at the Tehachapi Campus that are expected to have the greatest impact for WSCH generation are Mathematics, Social Science, Allied Health and Science. These departments are projected to account for 55.0% of all WSCH produced at the East Kern Center.

A progressive perspective is provided for the forecasted program of instruction via a by-department-breakdown from the baseline year of 2015 to the year 2030. For this analysis, the key elements of net sections, WSCH, FTES, lecture WSCH and laboratory WSCH were used to provide a basis for comparison.

### East Kern Center: Composite Profile of the Program of Instruction Projections 2015 – 2030

Department	Actual					Projected														
	YR 2015					YR 2020					YR 2025					YR 2030				
	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES
<b>East Kern</b>																				
Allied Health	2	115	115	231	7.2	2	119	119	238	7.4	2	123	123	247	7.7	2	128	128	257	8.0
Counseling	1	0	0	42	1.3	1	0	0	45	1.4	1	0	0	46	1.4	1	0	0	48	1.5
English	2	133	0	133	4.1	2	141	0	141	4.4	3	209	0	209	6.5	3	239	0	239	7.4
Social Science	1	88	0	88	2.7	2	147	0	147	4.6	2	159	0	159	4.9	3	178	0	178	5.5
sub total	6	337	115	494	15.3	7	407	119	570	17.7	8	492	123	661	20.5	9	546	128	722	22.4
<b>Tehachapi</b>																				
Allied Health	4	155	0	155	4.8	4	168	0	168	5.2	4	192	0	192	6.0	5	287	0	287	8.9
English	2	107	0	107	3.3	2	117	0	117	3.6	2	131	0	131	4.1	2	155	0	155	4.8
Mathematics	3	211	0	211	6.6	3	248	0	248	7.7	3	284	0	284	8.8	3	330	0	330	10.2
Science	2	98	65	163	5.1	2	108	72	180	5.6	2	119	79	198	6.1	2	137	92	229	7.1
Social Science	2	122	0	122	3.8	3	186	0	186	5.8	4	260	0	260	8.1	4	303	0	303	9.4
Visual/Perf Arts	1	41	0	41	1.3	1	47	0	47	1.4	1	54	0	54	1.7	1	62	0	62	1.9
sub total	14	734	65	799	24.8	15	875	72	947	29.4	16	1,040	79	1,119	34.7	17	1,275	92	1,366	42.4
<b>TOTAL</b>	<b>20</b>	<b>1,071</b>	<b>181</b>	<b>1,293</b>	<b>40.1</b>	<b>22</b>	<b>1,281</b>	<b>191</b>	<b>1,517</b>	<b>47.1</b>	<b>24</b>	<b>1,532</b>	<b>202</b>	<b>1,780</b>	<b>55.3</b>	<b>26</b>	<b>1,820</b>	<b>220</b>	<b>2,089</b>	<b>64.8</b>

Source: MAAS Companies Projections

## ***Qualification for Space***

While important measures for growth, the East Kern Center should not direct its entire focus on the level of performance achieved via the established five-year intervals for WSCH (2015 to 2030). Rather, the emphasis should be placed ensuring that the appropriate types of space are in place whenever the WSCH milestones are met – that may be sooner or later than the stated benchmarks.

### **Campus Space Needs to Support the Program of Instruction**

The analysis for space needs / space qualifications that define the East Kern Center will be limited to Edwards AFB and the Child Development Center in California City for the reasons aforementioned, i.e. no specific space inventory found in the District's Report 17 that addresses the Tehachapi Campus. Otherwise, space needs were based on the State's Title V guidelines for each type or category of space and, where necessary, adapted to fit the nature of this small educational center. The formulas derived for space qualifications are tied directly to WSCH generation, FTES, student enrollment, full-time equivalent faculty (FTEF) and day-graded enrollment. There are five space categories that are closely monitored by the State and tied to funding: Classroom (lecture) space, Laboratory space, Office space, Library space and Instructional Media space. Space qualification, however, also includes fourteen other space categories that are integral to providing students with a complete campus.

The table that follows depicts the qualification for space via the State Title V guidelines for the East Kern Center including the sites at Edwards AFB and the Child Development Center in California City. As previously stated, it does not include that part of the East Kern Center that is located in Tehachapi.

**East Kern Center (Not Including Tehachapi): Total Space Needs Via State Title 5 Standards**

<b>Key Space Categories Monitored by the State</b>					
<b>Category</b>	<b>Description</b>	<b>Current Space</b>	<b>2030 Space Title V Allow</b>	<b>Delta</b>	<b>Qualification for Space 2030</b>
100	Classroom	1,950	258	(1,692)	0
210-230	Laboratory	-	275	275	275
235-255	Non-Class Laboratory	-	40	40	40
300	Office/Conference	280	688	408	408
400	Library	-	350	350	350
530-535	(AV/TV)	-	450	450	450
<b>sub total</b>		<b>2,230</b>	<b>2,061</b>	<b>(169)</b>	<b>1,523</b>
<b>Non-State Monitored Space Categories</b>					
<b>Category</b>	<b>Description</b>	<b>Current Space</b>	<b>2030 Space Title V Allow</b>	<b>Delta</b>	<b>Qualification for Space 2030</b>
0	Inactive	-	0	0	0
510-515	Armory/Armory Service	-	0	0	0
520-525	Phys. Ed. (Indoor)	-	0	0	0
540-555	Clinic/Demonstration	1,135	168	(967)	0
580	Greenhouse	-	0	0	0
590	Other	-	0	0	0
610-625	Assembly/Exhibition	-	421	421	421
630-635	Food Service	-	253	253	253
650-655	Lounge/Lounge Service	-	43	43	43
660-665	Merchandizing	-	341	341	341
670-690	Meeting /Recreation	-	140	140	140
710-715	Data Processing/Comp.	-	100	100	100
720-770	Physical Plant	90	186	96	96
800	Health Services	-	200	200	200
<b>sub total</b>		<b>1,225</b>	<b>1,852</b>	<b>627</b>	<b>1,594</b>
<b>TOTAL</b>		<b>3,455</b>	<b>3,913</b>	<b>458</b>	<b>3,117</b>

Source: Kern Community College District Report 17 2017/2018; State Title V Standards; analysis MAAS Companies

Based on the factors for WSCH generation and the forecast for growth, the East Kern Center (not including the Tehachapi Campus) will not see a need for Classroom (lecture) space through year 2030. The current space inventory has Classroom (lecture) space of 1,950 ASF; the projected WSCH generation will only qualify for 275 ASF out to the year 2030. Obviously, it is not feasible to have a classroom of 275 ASF. However, that is the qualification based on the WSCH generation projected and the classroom allotment factor of 15 square feet per student. Suffice it to say, that the two classrooms that are presently allocated for academic instruction will serve the Edwards AFB Center well into the future. There is no current allocation for Laboratory space, but the projected growth for the future program of instruction supports such a need for the Allied Health Program (EMT specifically). There will, therefore, be a small need for combined laboratory space of 315 ASF by 2030. Otherwise, Office space is projected to have a future space need of 688 ASF (+408 ASF above the current inventory of 280 ASF). Additionally, Library and Instructional Media (AV/TV) will qualify for 350 ASF and 450 ASF respectively out to the year 2030.

The non-state monitored spaces (i.e. those not factored into the funding equation from the state) show a net 2030 qualification for 1,594 ASF. Space needs / qualification at the Edwards AFB Center will include those for Assembly/Exhibition (+421), Food Service (+253 ASF), Lounge/Lounge Service (+43), Merchandizing (+341), Meeting/Recreation (+140), Data Processing (+100), Physical Plant (Storage +96) and Health Services (+200).

The macro perspective for the Edwards AFB Center (including the Child Development Center in California City) shows a current space inventory of 3,455 ASF and qualification for space downrange of 3,117 ASF. That is to say, that space at the East Kern Center (not including the Tehachapi Campus) will be sufficient to meet the projected curriculum of year 2030.

## **Kern River Valley Campus**

### ***Overview***

The Kern River Valley Campus is located in the Lake Isabella area. It serves the communities of Lake Isabella, Bodfish, Wooford Heights, Kernville, Weldon and Onyx. The economy is primarily supported by tourism and recreation. Recreation activities are based around Lake Isabella and the Kern River. The area has become a popular place for an older population-base that enjoys the outdoors and the water amenities that are afforded in the area. Their retirement incomes bolster the local economy and support the service and retail industries that are present.

The population base is growing a little faster than most of the other campus sites that comprise Cerro Coso Community College. Over the next 5-years, it is projected to average annual growth of 1.08%. The median age is projected to be 57 years of age by year 2021. The population segment 0 – 14 years of age is slowly declining. Overall, the Kern River Valley is an economically challenged area. The prospects for meaningful employment are on the lower end of the job spectrum. All of these factors contribute to the challenge of delivering a postsecondary program of education. The Kern River Valley Campus is a place that offers hope for the age groups to 18 to 38 years of age and for those who wish to better their place in life.

### ***Historical Trends that Will Influence Growth Capacity***

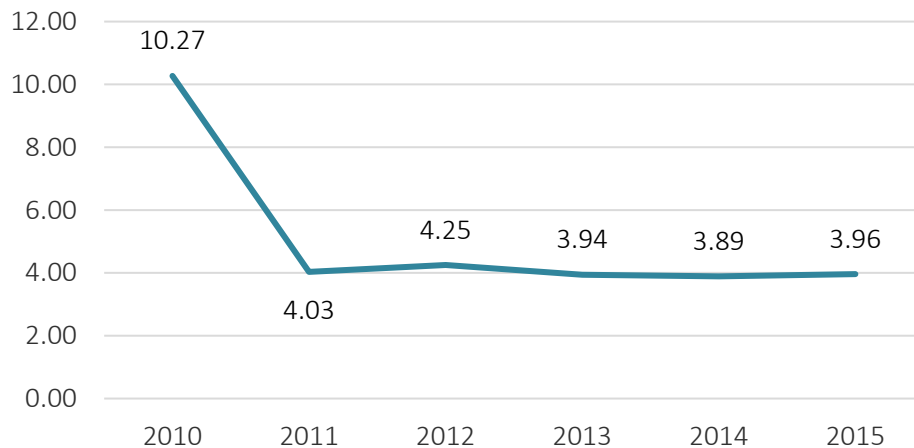
Student enrollment at the Kern River Valley Campus has decreased significantly over the past 15-years. It has declined, on average, at an annual rate average of -2.89%. In 2001, student enrollment, in absolute values, was 684. It declined steadily until 2011 when it spiked to 981. It has been trending downward since that time. For 2015, student enrollment was at its lowest mark of 387. The 15-year average for student enrollment has been 545.

WSCH, over the same 15-year view period has had a greater an even greater decline, averaging annual losses of -4.56%. The highwater mark for WSCH was in the initial of the 15-year view period (2001), when it was 4,844. After plummeting to 1,641 in 2009, it rebounded to 4,425 in the following year, only to fall to its lowest point in 2015 to 1,533. From 2001 to 2016, the annual average for WSCH was 3,625.

Data compiled and analyzed in the graphic that follows melds the measures of student enrollment and WSCH into a more significant relationship – the amount of WSCH generated per student enrollment. It supports the notion that students attending the Kern River Valley Campus are taking lesser course loads.



## Kern River Valley: Past 5-Year Trend WSCH / Enrollment



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

The relationship of WSCH generated per student enrollment directly relates to the course loads taken by students. On average (using a three-credit class as the measure for comparison), the current student (2015 Fall Semester) took 1.32 courses per semester as compared to 3.42 courses in 2010. The average for WSCH per enrollment over a 15-year period has been 7.44. This represents a course load measure of 2.48. The significant drop in WSCH per enrollment correlates with the decline seen at the Kern River Valley Campus in overall FTES.

### Current Status

#### The Existing Program of Instruction

The existing program of instruction at the Kern River Valley (KRV) Campus is summarized, at the department level, in the table that follows. It provides not only a snapshot of the current status of the KRV Campus curriculum but it also provides an excellent foundation for applying growth capacity and ultimately determining the future need for space. All needs for space on campus relates to and emanates from this starting point – i.e. the program of instruction.

#### Kern River Valley Campus: Characteristics of Fall 2015 Program of Instruction

Department	Sections	Enroll. Seats	Seats/ Sec.	WSCH	WSCH/ Sec.	FTES	FTEF	Lec. Hrs	Lab Hrs.	On-Line Hrs.	Indep. Study
Allied Health	4	37	9.25	214.19	53.55	6.65	0.83	576	324	0	144
Child Dev./Education	2	17	8.50	13.85	6.93	0.43	0.25	0	0	0	108
Counseling	1	27	27.00	70.21	70.21	2.18	0.13	36	0	0	0
English	4	94	23.50	381.99	95.50	11.86	1.07	270	0	0	0
Mathematics	3	55	18.33	243.82	81.27	7.57	0.80	216	0	0	0
Physical Education	1	19	19.00	64.74	64.74	2.01	0.20	54	0	0	0
Public Service	1	18	18.00	57.65	57.65	1.79	0.20	54	0	0	0
Social Science	4	95	23.75	319.50	79.88	9.92	0.80	216	0	0	0
Visual & Perf. Arts	1	25	25.00	167.48	167.48	5.20	0.40	108	108	0	0
<b>TOTAL</b>	<b>21</b>	<b>387</b>	<b>18.43</b>	<b>1,533.43</b>	<b>73.02</b>	<b>47.61</b>	<b>4.68</b>	<b>1,530</b>	<b>432</b>	<b>0</b>	<b>252</b>

Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

The current program of instruction at the Kern River Valley Campus has nine departments. It is characterized as having 21 class sections that generate 1,533.43 WSCH and account for 47.61 FTES. The average enrolled seats per section for the 2015 Fall Semester was 18.43. On average, class sections generated 73.02 WSCH per section. The ratio of lecture to laboratory hours was 3.54 to 1. Lecture hours accounted for 1,530 of the total instructional hours taught and laboratory 432. Independent study hours (Allied Health and Child Development) accounted for

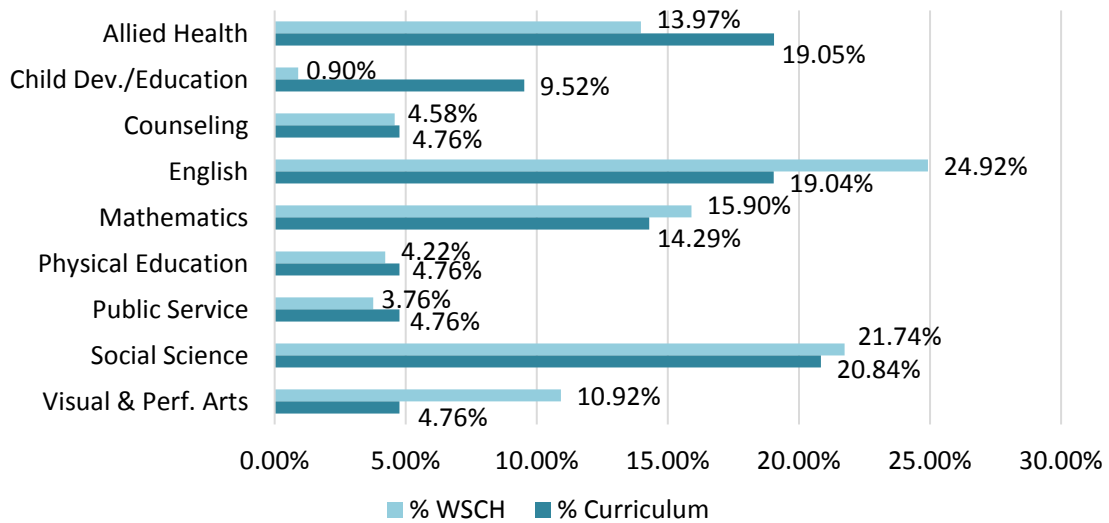
252 additional hours of independent study time. The average WSCH per load (FTEF) for the 2015 Fall Semester was very low. It registered only 327.66.

**Distribution of the Curriculum / Distribution of WSCH Generation**

The current program of instruction is dominated by the departments of Social Science, English, Allied Health and Mathematics. These four departments account for 73% of the overall curriculum at the Kern River Valley Campus and generate 77% of the WSCH produced. Social Science commands the greatest percentage share of the curriculum. At 20.84%, it represents one-fifth of all curricular offerings at KRV Campus. English and Allied Health are close seconds, each representing approximately 19.00% of the curriculum. English is greatest producer of WSCH. It accounts for 24.92% of all WSCH at the Kern River Valley Campus. It is closely followed by Social Science at 21.74%.

The graphic that follow depicts both the current curriculum distribution and the distribution for WSCH for all departments at the Kern River Valley Campus.

**Kern River Valley Campus: Percent of Curriculum vs. Percent of WSCH**



Source: Department of Institutional Research, Cerro Coso Community College, analysis MAAS Companies

**Current Space Holdings to Support the Program of Instruction**

Space holdings for the Kern River Valley Campus are included in the Kern Community College District’s official inventory report (the State Chancellor’s Office *Report 17 ASF/OGSF Summary & Capacities Summary*) as part of the “Southern Outreach Center”, a listing that also includes the Edwards AFB location and the Child Development Center in California City. A room-by-room analysis of the KRV Campus site was conducted using the data from the Southern Outreach Center space inventory to construct a separate inventory for the Kern River Valley Campus. Following is a comparison of the current (2015) space holdings with those from the 2012 Educational Master Plan (2010).

## Kern River Valley Campus: Space Holdings

State Rm. Code	Description	2010 Space Inventory	State Rm. Code	Description	2015 Space Allocation
0	Inactive	72	0	Inactive	-
100	Classroom	2,200	100	Classroom	2,200
210-230	Laboratory	3,696	210-230	Laboratory	2,443
235-255	Non-Class Laboratory	-	235-255	Non-Class Laboratory	-
300	Office/Conference	1,472	300	Office/Conference	1,569
400	Library	460	400	Library	612
510-515	Armory/Armory Service	-	510-515	Armory/Armory Service	-
520-525	Phys Ed. (Indoor)	1,659	520-525	Phys Ed. (Indoor)	1,659
530-535	(AV/TV)	820	530-535	(AV/TV)	725
540-555	Clinic/Demonstration	-	540-555	Clinic/Demonstration	1,742
580	Greenhouse	-	580	Greenhouse	-
590	Other	-	590	Other	-
610-625	Assembly/Exhibition	-	610-625	Assembly/Exhibition	-
630-635	Food Service	-	630-635	Food Service	-
650-655	Lounge/Lounge Service	-	650-655	Lounge/Lounge Service	-
660-665	Merchandizing	88	660-665	Merchandizing	-
670-690	Meeting /Recreation	712	670-690	Meeting /Recreation	646
710-715	Data Processing/Comp.	100	710-715	Data Processing/Comp.	244
720-770	Physical Plant	115	720-770	Physical Plant	-
800	Health Services	-	800	Health Services	-
<b>Totals</b>		<b>11,394</b>	<b>Totals</b>		<b>11,840</b>

Source: Cerro Coso Community College 2012 EMP; Kern Community College District Report 17; analysis MAAS Companies

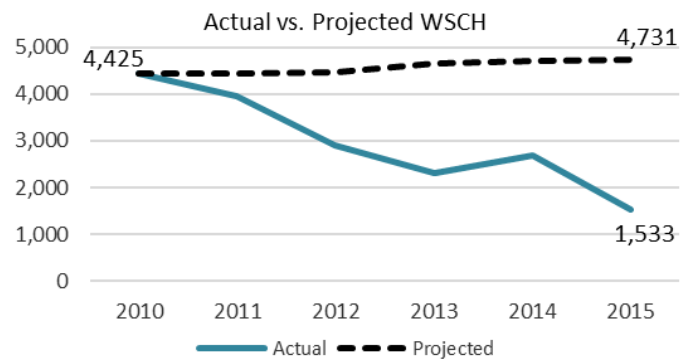
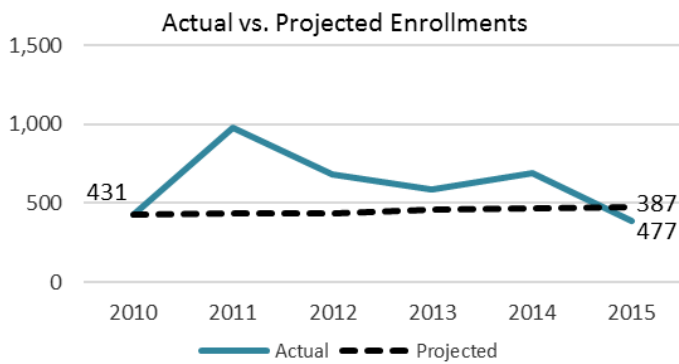
The space inventory for the 2015 Fall Semester showed total space availability of 11,840 assignable square feet (ASF). This was only a slight variation from the 2012 Educational Master Plan, when the usable space was reported at 11,394 ASF. What changed over the 5-year view period was the distribution of space. While Classroom (lecture) remained the same, Laboratory space lost almost 1,200 ASF. Office space gained approximately 100 ASF along with Library space which added approximately 150 ASF. Clinic Demonstration space gained 1,742 ASF while Merchandizing space lost 88 ASF and Physical Plant space lost 115 ASF. Data Processing, otherwise, registered a small space gain of 144 ASF.

### Future Projections

#### The Campus' Capacity for Growth

Based on the projections from the 2012 Educational Master Plan, the annual student enrollment growth rate at the Kern River Valley Campus was projected to be 1.78% (i.e. from 2010 to 2015). WSCH, over the same period, was projected to grow at an annual average rate of 1.15%. The actual annual rate of student enrollment growth, however, declined at an annual average rate of -1.70%. WSCH growth averaged an even steeper annual rate of decline at -10.89%. It should be noted that absolute values for student enrollment and WSCH were at all time low points when viewed for year 2015 (387 enrolled students and 1,533 WSCH). Not that far removed, in 2011, student enrollment was actually at its 15-year highpoint of 981 enrolled students. While student enrollment had early success in the 5-year view window, it ended at a point that was considerably lower than 2012 Educational Master Plan projections. The values for WSCH generation never recovered from the downturn that began the first (2010) year. The graphic that follows shows the projected versus the actual values for both student enrollment and WSCH based on the projections from the 2012 Educational Master Plan. The capacity of the Campus' future growth will be significantly influenced by the level of growth it has been able to achieve in the past.

## Kern River Valley Campus: Forecasted Projections Versus Actual 2010 – 2015



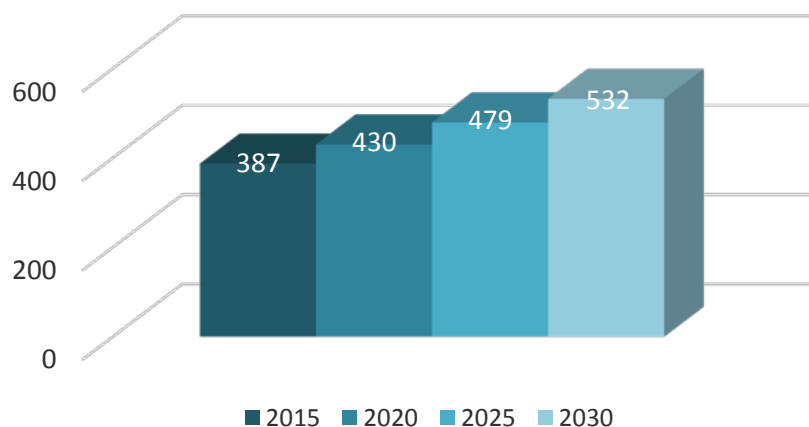
Source: Cerro Coso Community College 2012 Educational Master Plan and data from the Office of Institutional Research; analysis MAAS Companies

### Projected Forecast for Growth

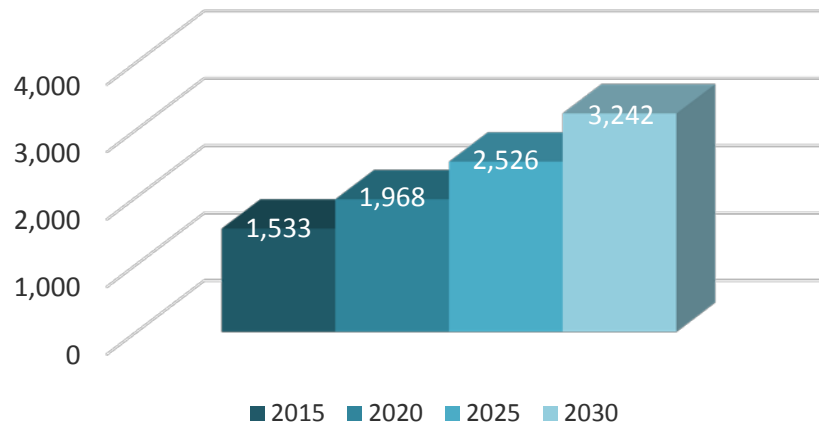
Considering the factors that had the greatest impact on determining growth, including historical trends for key measures of growth, data from the External Environmental Scan and the intangibles that are specific to the Kern River Valley Campus, the forecast for the Kern River Valley Campus is for modest gains in both student enrollment and WSCH and a goal for gaining back the ground that has been lost over the last several years. The annual average growth rate is projected at 2.51% for student enrollment and 7.43% for WSCH over the next 15-years. This translates to an 37.6% overall increase in student enrollment from the starting point of the 2015 Fall Semester to year 2030. For WSCH, it projects at an overall (15-year) increase of 111.15%. While the relative values seem lofty, they are tempered when viewed from the perspective of absolute values. The relative values translate to an increase of 145 enrolled students and a gain of 1,709 WSCH from the period of 2015 to 2030.

The graphics that follow depict projected growth for the Kern River Valley Camus in terms of absolute values for the view period 2015 to 2030.

### Kern River Valley Campus: Projected Enrollment Growth



## Kern River Valley Campus: Projected WSCH Growth



Source: MAAS Companies Projections

### The Application of Growth to the Future Program of Instruction

Growth, as applied to a future program, was done at program/discipline level and then assembled back into the department level. Growth was not applied equally across the board. Stronger performing programs/disciplines were given greater latitude for growth as opposed to programs/disciplines performing on a sub-par level. For all departments, the priority for the future should be on greater curricular efficiency, improving the measure of WSCH generated per enrollment and encouraging and incentivizing students to carry greater course load.

Applying the growth forecasts previously noted for enrollment and WSCH, the characteristics of the 2030 program of instruction at the KRV Campus are captured in the table that follows.

### Kern River Valley Campus: Characteristics of Projected Program of Instruction for the Year 2030

Department	Sections	Enroll. Seats	Seats/Sec.	WSCH	WSCH/Sec.	Lec. WSCH	Lab WSCH	FTES	% of Curr.	% of WSCH
Allied Health	5	67	13.31	385.35	77.07	259.04	110.36	11.96	16.13%	11.89%
Child Dev./Education	2	21	10.74	17.50	8.75	0.00	0.00	0.54	6.45%	0.54%
Counseling	1	33	32.55	84.65	84.65	0.00	0.00	2.63	3.23%	2.61%
English	6	179	29.81	753.60	125.60	753.62	0.00	23.40	19.35%	23.25%
Mathematics	4	102	25.60	453.92	113.48	453.92	0.00	14.09	12.90%	14.00%
Physical Education	1	29	28.98	98.76	98.76	98.76	0.00	3.07	3.23%	3.05%
Public Service	1	28	27.68	88.64	88.64	88.64	0.00	2.75	3.23%	2.73%
Science	2	38	19.00	279.18	139.59	139.59	139.59	8.67	6.45%	8.61%
Social Science	7	214	30.55	744.59	106.37	744.59	0.00	23.12	22.58%	22.97%
Visual & Perf. Arts	2	50	25.06	335.72	167.86	167.86	167.86	10.42	6.45%	10.36%
<b>TOTAL</b>	<b>31</b>	<b>760</b>	<b>24.53</b>	<b>3,241.91</b>	<b>104.58</b>	<b>2,706.02</b>	<b>417.81</b>	<b>100.65</b>		

Source: MAAS Companies Projections

The overall 2030 program of instruction at the Kern River Valley Campus is projected to have a total of 31 class sections that generate 3,241.91 WSCH and 100.65 FTES. The ratio of lecture to laboratory WSCH is forecasted at a 6.5 to 1 ratio. WSCH generated per class section is anticipated to reach 80.35 and enrolled seats per class section 24.53. The future program of instruction is projected to be driven by the departments of English, Social Science, Allied Health and Mathematics. These four departments can be expected to generate 70% of the WSCH produced at the Kern River Valley Campus.

A composite profile of the projected program of instruction is provided in the table that follows. The breakdown provided uses 5-year intervals as benchmarks, beginning in 2015 and ending in year 2030. The key elements of net sections, WSCH, FTES, lecture WSCH and laboratory WSCH were used to provide a basis a frame of reference and a basis for comparison.

**Kern River Valley Campus: Composite Profile of the Program of Instruction Projections 2015 – 2030**

Department	Actual					Projected														
	YR 2015					YR 2020					YR 2025					YR 2030				
	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES	Net Sec.	Lec. WSCH	Lab. WSCH	Total WSCH	FTES
Allied Health	4	137	77	214	6.7	4	173	56	237	7.4	5	225	64	335	10.4	5	110	123	385	12.0
Child Dev./Education	2	-	-	14	0.4	2	0	0	15	0.5	2	0	0	16	0.5	2	0	0	18	0.5
Counseling	1	0	0	70	2.2	1	0	0	77	2.4	1	0	0	80	2.5	1	0	0	85	2.6
English	4	382	0	382	11.9	4	413	0	413	12.8	5	578	0	578	18.0	6	754	0	754	23.4
Mathematics	3	244	0	244	7.6	3	307	0	307	9.5	3	313	0	313	9.7	4	454	0	454	14.1
Physical Education	1	65	0	65	2.0	1	71	0	71	2.2	1	78	0	78	2.4	1	99	0	99	3.1
Public Service	1	58	0	58	1.8	1	66	0	66	2.1	1	70	0	70	2.2	1	89	0	89	2.8
Science	0	-	0	0	0.0	0	0	0	0	0.0	1	62	62	125	3.9	2	140	140	279	8.7
Social Science	4	320	0	320	9.9	5	461	0	461	14.3	6	592	0	592	18.4	7	745	0	745	23.1
Visual & Perf. Arts	1	84	84	167	5.2	2	161	161	322	10.0	2	169	169	337	10.5	2	168	168	336	10.4
<b>TOTAL</b>	<b>21</b>	<b>1,289</b>	<b>161</b>	<b>1,533</b>	<b>47.6</b>	<b>23</b>	<b>1,651</b>	<b>217</b>	<b>1,968</b>	<b>61.1</b>	<b>27</b>	<b>2,088</b>	<b>295</b>	<b>2,526</b>	<b>78.4</b>	<b>31</b>	<b>2,557</b>	<b>430</b>	<b>3,242</b>	<b>100.7</b>

Source: MAAS Companies Projections

**Qualification for Space**

Space needs, as defined by the State’s Title V guidelines, are largely predicated on the program of instruction’s ability to generate WSCH. While there are other criteria and measures for space, generally, the more WSCH generated, the greater the need for space; lesser values for WSCH decrease the need for space.

Based on the shortfalls for WSCH generation at the Kern River Valley Campus, the need / qualification for space in the 2015 Educational Master Plan will be less than that which was identified in the 2012 Educational Master Plan. This will apply to all spaces at the Campus that are driven by formulas involving WSCH, FTES and / or headcount.

In terms of space that is WSCH-driven, Kern River Valley should not direct its entire focus on the performance achieved relative to the established five-year intervals for WSCH generation (from years 2015 to 2030). Rather, the emphasis should be placed on ensuring that the appropriate types of space are in place whenever the WSCH milestones are met – that may be sooner or later than the established benchmarks.

**Campus Space Needs to Support the Program of Instruction**

As previously noted, the space inventory for the Kern River Valley Campus was assembled via a room-by-room analysis excerpted from the data provided in the space inventory of the District (under the heading “Southern Outreach Center”). The data derived from this analysis was then measured against the State’s Title V guidelines for each category of space. Where necessary, the data was adapted to fit the nature of the format for determining space needs. The formulas used for determining the need / qualification for space were directly tied to WSCH generation, FTES, student headcount, full-time equivalent faculty (FTEF) and day-graded enrollments. Five of the space categories are closely monitored by the State and tied to funding. These include the space categories of Classroom (lecture), Laboratory, Office, Library and Instructional Media. Space needs, however, also include fourteen other space categories that are integral to providing students with a complete campus.

The table that follows depicts the qualification for space via the State Title V guidelines for the East Kern Center.

**Kern River Valley Campus: Total Space Needs Via State Title 5 Standards**

Key Space Categories Monitored by the State					
Category	Description	Current Space	2030 Space Title V Allow	Delta	Qualification for Space 2030
100	Classroom	2,200	1,280	(920)	0
210-230	Laboratory	2,443	1,011	(1,432)	0
235-255	Non-Class Laboratory	-	51	51	51
300	Office/Conference	1,569	1,068	(501)	0
400	Library	612	1,550	938	938
530-535	(AV/TV)	725	1,650	925	925
<b>sub total</b>		<b>7,549</b>	<b>6,610</b>	<b>(939)</b>	<b>1,914</b>
Non-State Monitored Space Categories					
Category	Description	Current Space	2030 Space Title V Allow	Delta	Qualification for Space 2030
0	Inactive	-	0	0	0
510-515	Armory/Armory Service	-	0	0	0
520-525	Phys. Ed. (Indoor)	1,659	1,700	41	41
540-555	Clinic/Demonstration	1,742	213	(1,529)	0
580	Greenhouse	-	0	0	0
590	Other	-	0	0	0
610-625	Assembly/Exhibition	-	532	532	532
630-635	Food Service	-	319	319	319
650-655	Lounge/Lounge Service	-	67	67	67
660-665	Merchandizing	-	839	839	839
670-690	Meeting /Recreation	646	177	(469)	0
710-715	Data Processing/Comp.	244	350	106	106
720-770	Physical Plant	-	700	700	700
800	Health Services	-	425	425	425
<b>sub total</b>		<b>4,291</b>	<b>5,322</b>	<b>1,031</b>	<b>3,029</b>
<b>TOTAL</b>		<b>11,840</b>	<b>11,932</b>	<b>92</b>	<b>4,943</b>

Source: Kern Community College District Report 17 2017/2018; State Title V Standards; analysis MAAS Companies

From a macro perspective, the Kern River Valley Campus shows a current space inventory of 11,840 ASF and qualification for space downrange of 12,771 ASF. It will have, however, space category specific needs of 5,782 ASF for both state-monitored and non-state monitored space categories combined.

For the state-monitored space categories, the Kern River Valley Campus will not have a need for Classroom (lecture) or Laboratory space through year 2030. The current space inventory has Classroom (lecture) space of 2,200 ASF and projected WSCH generation that will only qualify for 1,280 ASF in 2030. Laboratory space will qualify for 1,011 ASF but will carry an inventory of 2,443 ASF. Based on the growth forecast as applied to the future program instruction, the space currently available for direct academic use will be more than sufficient to support the curriculum of the Kern River Valley Campus through the year 2030. Additionally, Office space, with a current inventory of 1,569 ASF and need for only 1,068 ASF in year 2030 will have a projected excess of 501 ASF while Library and Instructional Media (AV/TV) will qualify for additional space of 938 ASF and 925 ASF respectively.

The non-state monitored spaces (i.e. those not factored into the funding equation of the state) show a net 2030 qualification for 3,868 ASF by year 2030. Qualifying space allocations will include those for Assembly/Exhibition

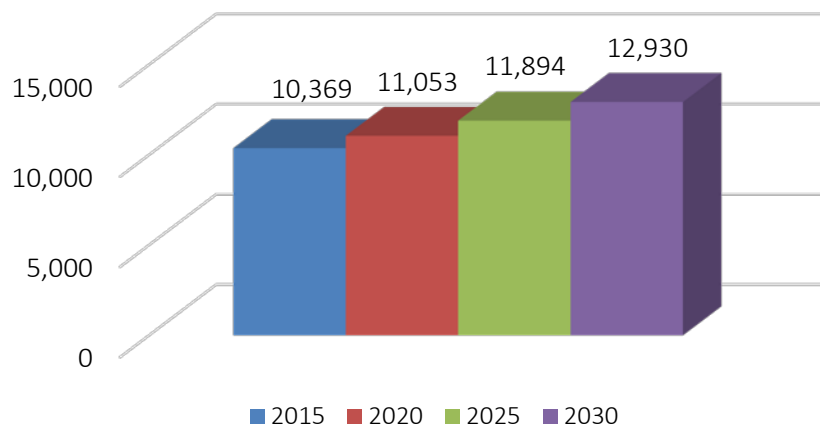
(+532), Food Service (+319 ASF), Lounge/Lounge Merchandizing (+839), Data Processing (+106), Physical Plant (+700) and Health Services (+425).

## A Final Look from the Perspective of the College

As the final note in the forecast for the future program instruction is a view of growth and qualification for space from the perspective of the College - i.e. what the College will look like in the future, based on sum of its parts - i.e. the campuses and centers that comprise the College.

Based on the data analyzed, student enrollment at the College, over the next 15-years, is projected to have an overall annual rate of growth 1.65%. In terms of absolute values, it is projected to start at 10,369 in year 2015 and reach 12,930 by year 2030. The projected growth for student enrollment is captured for the 5-year benchmark years in the graphic that follows.

### Cerro Coso College: Projected Enrollment Growth

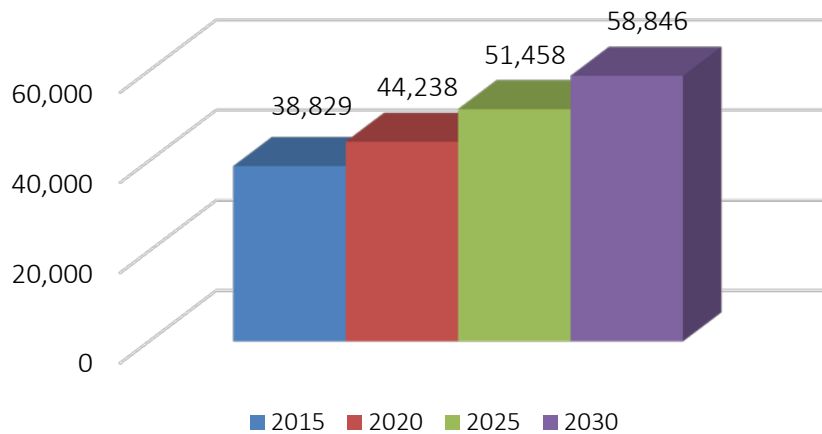


Source: MAAS Companies Projections

WSCH, alternately, begins year 2015 with a value of 38,829 and is forecast to reach 58,846 by the year 2030. The relative rate of annual growth projects at 3.44%. The overall increase amounts to 51.6% over the period 2015 to 2030. In terms of absolute values, WSCH is projected to increase by 20,018.



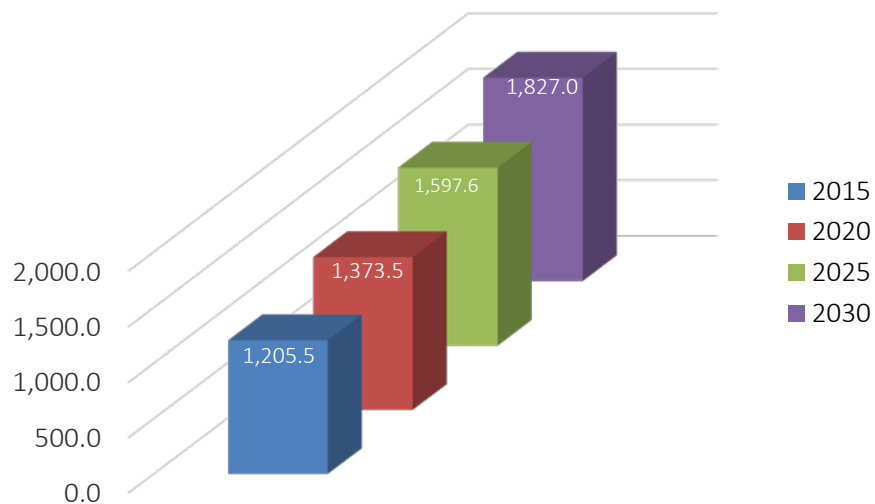
### Cerro Coso College: Projected WSCH Growth



Source: MAAS Companies Projections

Full-time equivalent students (FTES), from the perspective of the College, will mirror the percentage increases of WSCH - i.e. a projected annual growth rate of 3.44%. The absolute values for FTES at the 5-year intervals are depicted in the graphic below.

### Cerro Coso College: Projected FTES Growth



Source: MAAS Companies Projections

The future programs of instruction are unique to each of the campuses. As such, a relevant and accurate picture of the 2030 program of instruction cannot be painted from the viewpoint of the College. A picture can be painted, however, with regard to the qualification for space.

The graphic that follows presents the future space needs / qualification from the College's perspective.

**Cerro Coso Community College Total Space Needs for the College Via Title 5 Standards**

<b>Key Space Categories Monitored by the State</b>					
<b>Category</b>	<b>Description</b>	<b>Current Space</b>	<b>2030 Space Title V Allow</b>	<b>Delta</b>	<b>Qualification for Space 2030</b>
100	Classroom	19,001	12,105	(6,896)	0
210-230	Laboratory	38,368	14,914	(23,454)	0
235-255	Non-Class Laboratory	-	600	600	600
300	Office/Conference	23,530	10,092	(13,438)	0
400	Library	25,600	21,353	(4,247)	0
530-535	(AV/TV)	2,848	13,905	11,057	6,181
<b>sub total</b>		<b>109,347</b>	<b>72,969</b>	<b>(36,378)</b>	<b>6,781</b>
<b>Non-State Monitored Space Categories</b>					
<b>Category</b>	<b>Description</b>	<b>Current Space</b>	<b>2030 Space Title V Allow</b>	<b>Delta</b>	<b>Qualification for Space 2030</b>
0	Inactive	37,836	0	(37,836)	0
510-515	Armory/Armory Service	-	0	0	0
520-525	Phys. Ed. (Indoor)	28,232	31,600	3,368	3,368
540-555	Clinic/Demonstration	8,230	2,524	(5,706)	0
580	Greenhouse	-	0	0	0
590	Other	-	0	0	0
610-625	Assembly/Exhibition	4,051	5,890	1,839	1,839
630-635	Food Service	117	4,169	4,052	4,052
650-655	Lounge/Lounge Service	1,371	718	(653)	(653)
660-665	Merchandizing	2,313	5,553	3,240	3,240
670-690	Meeting /Recreation	2,722	2,101	(621)	0
710-715	Data Processing/Comp.	1,186	1,750	564	564
720-770	Physical Plant	13,685	6,912	(6,773)	0
800	Health Services	-	2,125	2,125	2,125
<b>sub total</b>		<b>99,743</b>	<b>63,342</b>	<b>(36,401)</b>	<b>14,535</b>
<b>TOTAL</b>		<b>209,090</b>	<b>136,311</b>	<b>(72,779)</b>	<b>21,316</b>

Source: MAAS Companies Analysis

From a Collegewide perspective, there will be space needs / qualification for 6,781 ASF of state-monitored space by year 2030. This will be limited, however, to Instructional Media space (+6,181 ASF) and Non-class Laboratory space (+600 ASF). For the non-state monitored space categories, there will be space needs / qualification for 14,535 ASF.

Based on the projections for growth, there will be a significant excess of academic and academic related space out to year 2030. Classroom space is forecast for an excess of 6,896 ASF, Laboratory space an excess of 23,454 ASF and Office space a surplus of 4,247 ASF.

From a Collegewide perspective, there is an imbalance of space across the campuses and centers – i.e. a concentration of space at a one location and the lack or absence of space at others. With the exception of 90 ASF of Physical Plant space at the East Kern Center, the remaining space (13,595 ASF) is located on the IWV Campus. Similar conditions exist for Physical Education space, where 26,367 ASF is located at the IWV Campus and a little more than 1,800 ASF spread over all the other locations. For Food Services, there is only 117 ASF at the IWV

Campus and none at the other campuses. In some of the space categories (e.g. Health Services), there is no space allocated at any of the campuses.

In addition to ensuring that the academic space needs are met, which they will be through the year 2030, barring an unforeseen population explosions within the service areas, the College may wish to consider embarking upon a program of “completing campuses” at the all of its locations. That would include making space provision for some of the non-academic spaces that make a campus a campus, that make a campus an inviting place for students to be and, more importantly, to stay. The idea of encouraging and incentivizing students to carry greater course loads would be greatly facilitated with the inclusion of important campus amenities.

## Final Observations / Recommendations

In addition to the observations drawn from the other segments of the Educational Master Plan, the following observations and recommendations are offered for consideration.

### Improve WSCH Generation / FTES Production

The College has demonstrated that it can attract students to its campuses. The problem has been that the values for WSCH and FTES productivity have not kept pace. In fact, they have declined. The result has been a reduced program of instruction and a limited ability to qualify for new space. Both of these conditions are driven by the production of WSCH. The College will need to take a look at the current dynamic and address how to continue the trend for increased student enrollment growth while improving the values for WSCH. This will require a proactive approach.

#### Actions to Consider:

Develop an implementable plan for greater creation of WSCH and FTES that is monitored, evaluated and adjusted each semester. Make WSCH generation / FTES production are the core foundation of each campus’ enrollment management plan.

### Encourage / Incentivize Students to Take Greater Course Loads

One of the key findings identified in this segment of the Educational Master Plan was the decline in course loads taken by students. The measure of courses taken per student has declined at an alarming rate. The College will need to determine what has changed within its service areas to create this trend and to look internally at what can be done to encourage students to take greater course loads. This is a condition that is prevalent at all campuses of the District.

#### Actions to Consider:

As part of the assessment and counseling processes, help students identify a plan to complete their educational goals within a time certain. Encourage students to take more than one class at time by emphasizing the value of attaining their goal sooner rather than later.

### Create “Complete Campuses”

As a companion to encouraging / incentivizing student to take greater class loads, the College should strive to create “complete campuses” at each location. This applies, particularly, to the outlying campuses. At present, there is an overall imbalance of space across the campuses i.e. a plethora of space at one campus and little or no space at another. If there is an effort to encourage students to take greater course loads, there should be facilities present on the campus that support and that effort – i.e. make the campus a place where student want to be.

The “complete campus” concept also extends to the provision of course offerings that facilitate students achieving their respective educational missions. For example, there are a number of missed opportunities at some of the

outlying campuses because Science courses are either not offered or are offered on a limited basis. While laboratory space for the Sciences is not the easiest to create, students attending should not be impeded from reaching their educational goals because this type of space is absent. If it is impossible to create appropriate space on the campus for the Sciences, perhaps it could be made available at nearby high school locations. The same could be said for Physical Education space. Aside from the 26,000 usable square feet at the Indian Wells Valley Campus, there is only 1,800 usable square feet available at all other campus locations combined. Physical Education space does not have to be a gymnasium, it can be a multiuse room of 1,000 – 1,200 square feet that supports aerobic exercise, yoga, dance or fitness – all of which help to create the “complete campus”, draw students to the campus and encourage them to avail themselves of other educational opportunities.

If the outlying campuses that comprise the College are asked to become successful, they need the resources that will support their success.

**Actions to Consider:**

Assess and addresses the deficiencies in both the curriculum and in facilities. Develop a comprehensive plan that targets “campus completion” at all of the campuses that comprise the College.

### **Distinguish between “Space Qualification” and “Space Adequacy”**

Because space needs are interpreted via the Title V state guidelines, there is a tendency to use these guidelines as the bottom-line, absolute value for the need for space. The “adequacy of the space” that supports the College, however, is an equally important component to consider. While the cumulative amount of space may reflect an appropriate capacity with regard to WSCH production, its usefulness, or lack thereof, may fall short of the actual need for the campus. Accommodating growth for the future will involve “adequacy” as much as it will involve “qualification”. It may come in the way of replacement, repurposing or reconfiguring. The end focus, however, should be that space needs are “adequate” to support the delivery of the program of instruction and serve the students at each campus.

**Actions to Consider:**

Assess and addresses the deficiencies of facilities from a functional perspective. Work with the concept of “campus completion” at all of the campuses of the College.

### **Evaluate the Instructional Delivery Modality**

The delivery of the program of instruction should be revisited and reviewed. It has changed since the last Educational Master Plan was completed. Lecture hours as an instructional delivery modality has increased by 6% and laboratory hours have decreased by 6%. The Title V standards for space qualification favors laboratory space by a margin of at least 3 to 1 (in some cases, it is 5 to 1 or greater depending on the discipline or program) over lecture space. This dynamic has had an impact on the allowances for academic space.

**Actions to Consider:**

Revisit the Departments of Allied Health, CIS/Business, Industrial Arts, Mathematics, English, Science and Visual / Performing Arts to see where there may be opportunities to apportion more hours to laboratory-based instruction.

### **Develop Curricular Efficiency**

The efficiency of the program of instruction has regressed since the last Educational Master Plan was completed. The College will need to address the issue of curricular efficiency on an ongoing basis as it moves into the future.

**Actions to Consider:**

Develop a plan to closely monitor the number of class sections offered and amount of WSCH generated for each class section. Expansion of the curriculum should occur only after the efficiency values of the disciplines /

programs are improved. Targets for WSCH per FTEF and enrolled students per section adjusted for load should also be considered.

### **Assess Basic Skills Support**

The College can expect to see growth in the Basic Skills education courses. This notion is supported by the levels of educational attainment that exists within the College’s service area. The College will need to be prepared to offer an expanded program in Basic Skills education, particularly to students who may be recruited to the College as first-time, postsecondary learners.

#### **Actions to Consider:**

Develop a plan to attract, and academically support, first-time, postsecondary learners and /or those who come underprepared to do work at the College level.

### **Improve CTE Relevance**

Career and Technical Education should be reviewed for content and relevance at the campus sites. Some programs will need to be assessed, revamped, or released. There will also be opportunities for new programs to emerge that may have more enhanced pathways to employment. There is great need to provide students with “now” opportunities.

#### **Actions to Consider:**

Work with area resources in Business and Industry to reassess the current program for Career / Technical Education. Revise the curriculum to create a more direct connection for pathways to existing employment opportunities.

### **Develop Future Enrollment Growth from Within**

Because of its geographic location, there will be very little opportunity for the College to capture “free flow” enrollment. If the College is to move forward in the future, it will need to maximize its efforts to draw students from its existing population base and even more importantly to retain the students who are already attending the campuses of the College. The population base of the College’s service areas offers good possibilities for attracting, new first-generation postsecondary learners – students who are less academically prepared and who might not consider a college education without some encouragement and mentoring.

#### **Actions to Consider:**

Conduct periodic reviews and monitor closely the demographics of the service areas of the College. Develop strategies to maximize the potential that exists from within the College service areas.

### **Expand Partners in Education**

The campuses that comprise the College will need to maintain strong working relationships with local high schools to ensure that graduating students are given the best opportunity to avail themselves of the educational opportunities provided by the College.

#### **Actions to Consider:**

Conduct monthly meetings with the area high schools that support the campuses of the College.

### **Create New Pathways for Education**

Over the past 10 years, federal and state legislation has been enacted to help community colleges expand their reach to as many students as possible. Many of the initiatives have targeted keeping existing students in school, so that they can succeed and attain their educational objective. Others have addressed appealing to first generation, postsecondary learners who might not otherwise pursue an education beyond high school. Currently,

there are several state sponsored opportunities to partner with local education institutions and / or business and industry to improve the College's capacity to attract and retain students.

**Actions to Consider:**

State legislation (sponsored by the State Chancellor's Office) has opened-up new possibilities for community colleges. More support is now available for targeting first-generation, postsecondary students through state-approved programs and local partnerships (e.g. Dual Enrollment Program). The College should stand ready to take advantage of these opportunities.

**Recruit Students Selectively**

As part of its strategy for growth, the College might consider targeting student athletes. Student athletes are required to take a minimum of a 12-credit load to participate in their chosen athletic endeavor. Foreign students offer a similar possibility for growth. Additionally, the statistics favor transfer students for carrying greater course loads.

**Actions to Consider:**

Create a strategy to pursue students who are most likely to take full-time course loads, including student athletes, foreign students and transfer education students.

**Final Point to Consider**

The College can expect that there will be no one course of action to take in meeting the projected growth for student enrollment, WSCH, the future program of instruction and the corresponding needs for space. The approach will be a multifaceted effort with many smaller components contributing to a plan of action that leads to a successful outcome. In today's world, the "build it and they will come" mentality is no longer sufficient. It will take a great deal of work by many to direct the College to a place of growth and expansion. The College will need to set its sights on looking forward, not backwards.

## **Visions and Projections for the Future**

Based on the environmental scan, both external and internal, and the analysis of space utilization at each college campus, Cerro Coso Community College is charting the following primary directions for the next five years:

### **Direction 1: Build Capacity in Tehachapi and Greater East Kern**

As indicated in the external scan, the Tehachapi and Greater East Kern effective service areas (ESA's) comprise close to 50% of the entire population of Cerro Coso Community College's overall service area. Yet penetration into that market is still at a developing stage. Dual enrollment and inmate education have been promising areas of growth in the last five years, increasing from 2 to 29 sections per semester and from 0 to 17 sections respectively (the first section offered in the prison was Fall 2015). The more traditional community college offerings at the Tehachapi Educational Center, started in Fall 2015, have grown to 194 enrollments in 16 sections by Fall 2017.

It is expected that this market will be able to benefit from the development of a full-service college site in the city of Tehachapi, and there are no reasons why this campus should not, in time, become as large as the Indian Wells Valley campus in Ridgecrest. As indicated in the external scan, the Tehachapi campus, serving a prosperous financial area with a consistent level of growth and positive economic indicators, will provide a strong foundation